READINESS PACKAGE: READINESS PROGRESS AND MULTI-STAKEHOLDER SELF-ASSESSMENT REPORT FOR BHUTAN

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Department of Forests & Park Services
Ministry of Agriculture & Forests
Royal Government of Bhutan
June, 2022

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Acronyms

ADAO	Assistant Dzongkhag Agriculture Officer
ADLO	Assistant Dzongkhag Livestock Officer
AFD	Administration and Finance Division
AGB	Above Ground Biomass
ALO	Assistant Livestock Officer
ALOS	Advanced Land Observation Satellite
AWBI	Association of Bhutanese Wood Based Industries
BBPL	Bhutan Board Product Limited
BCs	Biological Corridors
BDS	Benefit Distribution Systems
BLSS	Bhutan Living Standards Survey
BSM	Benefit Sharing Mechanism
BWS	Bomdeling Wildlife Sanctuary
CAB	Construction Association of Bhutan
CBA	Cost-Benefit Analysis
CBD	Convention on Biological Diversity
CF	Community Forest
CFMG	Community Forest Management Group
CFO	Chief Forestry Officer
CITES Flora	Convention on International Trade in Endangered Species of Wild Fauna and
COPs	Conference of Parties
CSI	Cottage and Small Industry
CSO	Civil Society Organization
D&D	Drivers of Deforestation and Forest Degradation
DAO	Dzongkhag Agriculture Officer
DGPC	Druk Green Power Corporation
DLO	Dzongkhag Livestock Officer
DoA	Department of Agriculture
DoFPS	Department of Forests and Park Services
Dy. CFO	Deputy Chief Forestry Officer
EIA	Environmental Impact Assessment

ESMF	Environmental and Social Management Framework
FAO	Food and Agriculture Organization
FCPF	Forest Carbon Partnership Facility
FGRM	Feedback Grievance Redressal Mechanism
FIRMS	Forest Information Reporting and Monitoring System
FMCB	Forest Management Code of Bhutan
FMU	Forest Management Units
FNCA	Forest and Nature Conservation
FNCRR	Forest and Nature Conservation Rules and Regulations of Bhutan
FO	Forestry Officer
FREL	Forest Reference Emission Level
FRL	Forest Reference Level
FRMD	Forest Resources Management Division
FYP	Five Year Plan
GCF	Green Climate Fund
GDP	Gross Domestic Product
GFC	Global Forest Change
GFOI	Global Forest Observations Initiative
GHG	Green House Gas
GIS/RS	Global Information System/ Remote Sensing
GIZ	German Agency for International Cooperation
GMO	Genetically Modified Organism
GNH	Gross National Happiness
GNHC	Gross Happiness Commission
GNHS	Gross Happiness Commission Secretariat
HWC	Human Wildlife Conflict
ICIMOD	International Centre for Integrated Mountain Development
IIP	REDD+ Investment & Implementation Proposal
IPCC	Intergovernmental Panel on Climate Change
ITMS	Institute of Traditional Medicine Services
JDNP	Jigme Dorji National Park
JKSNR	Jigme Khesar Strict Nature Reserve

JSWNP	Jigme Singye Wangchuck National Park
JWS	Jomotsangkha Wildlife Sanctuary
LDD	Local Development Planning Manual
LFMP	Local Forest Management Plan
LPO	Livestock Production Officer
LULC	Land Use & Land Cover
LULUCF	Land Use, Land Use Change & Forestry
MDG	Millennium Development Goals
MoAF	Ministry of Agriculture and Forests
MoEA	Ministry of Economic Affair
MoF	Ministry of Finance
MoWHS	Ministry of Works & Human Settlement
MRV	Reporting and Verification
MTR	Mid-Term Review
NAPA	National Adaptation Plan of Action
NBC	National Biodiversity Centre
NCD	Nature Conservation Division
NDC	Nationally Determined Contributions
NEC	National Environment Commission
NFI	National Forest Inventory
NFMS	National Forest Monitoring System
NGO	Non-Government Organization
NKRA	National Key Result Area
NLCS	National Land Commission Secretariat
NPV	Net Present Value
NRDCl	Natural Resources Development Corporation Limited
NRS	National REDD+ Strategy
NSB	National Statistics Bureau
NWFPs	Non-Wood Forest Products
OAG	Office of the Attorney General
PAMs	Policies and Measures
Pas	Protected Areas

PCU	Project Coordination Unit
PES	Payment for Environmental Services
PES	Payment for Environmental Services
PFO	Principal Forestry Officer
PHCB	Population and Housing Census of Bhutan
PLRs	Policies, Legislations and Regulations
PMU	Project Management Unit
PNP	Phrumsengla National Park
POM	Project Operation Manual
PPD	Policy and Planning Division
PSO	Project Support Officer
PWS	Phibsoo Wildlife Sanctuary
QAQC	Quality Assurance & Quality Control
RAMCO	Regional Agriculture Marketing Corporation
RBP	Results-Based Payments
REDD+	Reducing Emission from Deforestation & Forest Degradation and the role of sustainable management of forest, conservation and enhancement of forest carbon stocks in developing countries
RGoB	Royal Government of Bhutan
RMNP	Royal Manas National Park
RNR	Renewable Natural Resources
RO	Range Officer
R-Package	Readiness Assessment Package
R-PP	Readiness Preparation Proposal
RSPN	Protection of Nature
RSPN	Royal Society for Protection of Nature
SAARC	South Asian Association for Regional Cooperation
SDG	Sustainable Development Goals
SDSS	Spatial Decision Support System
SEPAL	System for Earth Observation, Data Access, Processing, Analysis for Land Monitoring
SESA	Strategic Environmental and Social Assessment
SFED	Social Forestry & Extension Division

SIS	Safeguard Information System
SLMS	Satellite Land Monitoring System
SMART	Spatial Monitoring and Reporting Tool
Sr. FO	Senior Forestry Officer
Sr. FR	Senior Forestry Ranger
SRF	State Reserved Forest
SRFL	State Reserved Forest Land
SRFL	State Reserved Forest Land
STEP	Systematic Tracking of Exchanges in Procurement
SWS	Sakten Wildlife Sanctuary
TCB	Tourism Council of Bhutan
TFD	Territorial Forest Division
TOT	Training of Trainers
TWG	Technical Working Group
UNCCD	United Nations Convention to Combat Desertification
UNFCCC	United Nations Framework Convention on Climate Change
UNREDD	United Nations REDD Programme
UWICER	Ugyen Wangchuck Institute for Conservation and Environmental Research
WCNP	Wangchuck Centennial National Park
WMD	Watershed Management Division

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Royal Government of Bhutan
Ministry of Agriculture and Forests
Department of Forests and Park Services
Thimphu: Bhutan

FOREWORD

Bhutan's REDD+ program was started in 2010 with support from UN-REDD program. Since then, Bhutan has implemented various activities to create awareness, build partnerships and capacities on REDD+ program. In 2013, Bhutan prepared its REDD+ Readiness Preparation Proposal (R-PP) which was submitted to FCPF and acquired a total project grant of USD 8.6 million for Bhutan to embark on the implementation of readiness activities from early 2015. Additionally, ICIMOD-GIZ and UNREDD provided support for completion of the REDD+ Readiness activities.

During the readiness phase, the countries are required to prepare REDD+ strategies at the national level to initiate processes to ensure social and environmental soundness that includes reference levels, safeguards, and an implementation framework. Bhutan is proud to inform that it has been able to complete the REDD+ readiness phase successfully with development of its National REDD+ Strategy & Action Plan, Safeguards Framework, Forest Reference Emission Level/Forest Reference Level and National Forest Monitoring System. Besides fulfilling the requirement of WARSAW REDD+ framework, Bhutan has achieved many milestone through the REDD+ Readiness project. They include two National forest Inventories, Forest and Nature Conservation Bill 2021, Code of Best Management Practices- Forests and Nature Conservation of Bhutan 2020, Online Forest Clearance & Check Post Management System, Spatial Decision Support System, LULC 2017 and the first Forest Type Map of Bhutan 2022.

As we seek to transition from readiness phase to the implementation phase, we have developed the readiness package (R-package) document to showcase the achievements made and to explore funding support for implementation of REDD+ related activities in the future. In general, Bhutan's R-Package document assesses the progress made in readiness activities, captures lessons learned, assesses remaining gaps, and identifies activities for the way forward to transitioning to the implementation of its National REDD+ Strategy and Action Plan. The R-Package document was prepared based on the self-assessment framework of FCPF comprising of four main components, eight sub-components, 34 criteria and 58 guiding questions. The assessment included an extensive multi-stakeholder consultation with other agencies and stakeholders to incorporate their views in the sel-assessment and ratings of the project achievements.

Last but not least, I would like to congratulate Watershed Management Division and Forest Resources Management Division for successfully coming up with the document and would like to acknowledge the funding support of the FCPF-World Bank.

Lobzang Dorji
Director

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Executive Summary

Bhutan initiated REDD+ activities in early 2015 financed through the Forest Carbon Partnership Facility (FCPF). The REDD+ in Bhutan was built on the solid foundations in environmental, forestry and land use policies and institutional arrangements that are pre-existing and substantially contributing to REDD+ readiness. For the readiness phase, the Royal Government of Bhutan received a Readiness grant of USD 8.6 million from the FCPF of the World Bank.

This multi-stakeholder self-assessment report presents the Bhutan's progress on four components of REDD+ Readiness: (i) Readiness consultation and organization, (ii) Preparation of National REDD+ strategy, (iii) Forest Reference Emission Levels, and (iv) National Forest Monitoring and Safeguard Information Systems. Apart from taking stock of readiness progress, this report also documents strengths of readiness phase and areas of further improvement to support full scale REDD+ implementation.

This assessment was guided by the Forest Carbon Partnership Facility's self-assessment framework for REDD+ readiness comprising four main components, eight sub-components, 34 criteria and 58 diagnostic questions. The progress in all the main and sub-components was ranked on a four-color 'traffic light' scale: Green for significant progress; Yellow for progressing well but further development required; Orange for further development required; and Red for not showing any progress yet. The qualitative tool of traffic light colour was quantitatively scaled based on indicators to measure the proportionate progress percentage. The diagnostic questions used for the assessment were tailored to the country context (national, sub-national, and community level) supported by required progress indicators and review of available information on different sub-components and assessment criteria.

The self-assessment was carried out through a participatory and inclusive process involving two regional multi stakeholder workshops covering the entire country. In total, 105 participants took part in the self-assessment process. In addition to the rating, areas of further improvement against each sub-component were recorded based on the feedback from participants during the consultation process.

Overall, out of 34 assessment criteria, 24 criteria were ranked GREEN, which indicates "significant progress were made" and 6 criteria were ranked YELLOW, meaning "progressing well but further development required", and 4 criteria were ranked as dues between the GREEN and YELLOW rating category during the participatory assessment process.

The overall result of self-assessment progress on various readiness components is summarized as under:

Table 1: Summary of overall achievement of REDD+ Readiness by components

COMPONENTS	SUB-COMPONENTS	PARTICIPATORY RANKING	REMARKS
COMPONENT 1: READINESS ORGANIZATION & CONSULTATION	Sub-component 1a: REDD national management mechanisms.		Significant progress
	Sub-component 1b. Consultation, participation, and outreach		Significant progress
Component 1 Overall			Significant progress
COMPONENT 2: REDD+ STRATEGY PREPARATION	Sub-component 2a. Land use evaluation, forest policy and governance		Significant progress
	Sub-component 2b. REDD+ strategy options.		Significant progress
	Subcomponent 2c: Implementation framework		Significant progress
	Subcomponent 2d: Social and environmental impacts		Progressing well, further development required
Component 2 Overall			Significant progress
Component 3: Reference Emissions Level/Reference Levels			Significant progress
COMPONENT 4: MONITORING SYSTEM FOR FORESTS & SAFEGUARDS	Sub-component 4a: National Forest Monitoring System.		Significant progress
	Sub-component 4b: Information System for Multiple Benefits, Other Impacts, Governance, and Safeguards		Significant progress
Component 4 overall			Significant progress

Component 1: Readiness organization and consultation: The overall national ranking for component 1 is rated as GREEN (out of 10 criteria under this component, 9 are rated GREEN and 1 as YELLOW). This component shows significant progress on REDD+ institutional arrangements. The Technical Working Groups (TWGs) and Taskforce have been set up and operationalized and their mandates are integrated and aligned with the existing forest management policies and structure of the country.

At the national level, the Ministry of Agriculture and Forests (MoAF) supported by the Watershed Management Division (WMD) as the National REDD+ Secretariat has been established to provide technical assistance with support from TWGs and the REDD+ taskforce for facilitating the national coordination for REDD+ implementation.

All the stakeholders and identified REDD+ implementing institutions are operating in an accountable and transparent manner under the guidance of Gross National Happiness Commission Secretariat (GNHCS) and Ministry of Finance (MoF). A REDD+ information center in the form of REDD+ website has been established https://redd.dofps.gov.bt/?page_id=19; however, it would require further enhancements. A numerous capacity building programmes spread across all sectors covering the entire country has been carried encompassing a wide range of stakeholders, including policy

makers, technocrats, local and regional administrative authorities, local communities, general public, politicians, academia and other non-governmental and civil society organizations.

The consultation and outreach programmes also involved women and marginalized groups. To strengthen gender mainstreaming, a REDD+ gender action plan of Bhutan has been developed along with a capacity needs assessment report. However, with the implementation of the REDD+ activities, the capacity building in participatory approaches and technical aspects of REDD+ would need further enhancements.

Various pilot activities were carried out under the REDD+ Readiness program, from which the pilot activities on Payment for Environment Services (PES) within the Department of Forests and Park Services (DoFPS) and Glued Laminated Timber (Glulam) project with the Royal Academy, Pangbisa, Paro are worth noting here.

Component 2: Preparation of National REDD+ Strategy

The overall national progress ranking for component 2 is rated as GREEN (out of 15 criteria under this component, 8 are rated GREEN, 4 are rated YELLOW and 3 as dues between GREEN & YELLOW). The National REDD+ Strategy (NRS) of Bhutan has been developed based on the number of analytical studies and consultations on various aspects of forestry including the land use, land use change drivers, forest laws, policies and governance for the REDD+ program implementation in Bhutan. The assessments were carried out as part of the study on the drivers of deforestation and forest degradation, the development of safeguard frameworks including the Feed Grievance Redressal Mechanism (FGRM), the development of the National REDD+ Strategy & Action Plan and the national land use zoning planning.

The purpose of the assessment of land use, land-use change drivers, forest law, policy and governance were to identify key drivers of deforestation and/or forest degradation, as well as activities concerning conservation, sustainable management of forests, and enhancement of forest carbon stocks. The key drivers identified in the Drivers of Deforestation and Forest Degradation (D&D) report includes State Reserved Forest (SRF) land allotment, Hydropower projects, roads, agriculture, mines and quarries and roads for deforestation while timber harvesting, firewood, forest fires and livestock were identified as the key drivers for forest degradation.

The NRS of Bhutan has proposed four strategy options that are highly relevant and respond to the identified drivers and underlying causes of deforestation and forest degradation. These Strategy Options will be delivered via several cross-cutting policies and measures (PAMs). There are 10 PAMs identified in the NRS and under each PAM is a set of proposed actions, which will be the responsibility of different organizations for implementations.

Component 3: National Forest Reference Emission Level

The overall national progress ranking for component 3 is rated as GREEN (out of 3 criteria under this component, 2 are rated Green and 1 as dues between GREEN & YELLOW). Significant progress on Forest Reference Emission Level (FREL) has been achieved as the

FREL/FRL documents are already endorsed by the Government and are submitted to the UNFCCC. Bhutan has developed its national FREL/FRL which serves as a benchmark for assessing the performance of REDD+ activities being implemented in the country.

The national FREL (concerning emission from deforestation) and FRL (concerning emission and removal from '+' activities of REDD+) was developed through a series of consultative meetings and training/workshops. In developing the FREL and FRL, all relevant national circumstances were accounted for and adjustment of 0.1% of biomass carbon stock was made to FREL while no adjustment was needed for the FRL. Future needs are identified and are reported as a part of the improvement plan.

Component 4: National Forest Monitoring System and Safeguard Information System

The overall national progress ranking for component 4 is rated as GREEN (out of 6 criteria under this component, 5 are rated GREEN and 1 is rated YELLOW). Bhutan has made good progress on development of National Forest Monitoring System (NFMS); however, further development is required making its MRV and monitoring functions fully operational for assessing additional activities and pools including forest degradation and removals as well as information on non-carbon benefits and Multiple Benefits Impacts and Governance Safeguards.

In line with 4/CP.15, 1/CP.16 and 11/CP.19, Department of Forest and Park Services (DoFPS), Ministry of Agriculture and Forest (MoAF) has developed a robust and transparent National Forest Monitoring System (NFMS). National NFMS was developed with following objectives: i) To monitor the health and state of Bhutan's forests for enabling long-term conservation and sustainable forest management, and uphold the Constitutional requirement of maintaining 60 % forest cover in perpetuity; ii) To generate accurate and holistic data on forest area and carbon stock changes in a transparent and consistent manner using globally accepted methodologies for national and international reporting.

Based on the objective, NFMS is further divided into two categories (i) monitoring and (ii) measurement, reporting and verification (MRV). NFMS is based on a combination of ground measurement through National Forest Inventory (NFI) and remote sensing exercise to generate the state of national forest report. NFMS of Bhutan is comprised of four components i) Satellite Land Monitoring System (SLMS), ii) Multipurpose National Forest Inventory (NFI), iii) National Green House Gas (GHG) Inventory, and iv) Forest monitoring with associated web-portal.

Based on the overall assessment, this R-Package concludes that the Government of Bhutan has made significant progress on fulfilling the key readiness requirements. Overall Bhutan stands GREEN in all the four major components. Based on the significant progress in many areas as measured by the 34 criteria, it can be concluded that Bhutan is now ready to enter in the implementation phase of REDD+ with the further actions in various areas of improvement continued to be addressed under the on-going process, considering that readiness is an iterative process.

INTRODUCTION

Since the start of 2010, Bhutan has been implementing activities contributing towards being ready for the mechanism of reducing emissions from deforestation and forest degradation and the role of sustainable forest management, conservation of forest carbon stocks and enhancement of forest carbon stocks (REDD+). The REDD+ readiness gained momentum with the approved funding supporting the Readiness Fund of the Forest Carbon Partnership Facility (FCPF) of the World Bank in 2013 and implementation starting in 2015. Since the start of the implementation in 2015, Bhutan received USD 8.6 million (grant) and has made considerable progress, which is now compiled in the form of the Readiness Assessment Package (R-Package).

The R-Package document presents the progress made by Bhutan during the REDD+ Readiness phase starting from 2014 through to 2022. Various consultation workshops and meetings were held with stakeholders for their views and feedback on the progress made. The results of the Readiness Assessment document Bhutan's progress, captures lessons learned, assesses remaining gaps, and identifies activities for the way forward to transitioning to the implementation of its National REDD+ Strategy and Action Plan.

The assessment provides an opportunity for Bhutan to demonstrate its commitment to REDD+. The assessment also helped Bhutan to identify remaining gaps and further needs and as well gather feedback and guidance from multiple stakeholders and the FCPF Participants Committee (PC).

1. BACKGROUND

Bhutan is a small landlocked country located in the eastern part of the Himalayan mountains, with a geographical area of 38 394 km^2. The country is characterized by mountainous landscapes with steep precipitous slopes, which descend rapidly into narrow river valleys. The elevation ranges from approximately 100 m in the southern foothills to over 7 500 m along the main ridge of the Himalayas (Norbu *et al.* 2008).

Bhutan has a wide range of geographic and climatic conditions, making it a rich repository of biological diversity and ecosystems. Conditions vary in different parts of the country due to changes in topography and altitude. There are three main climatic zones: subtropical in the southern foothills below 1000 m and river valleys; temperate in the central parts below 4 500 m; and alpine in the northern parts above 4500 m in altitude (Yangchen *et al.* 2015). There is a small area under glaciers and perpetual snow on the higher mountain ranges. Bhutan's average annual rainfall varies from 1020 mm to 1520 mm, with the majority of precipitation being generated from the annual monsoons (NEC 2006). Temperatures typically range from 15 ^{0}C to 30 ^{0}C in the subtropical zone and between -4 ^{0}C to 26 ^{0}C in the central temperate regions (NEC 2016).

The most dominant land cover is a forest, making up 70.46% of the total land area (MoAF 2017a). Approximately 51% of Bhutan falls under designated Protected Areas (Pas), comprising five national parks, four wildlife sanctuaries, a strict nature reserve and several biological corridors (BCs) connecting the PAs (DoFPS 2016b; NEC 2016).

Bhutan has a population of 779666, which is becoming increasingly urbanized with 37.8% estimated to be urban and 62.2% rural (NSB 2017a; NSB 2018). Since 2005 Bhutan's total population has increased by 16%, at a rate of 1.3% per annum. The population density has

increased from 17 persons/km^2 to 19 persons/km^2, but the country still has one of the lowest population densities in the world.

At the core of the country's economy is the people-centered development philosophy of Gross National Happiness (GNH), which transcends every aspect of the economy and is the driving force behind socio-economic development over the last five and half decades. The GNH Screening Tool evaluates, monitors, sets goals and raises the national consciousness about what conditions are conducive to the happiness and wellbeing of the people, and the country as a whole. Bhutan follows a five-year socio-economic development planning cycle that operationalizes GNH. The planning cycle started with the first Five-Year Plan (FYP) in 1961. Under the guidance of the Gross National Happiness Commission Secretariat (GNHCS), the FYPs articulate the socio-economic development priorities and programs to be implemented. The 12th FYP covers the period from 2018 through to 2023 and adopts nine domains: education; health; living standards; ecological diversity and resilience; time use; culture; psychological well-being; community vitality; and good governance. The 12th FYP identifies national key results areas (NKRAs), which have been formulated based on national aspirations, priorities and international and regional commitments such as the Sustainable Development Goals.

2.1 Environmental Context

Climate change Impacts: Many climate-induced impacts have occurred in Bhutan including Glacial Lake outbursts, forest fires, landslides and floodings. Pest problems have also increased by many folds as compared to the past. New pests have come like the army worms and also the extent of damage has increased affecting many crops. Climate change continues to pose a serious challenge to Bhutan's economic development and peoples' livelihoods. Farming communities will be directly impacted by temperature changes and unpredictable monsoon patterns caused by climate change. The glacial systems will experience faster rates of melting, affecting the base flow of rivers and potentially impacting hydropower and other infrastructure developments. Climate change is also likely to have a bearing on Bhutan's extensive forest cover, rich biodiversity and clean water resources, which are important attractions for visiting tourists. The sensitivity of Bhutan's economic and social spheres to climate change signal the importance of climate change response measures that focus on a wide range of landscape level considerations. These measures will directly or indirectly lead to the enduring preservation of forests.

Low Carbon Development: During the 2009 15th Session of Conference of Parties of the United Nations Framework Convention on Climate Change (UNFCCC) in Copenhagen, the RGoB committed to remaining carbon neutral, ensuring that the Greenhouse Gas Emissions (GHG) will remain less than the sequestration capacity of its forests for all times. Bhutan's National Strategy and Action Plan for Low Carbon Development (NEC 2012) is a key step towards supporting the carbon neutral declaration. The strategy presents various scenarios analyzing development paths from 2005 until 2040. In order to remain carbon neutral, transformative long-term legislative, policy, mitigation and adaptation measures are required to reduce GHG emissions.

Climate Change Mitigation: The fundamental basis of mitigation effort rests on conserving national forests as carbon sinks. However, it is also necessary to manage the growing emissions arising from economic development in other sectors. The RGoB already initiated a range of policies, regulatory measures and actions in relation to mitigation and adaptation. Some of the key actions include the development of the National Environment Protection Act (2007); National Strategy and Action Plan for Low Carbon Development

(NEC 2012); Bhutan Transport 2040 Integrated Strategic Vision (ADB 2013); National Forest Policy (MoAF 2011); Nationally Determined Contributions (RGoB 2015); Economic Development Policy (RGoB 2016a); and the National Energy Efficiency & Conservation Policy (MoEA 2017). The RGoB is also in the process of developing a Climate Change Policy (NEC 2018 [draft]). The RGoB and the World Wildlife Fund launched Bhutan for Life, an initiative which aims to support the management of Bhutan's protected areas network. The programme includes activities that increase forestry and climate change mitigation, as well as supporting ecosystem adaptation.

Climate Change Adaptation: In recognition of the vulnerability of forests, water systems, glacial flows and the agricultural production, the RGoB prepared a National Adaptation Plan of Action (NAPA) (NEC 2006). This plan helps to prioritize medium to long-term climate risks and provides appropriate response measures. The NAPA compliments existing regulatory and policy instruments that are geared towards protecting the environment. In the submission to the UNFCCC, Bhutan outlined a series of measures that form part of the Nationally Determined Contributions (NDC) (NEC, 2nd Nationally Determined Contributions, 2021).

2.2 Forestry Context

The RGoB recognizes forests' values and honors them in its Constitution. Forest management in Bhutan has evolved over the years. The management approach has shifted from having a primary focus on protection towards balancing conservation with sustainable management and forest utilization in the context of climate change and livelihoods. As such, the National Forest Policy 2011 has an overarching goal of sustainable management of forest resources and biodiversity conservation for meeting the long-term needs of people. The Forest and Nature Conservation Act 1995 (FNCA) provides the legal framework for appropriate forest uses and enabling community and social forestry. The Forest and Nature Conservation Rules and Regulations of Bhutan 2017 (FNCRR) cover general aspects of managing State Reserved Forest Land (SRFL), as well as management requirements for:

- *Protected Areas* cover 51% of the country's total area and are focused on the conservation of biological diversity and integrated development for people residing within the parks.

- *Community Forests* are managed by the local communities for meeting their requirements for forest produce. As of January 2022, there were more than 800 operational community forests throughout the country (MoAF 2017b).

- *Forest Management Units* cover 5% of the country and are areas prescribed for commercial logging and non-wood forest products.

- *Watershed Management Plans* are developed for degraded and critical watersheds.
- *Heritage Forests* are sacred areas protected for their cultural values and traditional rights.
- *Local Forest Management Areas* are areas outside of existing formal management regimes and are managed for local forest management.

2.3 REDD+ in Bhutan

The RGoB is a signatory to the UNFCCC and is a REDD+ partner country. The objective of REDD+ is to reduce emissions from deforestation and forest degradation and increase CO_2 sequestration through the sustainable management of forests, conservation of forest carbon stock and enhancement of forest carbon stocks. REDD+ participant countries are eligible for results-based payments (RBP)

for verifiable emission reductions and/or enhanced carbon stocks. Bhutan formally initiated the REDD+ program in 2010. Since the start of 2010, Bhutan has been implementing activities contributing towards being ready for the mechanism of reducing emissions from deforestation and forest degradation and the role of sustainable forest management, conservation of forest carbon stocks and enhancement of forest carbon stocks (REDD+). The REDD+ readiness gained momentum with the approved funding supporting the Readiness Fund of the Forest Carbon Partnership Facility (FCPF) of the World Bank in 2013 and implementation starting in 2015.

Bhutan's REDD+ framework development falls into three phases, as displayed in Figure 1. Phase one is the readiness phase, during which the relevant institutional systems are established, and the national strategy is prepared. This stage is followed by a transition into phase two, which focuses on implementation activities based on the strategy. The third Phase involves the implementation of fully measured, reported, and verified actions, for which Results Based Payment (RBP) could be received. The preparation of this national strategy document signals Bhutan´s transition towards phase three.

Figure 1: Phases of REDD+

Bhutan sought support through a Readiness Preparation Proposal (R-PP) submission to the Forest Carbon Partnership Facility and received an initial grant of USD 3.8 million in 2013, followed by an additional grant of USD 4.8 million in 2017. Bhutan has made tremendous achievements in forest conservation as reflected in the milestones achieved through the support of REDD+ Readiness grant (Figure 2), which are important components of taking forward the forest agenda in general and for financing for REDD+ implementation in particular. These include:

- Establishing Institutional and implementation arrangements.

- Analysis of the drivers of deforestation and forest degradation.

- National REDD+ Strategy & Action Plan

- Institutionalization of the National Forest Monitoring System, which will help to regularly monitor and report forest cover changes and account for GHG emissions and removals from forestry.

- Development of a FREL/FRL, which provides the necessary tool for justifying Bhutan's position on carbon neutrality and implementing measures to protect and enhance forest cover.

- Preparation of a fund mobilization strategy, a safeguards framework, and drafting of a benefit-sharing framework.
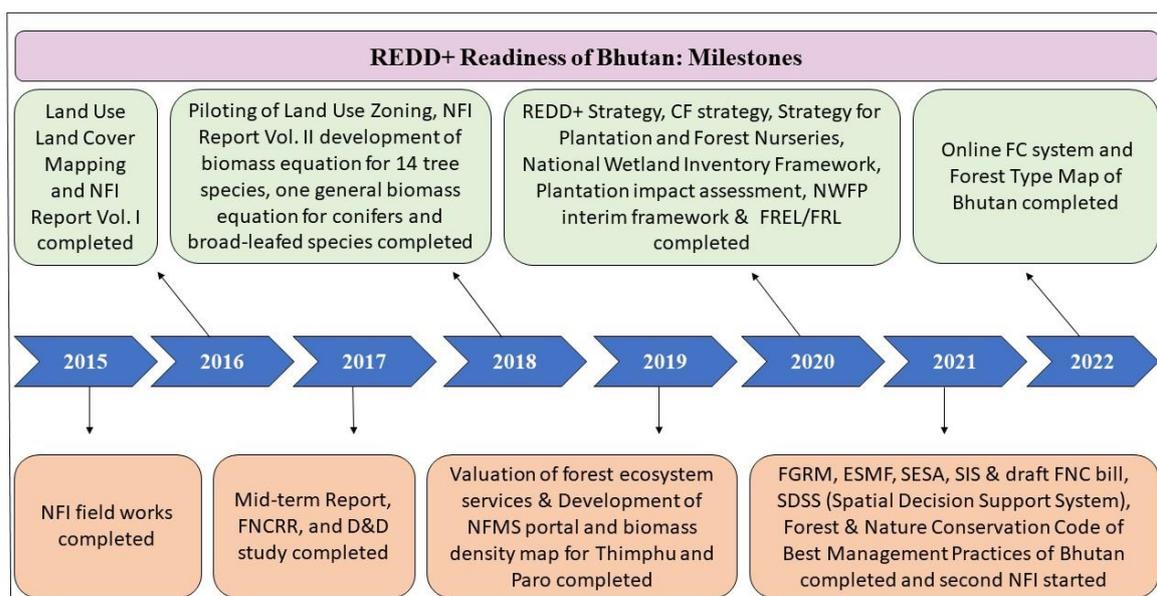
Figure 2: Milestones under the REDD+ Readiness process

The RGoB recognizes that addressing climate change, achieving environmental, economic and social aspects of sustainability requires a multifaceted approach from all sections of society. The importance of preserving forests through sustainable management is critical throughout this approach. REDD+ provides cross-cutting and complementary measures, which will provide opportunities to support and strengthen Bhutan's existing national and international commitments. Bhutan has demonstrated its commitment to being part of the global effort to combat climate change with its signatory position to the UNFCCC and ratification of the 2015 Paris Agreement. The holistic measures identified through REDD+ will help reduce deforestation and forest degradation, maintain forest cover and ensure that Bhutan remains carbon neutral, while also considering national economic development interests. REDD+ will help strengthen Bhutan's resilience to climate change, with forest conservation being essential for both mitigation and adaptation.

2.4 REDD+ Readiness funding and financials status

Bhutan received funding from different sources to support implementation of REDD+ readiness activities under the four (4) components. The main sources of funding included FCPF, the Royal Government of Bhutan (RGoB), the REDD+ Himalayas project supported by International Centre for Integrated Mountain Development (ICIMOD), German Agency for International Cooperation (GIZ), United Nations REDD programme (UNREDD) Technical Support project and Green Climate Fund (GCF) REDD+ Readiness and Watershed Management in Bhutan. Table 2 presents the summary of financial resources for Bhutan's REDD+ Readiness program while the table 3 presents the details of FCPF REDD+ readiness grants expenditures for Bhutan.

Table 2: Summary of Funding for Bhutan's REDD+ Readiness Preparedness

Sources of Fund	Amount in USD (million)	Years
FCPF World Bank	8.6	2015-2022
UNREDD	0.44	2013-2015
ICIMOD GIZ	0.525	2015-2018

GCF	0.595	2021-2023
RGoB	0.372	2014-2022

Table 3: Details of FCPF World Bank REDD+ Readiness grant

Project Component	Budget (USD)
Component 1: Readiness Organization and Consultation	
1.1. National Readiness Management Arrangements	600,000
1.2. Information Sharing and Early Dialogue with Key Stakeholder Groups	664,000
1.3. Capacity building and training for REDD+ implementation	655,008
Sub-total	*1,919,008*
Component 2: Preparation of REDD+ Strategy	
2.1. Assessment of Land Use, Land Use Change Drivers, Forest Law, Policy and Governance	880,000
2.2. REDD-plus Strategy Options	815,000
2.3. REDD-plus Implementation Framework	1,567,269
2.4. Social and Environmental Impacts during Readiness Preparation and REDD-plus Implementation	395,000
Sub-total	*3,657,269*
Component 3: National Forest Reference Emission Level and/or a forest Reference Level	
3.1. Develop a national forest Reference Emission Level and/or a forest Reference Level	567,992
Sub-total	*567,992*
Component 4: Design Systems for National Forest Monitoring and Information on Safeguards	
4.1. National Forest Monitoring System	2,361,731
4.2. Designing an information system for multiple benefits, other impacts, governance and safeguards	94,000
Sub-total	*2,455,731*
Grand Total	*8,600,000*

2.5 Summary of Overall Progress REDD+ in Bhutan

A summary of the overall progress in REDD+ Readiness at R-Package stage compared to progress at the Mid-Term Review (MTR) is presented below:

Table 4: Summary of overall progress from Mid-Term Progress to R-Package and Self-assessment

Sub-Components	Assessment Criteria	Mid-Term Progress	Participatory Ranking
Sub-component 1a: REDD national management mechanisms.	1. Accountability and transparency	[green]	[green]
	2. Operating mandate and budget	[green]	[green]
	3. multi-sector coordination mechanisms and cross-sector collaboration	[green]	[green]
	4. Technical supervision capacity	[yellow]	[green]
	5. Funds capacity management	[yellow]	[green]
	6. Feedback and grievance redress mechanism	[orange]	[green]
Overall sub-component 1a:			[green]
Sub-component 1b. Consultation, participation, and outreach.	7. Participation and engagement of key stakeholders	[green]	[green]
	8. Consultation process	[yellow]	[green]
	9. Information sharing and accessibility to information	[yellow]	[green]
	10. Implementation and public disclosure of consultation outcomes	[green]	[yellow]
Overall component 1b:			[green]
Sub-component 2a. Land use evaluation, forest policy and governance.	11. Assessment and Analysis	[green]	[green][yellow]
	12. Prioritization of direct and indirect drivers/barriers to forest carbon stock enhancement.	[green]	[green]
	13. Links between drivers/barriers and REDD+ activities	[green]	[green]
	14. Action plans to address natural resource rights, land tenure and governance	[yellow]	[yellow]
	15. Implications or impacts for	[yellow]	[green][yellow]

Sub-component	Indicator		
	forest laws and policies	Yellow	Green / Yellow
Overall sub-component 2a:		White	Green
Sub-component 2b. REDD+ strategy options.	16. Selection and prioritization of REDD+ strategic options	Orange	Green
	17. Feasibility assessment	Red	Green
	18. Impact or implication of strategic options on existing sectoral policies	Red	Yellow
Overall subcomponent 2b:		White	Green
Subcomponent 2c: Implementation framework.	19. Adoption and implementation of laws/legislation and regulations	Orange	Green
	20. Guidelines for implementation	Yellow	Green
	21. Benefit-sharing mechanisms	Orange	Yellow
	22. National REDD+ registry and monitoring system for REDD+ activities	Red	Green / Yellow
Overall sub-component 2c:		White	Green
Subcomponent 2d: Social and environmental impacts	23. Analysis of social and environmental safeguards issues	Yellow	Green
	24. REDD+ Strategy Design with Respect to Impacts	Red	Yellow
	25. Environmental and social management framework	Orange	Green
Overall sub-component 2d:		White	Yellow
Component 3: Reference Emissions Level/Reference Levels	26. Demonstration of Methodology	Orange	Green / Yellow
	27. Use of historical data and adjusted for national circumstances or context	Yellow	Green
	28. Technical feasibility of the methodological approach, and consistency with UNFCCC/IPCC guidance or recommendations and guidelines	Red	Green

Overall component 3:			
Sub-component 4a: National Forest Monitoring System.	29. Documentation of monitoring approach or methodology		
	30. Demonstration of early system implementation		
	31. Institutional arrangements and capacities		
Overall sub-component 4a:			
Sub-component 4b: Information System for Multiple Benefits, Other Impacts, Governance, and Safeguards	32. Identification of non-carbon aspects and relevant social and environmental issues		
	33. Monitoring, reporting and information sharing		
	34. Institutional arrangements and capacities		
Overall sub-component 4b:			

3. Component 1: READINESS ORGANIZATION & CONSULTATION

3.1   Sub-component 1a: National REDD+ Management Arrangements

As part of the implementation of REDD+ readiness process, National REDD+ management arrangement (subcomponent 1a) outlined the following activities in the R-PP for implementation: a) Establishment and operationalization of REDD+ Taskforce and Technical Working Groups (TWGs) including capacity needs assessment and capacity building of taskforce and working groups; b) Establishment of REDD+ information Centre (Hardware for database management and operating cost, recruitment of an information specialist); c) Establishment of REDD+ secretariat (National Office space; Regional Office space including amenities, furniture and computers), Capacity building of the local staff); d) Support REDD+ readiness process (Technical support, Capacity building).

Key expected outputs from the implementation of the above activities included: REDD+ Secretariat strengthened and functioning; REDD+ Taskforce and TWG   operational; TWG members' capacity built; Field offices working as REDD+ Regional Offices   ; Capacity of local level staff and stakeholders built; REDD+ information Centre established and functioning; Training needs assessed and report ready; and reports and information from seminars and study tours reflected in the strategy.

3.1.1 Progress and Achievements of Component 1a: National REDD+ Management Arrangements

Through the implementation of the above activities and the delivery of expected outputs, there has been progress on all indicators under subcomponent 1a (National REDD+ management arrangement). Figure 3 presents the institutional and management arrangement for REDD+.
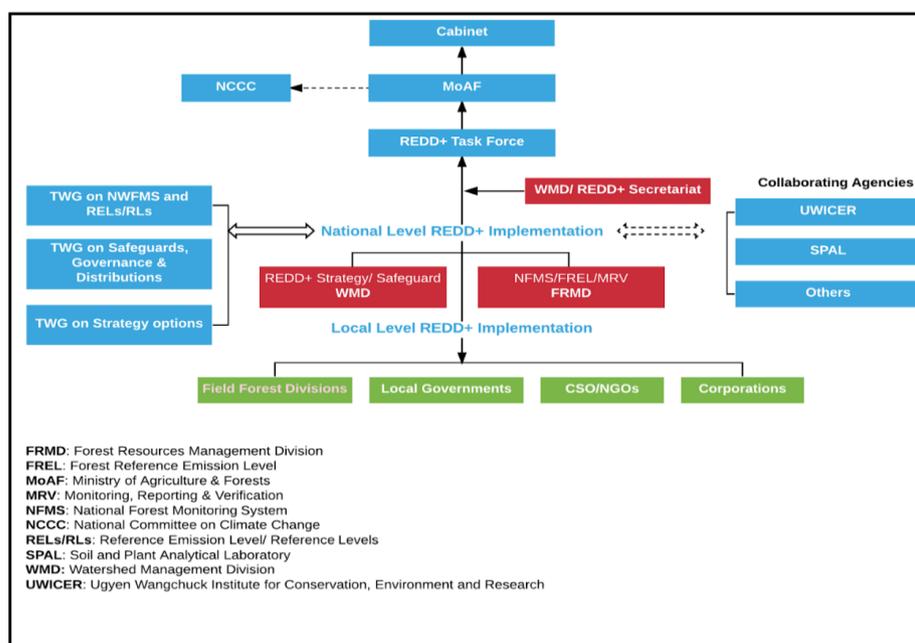
Figure 3: Institutional and management arrangement for REDD+ implementation

Key achievements in Sub-component 1a (National REDD+ Management Arrangements)

- All institutions required for the implementation of REDD+ activities have been established. Regular meetings of the key sectors represented in the task force and Technical Working Groups as well as other relevant stakeholders, CSOs/NGOs take place.
- Operational mandates for all national institutions are in place and all required national institutions have been established to coordinate with other concerned agencies for the implementation of REDD+.
- Technical supervision capacity of the national institutions like WMD and FRMD has been enhanced through capacity building exercise, trainings, and leading various works on REDD+
- Fund management system is formalized. The Ministry of Finance is responsible for management of funds at the central level. Sufficient capacity exists in the Ministry. PMU has been mandated to manage at the project level under the guidance of the Ministry of Finance.
- Mechanism for FGRM was developed and is established.

Bhutan REDD+ management arrangements therefore have the capacity to (1) manage implementation of REDD+ funding, including the FCPF grant, (2) co-ordinate REDD+ activities, (3) integrate REDD+ into broader national or sector, (4) manage complaints and

potentially grievances by stakeholders, and (5) organize information sharing and stakeholder consultation and participation. The details of progress on specific criteria are presented below:

Assessment Criteria 1: Accountability and Transparency

Bhutan's national development planning framework is a highly integrated and transparent process based on the people-centered development philosophy of Gross National Happiness (GNH), which is the driving force behind socio-economic development over the last five and half decades. The GNH Screening Tool evaluates, monitors, sets goals and raises the national consciousness about what conditions are conducive to the happiness and wellbeing of the people, and the country as a whole. Bhutan follows a five-year socio-economic development planning cycle that operationalizes GNH. Under the guidance of the Gross National Happiness Commission Secretariat (GNHCS), the Five-Year Plans (FYP) articulate the socio-economic development priorities and programs to be implemented. Currently, Bhutan is implementing its 12th FYP that covers the period from 2018 through to 2023 and has identified 17 national key result areas (NKRAs) based on the nine domains adopted for the GNH framework: education; health; living standards; ecological diversity and resilience; time use; culture; psychological well-being; community vitality; and good governance. From among the 17 NKRAs, three NKRAs are directly relevant to DoFPS: i) NKRA 5. Healthy Ecosystem Services Maintained; ii) NKRA 6: Carbon Neutral, Climate Disaster Resilient Development Enhanced and iii) NKRA 8. Water, Food and Nutrition Security Ensured. While REDD+ activities cut across the above three NKRAs, it is directly linked to NKRA 6 and it is explicitly mentioned as a separate outcome in Program 4 (Climate Smart and Disaster Resilient Development Programme) of the Ministry to achieve the NKRA 6.

The procurement officer in the Administration and Finance Division (AFD), MoAF was the procurement specialist for the project. The budget for implementing the activities is routed through the Ministry of Finance as per the RGoB rules and managed by an accountant appointed specially to deal with accounts for this project. The accountant is based in Administration and Finance Division (AFD), MoAF. The budget is distributed to the implementing offices annually as per the approved work plan. The project activities implementation was audited annually by the Royal Audit Authority and Procurement Specialist of the World Bank. Additionally, monitoring is also carried out through annual reviews of performance scores by all the agencies, mid-term and terminal evaluation of each plan. The annual review of the performance of each sector will provide score for a particular sector based on its annual targets and a sector will be rated outstanding, good or in need improvement at the end of each year.

As per the 12th FYP, annual plans and programs are prepared, and budget approved according to the activities that contribute to national development and sustainable environment management. The budgets are tagged to code that differentiates between RGoB or donor supported funds, which enable proper monitoring and evaluation of funds. The financial management is system and online based and this ensures tracking of activities and expenditures. At the end of the year, evaluation of the activities and its progress are carried out by GNHC, while the financial activities are audited by the Royal Audit Authority (RAA) and the Internal Audit Unit of each Ministry. The audit reports are ultimately presented to

the Parliament of Bhutan during their ongoing sessions. Also, monitoring is also carried out through annual reviews of performance scores by all the agencies, mid-term and terminal evaluation of each plan. The annual review of the performance of each sector will provide score for a particular sector based on its annual targets and a sector will be rated outstanding, good or in need improvement at the end of each year.

Assessment Criteria 2: Operating mandate and budget

The Constitution of Bhutan enshrines the protection and conservation of the environment and mandates the maintenance of 60% forest cover in perpetuity as outlined in the R-PP. Over the years, a set of strong laws and policies have evolved to ensure that the protection, management, and sustainable use of forests are mainstreamed across all governments. The policies are translated and implemented through Five Year Plans (FYP). Under the guidance of the GNHC, Bhutan has established an integrated and transparent planning framework for economic development. The 12th FYP began implementation in November 2018 after being endorsed by the National Assembly. The vision that guides this plan emphasizes Maximization of Gross National Happiness through "JUST, HARMONIOUS AND SUSTAINABLE SOCIETY THROUGH ENHANCED DECENTRALISATION" focusing on self-reliance and inclusive green socio-economic development. The GNHC as the overall coordinator for the planning framework (Figure 4) ensures all the resources mobilized from the development partners are aligned to the FYP that has been adopted by the Parliament and implemented through annual performance agreements with targets and indicators signed by the Prime Minister with heads of all the agencies. The Department of Forests and Park under the Ministry of Agriculture and Forests has the mandate to ensure sustainable management of forest and it implements 5 major programs in the 12th FYP including *Sustainable management and utilization of forest resources and land enhanced, enhanced generation of RNR technologies, Climate smart and Disaster risk reduction, Highland Development Program and Coordination and Support services.*
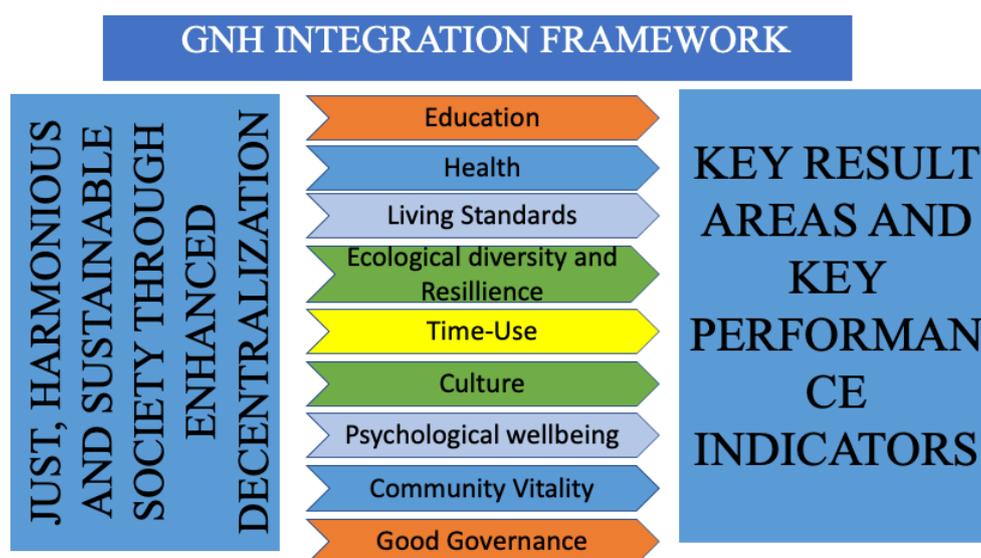
Figure 4: National planning framework for the 12th FYP (Adapted from GNHC)

The 12th FYP framework serves as a guidance for budget allocation and implementation in different sectors as coordinated by the GNHC. REDD+ budget allocation system also follows the same modality. The Ministry of Finance is the national agency responsible for managing and allocating budgets for all the ministries.

The budget for implementing the project activities is routed through the Ministry of Finance as per the RGoB rules and regulations on financial and procurement management. The REDD+ project money was deposited directly from World Bank to the designated account created for the project in the Royal Monetary Authority from where the money is released to Ministry of Finance. The Ministry of Finance then released the money directly to the finance divisions of the implementing agencies (WMD, FRMD, Tarayana Foundation, National Land Commission, Territorial Forest Divisions, National Soil Service Centre, etc.) based on the work plan and release request letter sent by the PCU (WMD).

The REDD+ Secretariat in WMD, DoFPS, MoAF housed the Project Coordination Unit (PCU) with the Chief of WMD as the Project Director. The REDD+ Secretariat ensures that all the budgeting, procurement and other activities are done in line with both World Bank as well as RGoB rules and regulations.

Assessment Criteria 3: Multi-sector coordination mechanisms and cross-sector collaboration

The REDD+ readiness preparation process followed the FYP framework and will be using the same under the REDD+ implementation phase. The FYP development framework is designed to promote institutional collaboration and coordination.

The national REDD+ institutions and management arrangements for Bhutan are and in alignment with the FYP and are ensuring REDD+ activities are coordinated, integrated into and influencing the broader national or sector policy frameworks through the established institutional arrangements and platforms.

Table 5: Agencies and their roles in the REDD+ process

Agencies	Role in REDD+ Readiness
Gross National Happiness Commission Secretariat	Ensure REDD+ programs are in line with government plans and policies
National Land Commission Secretariat	Cadastral data, advice and guidance on land use change and land tenure
National Environment Commission Secretariat	GHG reporting, National Communication, UNFCCC Focal Point with a secretariat – with sectoral technical committees.
Ministry of Agriculture and Forests	Coordinate and implement REDD+ program
Ministry of Economic Affairs	Land clearance system, represented in the technical working group, ensure harmonization of their policies with that of REDD+ vision
Ministry of Foreign Affairs	Represent Bhutan at government level in all international negotiations
Ministry of Finance	Facilitate budget availability for REDD+ implementation
Ministry of Home and Cultural Affairs Department of Local Government, Dzongkhag Administration, Geog Administration	Represented in REDD+ Task Force, REDD+ committee at the local level facilitates disseminating information to local communities
Non-Governmental Organizations and Civil Society Organizations Royal Society for Protection of Nature Bhutan Trust Fund for Environmental Conservation National Commission for Women and Children Tarayana Foundation	Represented in REDD+ Task Force, Technical Working Groups and provide recommendations on relevant issues and assist the Government in REDD+ Readiness and implementation
Natural Resources Development Corporation Ltd.	Represented in the Technical Working Groups and recommendations on relevant issues and assist the Government in REDD+ Readiness implementation
Royal University of Bhutan	Represented in Technical Working Groups and contribute to research and studies, advocacy, etc

Details on the major institutions and platforms involved in the REDD+ process are presented below:

- **REDD+ Secretariat:** The Ministry of Agriculture and Forests is the focal institution, therefore, there is a close interface between agriculture and forestry sectors. Watershed Management Division (WMD) under the DoFPS functions as the REDD+ Secretariat ensuring overall coordination in implementation of REDD+ readiness activities in Bhutan. REDD+ Secretariat also works as the PMU administering the FCPF and other REDD+ related grants and ensures coordination and linkages between and among the Task Force, REDD+ Technical Working Groups (TWGs), implementers and collaborators. The functions of the REDD+ Secretariat include but not limited to: (a) Facilitate and manage all REDD+ Readiness activities; (b) 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, and (c) Coordinate capacity building, stakeholder engagement and disseminate information on REDD+ Readiness at national and local level. The REDD+ Secretariat has an accountant, procurement officer.
- **REDD+ Task Force**. The REDD+ Task Force is the official national forum for discussion and coordination of matters related to REDD+. The Task Force is made up of representatives from key relevant stakeholders Ministry of Agriculture & Forests, Ministry of Finance (Department of Macro-economic Affairs), National Environment Commission Secretariat, Gross National Happiness Commission Secretariat, Tarayana Foundation (CSO) and Bhutan Trust Fund for Environment Conservation. The Task Force provides policy support and guide implementation of REDD+, oversee the work of the TWGs and guide implementation of R-PP including (i) reviewing the quarterly and annual progress of the project based on reports prepared by WMD; (ii) guiding WMD on project implementation; (iii) reviewing and approving updated procurement plans; and (iv) evaluating the progress of field implementation. The REDD+ Task Force chaired by the Director, DoFPS.
- **REDD+ Technical Working Groups** (**TWGs**). As part of the implementation arrangement, there are three (3) REDD TWGs. The three TWGs are (1) National Forest Monitoring System & Reference Emission Level; (2) Safeguards, Governance and Benefit Distribution, and (3) Strategy Options. Each group has clear terms of reference and are designed to focus on the operational level and provide technical inputs for implementation of each thematic area for REDD+ readiness as well as design and implementation of result-based emissions reduction programs. The REED+ TWG in coordination with WMD lead implementation of activities under thematic components and subcomponents.

  ✔ *TWG on Strategy Options***:** TWG on Strategy Options have members from the Social Forestry & Extension Division, DoFPS, Nature Conservation Division, Forest Protection & Enforcement Division, Uygen Wangchuck Institute of Conservation, Environment and Research from the Department of Forests & Park Services, National Soil Service Center from Department of Agriculture, Department of Livestock and Natural Resources Development Corporation Limited. This TWG lead discussions and generate proposals for the development of REDD+ strategy options for Bhutan through a consultative process including the design of demonstration activities.

  ✔ *TWG on NFMS and RELs/ RLs:* TWG on NFMS and RELs/RLs have members from the Forest Resources Management Division, Watershed Management Division, National Land Commission Secretariat, Ministry of Works and Human Settlement, Department of Hydropower and Power Systems and Ugyen Wangchuck Institute of Conservation, Environment and Research. This TWG 1) assess and support the establishment of RELs/RLs in Bhutan, 2) support the design and implementation of NFMS and 3) 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.

✔ *TWG on Safeguards, Governance and Benefit Distribution*: This TWG has members from Watershed Management Division, Bhutan Trust Fund for Environment Conservation, Royal Society for Protection of Nature, College of Natural Resources and Social Forestry & Extension Division. This TWG 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.

The REDD+ Taskforce and REDD+ Technical Working Groups provided the platform to critically review the important REDD+ components such as the National REDD+ Strategy & Action Plan, the Safeguard Framework components, the National Forest Reference Emission Level. This also enabled the REDD+ Secretariat to ensure and take on board the concerns and issues of all relevant stakeholders. All such issues were identified within this TWG meetings or during the bilateral meetings with the concerned agency, organized via the TWG members. Such issues were reflected during the drivers assessment studies, reflected in the REDD+ Strategy and will be further validated along with proper recommendation and implementation through the REDD+ Investment and Implementation Proposal, which would be completed by June, 2022.

The TWGs also helped the REDD+ Secretariat reach out to distant and rural communities. For example, the Tarayana Foundation as the TWG and REDD+ Taskforce member, conducted community consultation in the villages where they are well known by the communities. This was important as communities were more open and comfortable to share issues related to REDD+ or natural resources management. Similarly, Royal Society for the Protection of Nature (RSPN) coordinated with REDD+ Secretariat to help build capacity of the local communities.

Bhutan has signed several international treaties and agreements that have implications for the forestry sector. The key ones are; the Convention on Biological Diversity (CBD), the United Nations Convention to Combat Desertification (UNCCD), the United Nations Framework Convention on Climate Change (UNFCC), the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), UNESCO World Heritage Convention, International Plant Protection Convention (IPCC), the Millennium Development Goals (MDG) and the South Asian Association for Regional Cooperation (SAARC) Development Goals (SDG).

At the national level, REDD+ resources helped supplement the effort of DoFPS in enhancing the coordination between the forest sector and other agencies to ensure that the requirements conform to the various international treaties and agreements are reflected in business plans, forest management plans and implementation procedures. Project resources were also shared with other agencies in the Ministry (National Soil Service Centre, Department of Agriculture) as well outside agencies including the National Land Commission for piloting the land use zoning (land capability classification) and development of related regulations

and the Royal Academy College in Pangbisa, Paro to pilot Glu-lam initiative i.e a technology to promote sustainable usage of timber. As part of the initiative to improve collaboration with the wood-based industries and other corporate and private sectors in the country, the project helped in organizing regular consultations on operational management of Forest Management Units (FMU), training of field data managers, development of guidelines and organizing a trip for wood-based industries to New Delhi, India to a trade-fair based on wood products. Many of the participants bought new technologies (equipment) that will enhance wood value addition and reduce wood wastage in their sawmills and furniture units. Many workshops and consultations involved stakeholders from many sectors, particularly those mentioned in Table 7 and this contributed greatly to improving cross-sectoral coordination while also enhancing knowledge on climate change and related issues.

Substantial effort has also been made to create awareness and sharing of information across a wide range of stakeholders all throughout the development of National REDD+ Strategy and Safeguard documents. The awareness was mainly created through workshops, meetings and focus group discussions while developing the REDD+ Strategy, drivers study and safeguard documents. Information has also been shared through the REDD+ website developed for the purpose of disseminating information and works undertaken under the REDD+ program.

Efforts to engage youth has also been made with conduct of sensitization workshops in six academic colleges reaching around 2000 participants comprising students and college faculty members once in 2016 and then again in 2018. The workshops focused on climate change and the REDD+ program, watershed, soil and land management awareness https://redd.dofps.gov.bt/wp-content/uploads/2017/06/Report-of-Workshop-on-REDD-Readiness-Soil-Land-and-Watershed-Management.pdf. Summaries of consultations and capacity building are presented in Table 7 and details are presented in Annex 1. Further, the system of involving the stakeholders through the system of the REDD+ Taskforce and TWGs, which was very successful, will be further strengthened in the implementation phase to ensure better coordination.

Some of the lessons learned during the REDD+ Readiness phase are listed below. These will be taken into account during the implementation phase:

● The requirement of a smaller technical committee such as the Technical Working Groups (TWGs), with members from relevant agencies really helped with bridging the gap between the REDD+ Secretariat and the concerned agencies. Bilateral meetings were organized smoothly between by REDD+ Secretariat and the agency as coordinated by the TWG members.
● TWG also provided opportunities for the identification of future improvement opportunities, which now form the Policies and Measures (PAMs) under the REDD+

Strategy, which is further validated for the development of the REDD+ Investment and Implementation Proposal

- Community consultations, which was carried out thoroughly, provided with real ground situations and ensuring women participation (mandatory), also provided with both perspective of the issues on the ground.
- Having partners on the ground helped REDD+ Secretariat to reach out to all stakeholders.

Challenges and their causes were analyzed and form the National REDD+ Strategy & Action Plan and are being further validated as part of the REDD+ Investment & Implementation Proposal (IIP). Addressing the challenges will require resources, which will be sourced either through domestic financing or international financing and the IIP will be used for sourcing the financing. The implementation the IIP will begin the REDD+ Implementation phase for Bhutan. The REDD+ Strategy & Action Plan is already taken up by agencies as Low Emission Development Strategy for the Forestry sector and forms the central part for the recently submitted second NDC to UNFCCC.

Assessment Criteria 4: Technical supervision capacity

The implementation of components on Strategy and Safeguards is led by WMD while the Forest Resource Management Division (FRMD) under the same department (DoFPS) is the lead for implementation of components on FREL, NFMS and MRV. FRMD coordinates the national forest inventory (NFI) and houses the forest information and management system of the department. Other functional divisions and field divisions under DoFPS also implemented several activities under the REDD+ Readiness program including participatory forest management through community forestry, non-wood forest products and mapping & capacity building for landscape restoration; forest fire management and researches on forest dynamics and climate change, etc. Tarayana Foundation as one of the main CSOs in the country helped generate issues and recommendations from the local level as an input to the National REDD+ Strategy and Action Plan.

The REDD+ program and the FCPF grant has immensely helped in building the institutional capacity of DoFPS and relevant stakeholders in Bhutan. The Food and Agriculture Organization (FAO) conducted several trainings to the core technical team on System for Earth Observation, Data Access, Processing, Analysis for Land Monitoring (SEPAL), e-cognition, geoportal. Similarly, regular trainings and capacity buildings tailor made to data analysis with the support of REDD+ project helped the technical staff in department to analyze the data collected from NFI and produce state of the nations' forest report in the form of NFI report I and NFI report II. Numerous other trainings have been conducted on GIS, silviculture management of forests, Forest and Nature Conservation Acts, Rules and Regulations for foresters and rangers across the country. At the regional level and local governmental level, several trainings were carried out as shown in Table 7. This has built capacity as well as raised awareness on different aspects of environment, climate change and biodiversity conservation. Besides, there is a wide range of agencies participating in REDD+ and their roles and potential responsibilities have already been articulated in various documents (Table 5), and their capacities have been built to enhance implementation of REDD+.

As a result, tremendous progress has been made firstly in building the institutional capacity of the technical staff of DoFPS particularly on remote sensing, national forest inventories

and forest information management system. These activities have also enhanced service delivery as well sustainable management of forest. Specifically, through the improved capacity, the Bhutanese team prepared the forest reference emission level document with technical training supported from FAO for data analysis. The REDD+ activities also provided ample opportunity for the REDD+ Secretariat and other officials from DoFPS to participate in the UNFCCC COPs and other REDD+ related meetings, seminars, and trainings at the international level, providing an opportunity to showcase the work done in Bhutan in the field of conservation and also to present the issues that require international attention and support. This helped in contributing to the global agenda of sustainable development, climate change and how Bhutan could collectively fight to preserve natural resources to save the planet.

During the formulation of the draft bill on Forest and Nature Conservation, extensive consultations with local government leaders were conducted which also helped enhance the understanding of importance of forest conservation, the regulations and the responsibilities and the services provided to the public by the department.

Assessment Criteria 5: Funds management capacity

The FCPF grant was managed by the Ministry of Finance, Royal Government of Bhutan which is also the focal point for the World Bank in the country. Bhutan's National REDD+ Secretariat is housed in the Department of Forests & Park Services (DoFPS), Ministry of Agriculture & Forests (MoAF) and manages the FCPF grant and other funding for REDD+ Readiness, coordinate the implementation of REDD+ readiness activities and facilitate the integration of REDD+ into the national development plans. The Administration and Finance Division (AFD) of the Ministry of Agriculture and Forests and MoF provided the financial management service for REDD+ readiness process. The Project Management Unit (PMU) housed in Watershed Management Division of the DoFPS over-sight and fiduciary responsibility in all aspects of project management.

The grant followed the national financial norms and procedures and, followed the Project Operation Manual (POM). The budget is tagged to codes that differentiates between RGoB or donor supported fund, which enable proper monitoring and evaluation of funds. The financial management is system and online based and this ensures tracking of activities and expenditures. At the end of the year, evaluation of the activities and its progress was carried out by GNHC, while the financial activities are audited by Royal Audit Authority (RAA) and Internal Audit Unit of each Ministry. The audit reports were ultimately presented to the Parliament of Bhutan during their ongoing sessions. The REDD+ project activities were also screened and implemented through this process and the way forward, the Government is trying to bring in more online and systematic management to further streamline the budgeting and project implementation.

Adequate capacity for managing the FCPF funds existed within the AFD, MoAF and the MoF. A project support officer was recruited to ensure day-to-day operations and ensure compliance with the World Bank Financial Management procedures. Procurement of goods and services were carried out by the PMU with support of the procurement section within

the AFD of MoAF. The capacity of PMU was enhanced through regular training on Systematic Tracking of Exchanges in Procurement (STEP), procurement and financial management provided by the World Bank.

Assessment Criteria 6: Feedback and grievance redress mechanism

A Study on Feedback and Grievance Redress Mechanism (FGRM) https://www.dofps.gov.bt/documents/ was completed in 2021 and recommendations for the establishment of the mechanism for addressing the grievances was approved. The FGRM is a space for stakeholders to discuss problems and solve them through an acceptable, independent and institutionalized mechanism for resolving conflicts coming from REDD+ implementation. The design takes into consideration formal and informal networks. The Report outlined the FGRM Framework including potential grievances and conflicts that may arise as a result of the implementation of REDD+ activities, a plan for building on strengths and addressing the gaps. The mechanism proposed was adopted with minor customization for the Bhutan for Life project (the project waited for the REDD+ FGRM to be finalized so that they could use) under the same department and therefore practical implementation or operationalization of the proposed mechanism has already started. Therefore, lessons learned from the development will help the DoFPS in addressing any gaps in the future.

As part of the study for the preparation of the FGRM Report, six consultation workshops were held, three at the local level and three at the regional level. Additionally, focus discussions and meetings were held with key stakeholders. The participants of the workshops and consultations included representatives from key Ministries and departments, NGOs/CSOs, elected local government leaders, community forest group members, and village representatives. Consultation meetings, workshops and the number of participants attended is given in Annex. 2. (The details are also provided in Annex 1-3 of FGRM report).

Gaps and Areas for further development for subcomponent 1a
While significant progress has been made on REDD+ management arrangement, there remain gaps and areas for further development. Gaps identified are:

- Involvement of private and corporate sectors particularly those working in wood-based industries needs to be strengthened
- The multi-sector coordinating capacity of the institutions is weak.
- Technical supervision capacity of the staffs working in the Regional Offices is weak. The technical capacity of the CSOs/NGOs and staffs of other concerned sectors are weak.
- There is no gap as of now as the capacity of REDD+ Secretariat has been built through regular trainings on STEP, procurement and other relevant trainings
- The mechanism is currently being tested in the department during implementation of another project

Areas for further development are:

- Regular meetings to be organized since there is a huge opportunity to engage and collaborate with these sectors to enhance wood value chain contributing to sustainable forest management and climate change mitigation
- It is important to continue to use the robust existing national frameworks and institutions for any project implementation in the country
- Trainings and workshops should be conducted regularly
- Technical supervision capacity of the staffs, CSOs/NGOs need to be upgraded. Targeted trainings need to be imparted to the concerned stakeholder groups.
- Need to continue strengthening the capacity of PMU staffs to update with the latest procurement regulations
- More awareness raising activities should be conducted so that local people are fully aware about the
- FGRM. Also need to mobilize resources for capacity building and operationalizing the FGRM.

Results of the Self-Assessment for Sub-Component 1a – National REDD+ Management Arrangement

Table 6: Summary of Self-Assessment for Sub-Component 1a: National REDD+ Management Arrangement

Assessment Criteria	Progress				Remarks
	Significant Progress	Progressing well, further development required	Further development required	Not yet demonstration progress	
1) Accountability and transparency					
2) Operational mandates and budget					
3) Mechanism for multi-sector coordination and cross sector coordination					
4) Technical supervision					
5) Fund management capacity					
6) Feedback and Grievance Redress Mechanism					

3.2 Sub-component 1b: Consultation, Participation, and Outreach

As part of the organization and consultation for the readiness for the implementation of REDD+, the R-PP outlined the following activities for implementation: a) Preparation of information sharing and consultation process (Developing awareness raising program materials, i.e. documentary, posters, brochures); b) Capacity Building of local communities and Training of trainers (TOT); c) Communication media (Developing website; Media campaign process); d) Workshops and seminars (Dzongkhag level, Regional and National Levels).

The outputs from the implementation of the above activities include: development awareness materials https://redd.dofps.gov.bt/wp-content/uploads/2017/06/Communication-material-on-REDD.pdf, Local trainers trained for carrying out trainings and workshops at community level, a REDD+ website was developed https://redd.dofps.gov.bt/, and awareness of communities and local government officials of the REDD+ program increased.

3.2.1 Progress and Achievements of Component 1b: Consultation, Participation and Out-reach

The national institutions responsible for leading the REDD+ process regularly engaged with key stakeholders and facilitates their participation in the readiness preparation process. The consultation, participation and outreach build on those established during the formulation and implementation of activities under the R-PP. The outcomes of consultation, participation and outreach with key stakeholders guided the preparation key documents including Strategic Environmental and Social Assessment (SESA), and Environmental and Social Management Framework (ESMF), development of the national REDD+ strategy, reference levels, and monitoring systems. Details including the type of stakeholder consultation (workshops, training, sensitization, awareness creation etc.), year of the even, number of participants (male/female) and institutions are presented in Annex 1.

As a result of the implementation of the above activities, the following have been achieved:

- Stakeholder engagement plan was developed and implemented throughout the readiness process
- The consultation process was established.
- All the REDD+ readiness activities particularly the REDD+ strategy has been developed through a participatory and consultative bottom-up approach
- Information sharing mechanism was established.
- The information is shared through the members of, REDD+ website, workshops, and meetings, DoFPS website, publication of documents, posters etc.
- All reports produced by REDD+ Unit are available on the website.

Detail description of progress made and major achievements of activities for each criterion under the component 1b are presented below:

Assessment Criteria 7: Participation and engagement of key stakeholders

The REDD+ Secretariat has been coordinating with diverse stakeholders including government agencies, NGOs, CSOs and local government leaders to encourage active participation of key stakeholders in the REDD+ process. Stakeholder engagement on the national REDD+ process started with the preparation of the R-PP considering the national

administrative structures. At the local level, governance is structured around 20 Dzongkhags (districts) containing 205 Gewogs (sub-districts). The DoFPS field divisions and offices spread across all 20 Dzongkhags implement forestry plans and programs. Dzongkhag administrations are collaborators in the preparation of the REDD+ readiness programme and will be implementation collaborators. Consultations have involved all relevant stakeholders from local to national levels.

All the major stakeholders are represented firstly in the Task Force and the three TWGs as mentioned in Component 1a who met throughout the development of the documents, reviewed and guided the works. Effort has been made to engage with other stakeholders on a regular basis. The Task Force and TWGs are composed of stakeholders from different backgrounds including from CSOs and NGOs like the Tarayana Foundation (a CSO which works primarily with remote and distinctive communities). Tarayana is represented in the REDD+ Task Force and has been an active participant in the REDD+ Readiness process. Other NGOs including the Royal Society for Protection of Nature (RSPN) and Bhutan Trust Fund for Environmental Conservation are also represented in the Technical Working Group (TWG) and contributed to the REDD+ readiness process.

Particularly effort was made to involve Tarayana Foundation and Royal Society for Protection of Nature (RSPN) to conduct consultations at the local level for informing the development of National REDD+ Strategy and Action Plan. Tarayana and RSPN were involved taking into consideration their good work and rapport with local communities (especially the marginalized communities and far away communities). This ensured that all stakeholders were consulted properly. The REDD+ process consultation always mandated the composition of women participation and special arrangements were made for their participation. In some of the consultation meetings, separate meetings were held for men and women so as to ensure maximum participation.

The RGoB has taken a proactive role in ensuring full participation and engagement of all the relevant stakeholders throughout the REDD+ readiness phase starting from 2014 be it for capacity building programs or for development of various documents. The consultation and engagement process led to the achievement of many milestones in addition to the REDD+ documents like the completion of the national forest inventory and subsequent reports, the draft forest and nature conservation bill of 2021 tabled in the parliament, the piloting of national land use zoning, piloting of glulam initiatives and other capacity building programs. Table 7 shows the total number of events that have taken place involving a total of 12,528 participants ensuring maximum outreach to stakeholders by the department.

Table 7: Summary of REDD+ consultations and capacity building

Year	Capacity Building	Management	Sensitization	Governance	Stakeholder engagement	Total No. of events	No. of participants
2015	5	0	1	0	6	12	**380**
2016	12	2	11	4	10	38	**2,636**

2017	0	1	0	0	0	1	**51**
2018	0	3	0	0	2	5	**2,617**
2019	10	4	2	6	6	28	**3,938**
2020	5	2	1	0	24	32	**2,134**
2021	14	1			47	62	**753**
Total	**46**	**15**	**15**	**04**	**99**	**178**	**Total: 12,528** Female: **4,380 (35%)** Male: **8,148 (65%)**

Assessment Criteria 8: Consultation Process

The REDD+ Secretariat has undertaken extensive consultations with a wide range of relevant stakeholders on the various components of REDD+ by building on the early information and social mobilization campaign and dialogue conducted during the R-PP preparation and the consultations carried out during the MTR formulation phase.

For the development of the National REDD+ Strategy & Action Plan, a training of trainers was conducted for representatives from each forest office (territorial forest divisions and parks) in the districts and the Tarayana Foundation. The forest officials conducted consultations in 20 districts and 205 gewogs covering the whole country. Similarly, Tarayana Foundation covered all their constituencies and held consultations with local marginalized and remote communities. The issues and actions proposed from the local levels formed the main building blocks and informed the development of the strategy document. The process of the development of the SESA, ESMF and FGRM followed the same approach with consultations at national, regional and local level. Recognizing that the stakeholders to be involved in the REDD+ process are from a range of diverse backgrounds including literate as well as illiterate and from different linguistic and cultural backgrounds, various appropriate consultation methods and materials were used to meet the specific needs of the stakeholders. Local languages were always used during consultations with local communities and local government leaders.

Currently, Bhutan is developing an investment proposal for the implementation of REDD+ strategy which will be completed by the end of July, 2022. The investment proposal development further details the drivers of deforestation and forest degradation report and involves analysis of typology and substance of the underlying drivers of D&D encompassing the social, economic and environmental dimensions of the policies and programs of the stakeholders at the national, district and sub-district levels.

The assessment of the social dimension involved the examination of stakeholder inclusion and participation including gender analysis in the governance of forest resource (a) planning; (b) management; (c) environmental impact assessment; (d) harvesting; (e) value addition to

the timber and non-wood products; (f) non-wood forest product enterprises; (g) marketing of products; and (h) environmental impact assessment by taking the Cancun Safeguards into account.

The consultation processes generated detailed information on i) gaps in sustainable management of forest resources, ii) social and gender issues impacting deforestation and forest degradation, iii) social, gender and environmental issues impacting deforestation and forest degradation from land use change, iv) challenges with wood/timber flow, enterprise development of NWFPs and ecosystem services which have an impact on forest degradation, v) efficiencies of wood harvesting and value addition technologies which have an impact on forest degradation and vi) institutional, organizational and technical issues impacting deforestation and forest degradation.

The investment proposal will be complemented by analytical works and reports on i) detailed analysis of the direct and indirect drivers for Drivers of Deforestation & Forest Degradation, ii) a capacity needs assessment for the implementation of the National REDD+ Strategy & Action Plan; and iii) a comprehensive Gender Action Plan for the National REDD+ Strategy & Action Plan implementation.

Assessment Criteria 9: Information sharing and accessibility of information

Throughout the readiness process, the institutions and management arrangements established continue to create the opportunities for coordination, participation and information sharing and access to information for various stakeholders and partners. The main window of sharing information is through workshops, and the REDD+ DoFPS and MoAF websites.

- *REDD+ website:* The REDD+ Secretariat developed a website https://redd.dofps.gov.bt/ to disseminate information and showcase the activities undertaken under the REDD+ program. Workshop reports and information, Study Reports and publications are periodically uploaded to the REDD+ website. In addition to the website, information can also be accessed through leaflets, workshops, training materials, special events, and newspapers. The website contains a wealth of information on REDD+ and it outlines the national REDD+ framework and institutional arrangement for REDD+ implementation. The website is regularly updated whenever new information becomes available.
- *DoFPS website:* DoFPS website contains all forestry related information enhancing information availability and accessibility to the general public www.dofps.gov.bt
- *MoAF website:* The ministry's website ensures wider outreach and information dissemination. Most of the procurement of consultancy services are also announced on the ministry's website www.moaf.gov.bt
- *Social Media:* Information on various REDD+ workshops and consultations and video on REDD+ strategy of Bhutan was shared through Watershed Management

Division's official Facebook page https://www.facebook.com/search/top?q=watershed%20management%20division.

- Information is also shared through various platforms like the TWG meetings, consultation meetings and workshops. Printed booklets are taken and distributed during such events.
- Additionally, to ensure wider outreach, training and workshops were conducted in 4colleges and academic institutes and around 16,151copies of books related to forest, soil and water conservation and climate change were printed and handed over the Department of School Education, Ministry of Finance for distribution to the libraries of the colleges & schools and also helped in developing the curriculum on environment and education.

Assessment Criteria 10: Implementation and public disclosure of consultation outcomes

Various forms of consultation meetings were held as per the requirement and to make the REDD+ process participatory. The consultation meetings were very useful for gathering information on the challenges as well as recommendations for moving the REDD+ program forward. The outputs from these consultation meetings were compiled by REDD+ Secretariat and accordingly several documents were prepared, most important being the National REDD+ Strategy & Action Plan.

Websites and reports are mainly used for disclosure of the outcome of consultations. Simultaneously, workshops were used as a platform to showcase how feedback and suggestions received during the consultation workshops were incorporated and for revising the reports and share with stakeholders.

All final reports are uploaded on the REDD+ website for public viewing. At the moment the following completed reports are uploaded in the website (I) Drivers of Deforestation and Forest Degradation (ii) National REDD+ Strategy and Action Plan (iii) Benefits sharing mechanism (iv) Feasibility and Cost Benefit Analysis of REDD+ Strategy implementation (v) Valuation of Forest Ecosystem Services, (vi) Feedback and Grievance Redress Mechanism, (Vii) Forest Reference Emission Level/Forest Reference Level, (viii) Strategic Environmental and Social Analysis (SESA), (ix) Environmental and Social Management Framework and (x) Bhutan Safeguard Information System (SIS).

Gaps and areas for further development under subcomponent 1a

Despite the above achievements, there are still gaps and areas requiring further development that need to be addressed. The gaps include:

- Need to engage the local people more actively
- Full participation of private sectors lacking due to limited resources
- The information has not been accessible to all sections of the society like local people living in far flung areas.
- All sections of the local communities are not very much aware of the outcome of the consultation. They are not aware how the outcomes of the consultations are integrated in the REDD+ strategy

Areas for further development are:

- Local people, stakeholders and private sectors can be engaged more effectively if there are adequate resources for implementation of activities on the ground.
- Up-scale the level of involvement of all concerned institutions, organizations and local communities when the resources to engage them for implementation of activities become available
- The REDD+ activity should be a regular activity of the Forestry Department.
- Local communities living in remote areas need special attention.
- The reports and the consultation outcomes should be disseminated during the implementation of the REDD+ strategy. Stakeholders need to witness actions on the ground rather than having continuous meetings and assessments.

Results of the Self-Assessment for Sub-Component 1b – Consultation, Participation, and Outreach

The self-assessment for the component 1b: Consultation, Participation, and Outreach are presented below in Table 8.

Table 8: Summary of Self-Assessment for Sub-Component 1b: Consultation, Participation, and Outreach

Assessment criteria	Progress				
	Significant progress	**Progressing well, further development required**	**Further development required**	**Not yet demonstrating progress**	**Remarks**
7) Participation and engagement of key stakeholders	■				
8) Consultation process	■				
9) Information sharing and accessibility of information	■				
10) Implementation and public disclosure of consultation outcomes		■			

4. Component 2: REDD+ STRATEGY PREPARATION

4.1   Subcomponent: 2a. Assessment of Land Use, Land-Use Change Drivers, Forest Law, Policy and Governance

As part of the implementation of subcomponent 2a, the R-PP outlined the following activities for implementation: a) Assess drivers and update the current drivers; b) Assess CF management and update in accordance to REDD+ options; c) Assessment of current forest governance and update; d) Conduct a study on Shifting Cultivation (Tseri): e) Assessment of FMU operations; f) Update and prioritize drivers in terms of contribution to overall emission; g) Economic analysis of strategy options; h) Update Livestock for Green Enterprise Development and Poverty Alleviation; and i) Study climate change effects on fire hazard and behavior in affected forest ecosystems. The expected output from the implementation of the above activities are: a) Drivers of deforestation and forest degradation analyzed and updated for incorporation into the REDD+ Strategy; b) Reports on studies on Tseri, CF management, forest governance, sustainability of FMU operations published and available for planning process; and c) Economic strategy options analyzed Livestock–based green enterprises developed for communities.

Progress and Achievements of Component 2a: Assessment of Land Use, Land-Use Change Drivers, Forest Law, Policy and Governance

Through the implementation of the above activities, progress has been made and the following have been achieved:

- Assessment of drivers of deforestation and forest degradation is completed.
- Main drivers of deforestation and forest degradation identified and prioritized based on wide consultations and discussion with all the stakeholders at national as well as district levels
- Through the drivers study the links between main barriers/drivers and the Strategy has been identified.
- Recommendations are also provided to address them in the National REDD+ Strategy & Action Plan.
- Further, the drivers are being dissected and activities to address them proposed in the REDD+ investment proposal that is currently under development
- Adequate provisions are provided in Forest Policies and Legislations for natural resource rights and land tenure, titling and governance.
- The assessment of the impacts on forest law and policy has been identified through the DD study as well as feasibility study for REDD+.

A detailed description of progress achieved under each criterion in the assessment of land use, land use change drivers, forest law and policy governance are presented below:

Assessment Criteria 11: Assessment and analysis

Numerous assessments and analytical studies were carried out on land use, land use change drivers, forest laws, policies and governance for the REDD+ program implementation in Bhutan. The assessments were carried out as part of the study on the drivers of deforestation and forest degradation, the development of safeguard frameworks including the FGRM, the development of the National REDD+ Strategy & Action Plan and the national land use zoning planning. The purpose of the assessment of land use, land-use change drivers, forest law, policy and governance were to identify key drivers of deforestation and/or forest

degradation, as well as activities concerning conservation, sustainable management of forests, and enhancement of forest carbon stocks. The assessment also analyzed the shortcomings in current land use, and forest law, policy and governance contribute to the drivers of deforestation and forest degradation and developed potential solutions.

The D&D report[1] focused on the analysis of direct drivers of deforestation and forest degradation, land use cover change analysis, assessing the patterns of deforestation and forest degradation, analysis on underlying drivers, and regulatory and policy framework analysis. This D&D report formed the basis on which the REDD+ strategy of Bhutan was developed to mainly address the drivers of deforestation and forest degradation and ensure sustainable forest management and conservation.

The identification of drivers of deforestation and forest degradation was a critical component of the National REDD+ Strategy. A full assessment of the drivers of deforestation and forest degradation in Bhutan was undertaken in 2017 (MoAF 2017a). This assessment included the identification and analysis of all critical drivers and agents; the resulting emissions; impacts of drivers; the barriers to forest conservation, forest enhancement and sustainable management; strategic options and key interventions; and the potential for increased carbon removals. Additionally, a detailed analysis of the drivers, particularly that of the underlying drivers of deforestation and forest degradation was carried out to analyze how the policy, regulatory, organizational, programmatic, governance, managerial and technical capacity dimensions of each underlying drivers impact the degradation and deforestation and what needs to be done to address them.

The results of the deforestation and forest degradation analysis indicates that 392,683 hectares of forests were gained in a 15-year period, while around 74,445 hectares were lost resulting in a net change or increase of 12% at an annual rate of 0.8%. However, there seems to be more degradation - 667,680 hectares of forests experienced degradation. There is no distinguishable pattern in degradation between 2000 and 2010 but between 2010 and 2015 some patterns emerged with forest degradation followed by forest loss located along the southern border of Bhutan as well as along valley bottoms while the major areas of forest gain can be clearly observed in high altitudes in the north.

Both direct and indirect drivers of deforestation and forest degradation have been identified in the D&D study, and the key drivers identified for deforestation are SRF land allotment, hydropower projects, roads, agriculture, mines and quarries and roads while timber harvesting, firewood, forest fires and livestock were identified as the key drivers for forest degradation.

In Bhutan, there are several human activities that directly impact forest cover and loss of forest carbon. They result in forest loss in particular locations, but their overall impact on forest cover on a national basis is negligible due to increases in forest cover elsewhere in the country. Hence, from a land use/land cover change analysis, deforestation is not a concerning land use trend in Bhutan. National statistics indicate that it is SRFs that are lost

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[1] D&D report (available online at www.dofps.gov.bt)

due to conversion to other planned land uses/activities. Hence, the deforestation in the country was classified as primarily planned deforestation.

The assessment of drivers took stock of the historical and future drivers of deforestation and forest degradation in Bhutan, in order to provide a stronger sense of what policies and measures (PAMs) could be put in place today to anticipate and address pressures on the forest in the future. PAMs are a key part of a National REDD+ Strategy and are the means to address driver pressures from within and beyond the forestry sector. This assessment explored a range of criteria and priorities to guide Bhutan's consideration of what interventions can be adopted to shift the pressures on forests. The assessment suggested the prioritization of degradation over deforestation, as forest cover is slightly increasing while the overall health of the forests is degrading. In addition, the assessment acknowledges that future deforestation will take place, hence it would be advisable to analyze forest area loss under different scenarios with a view to safeguard high conservation value and high carbon stock forests.

The assessment of the regulatory and policy framework indicated that Bhutan is progressing well in implementing the REDD+ program. The basis for Bhutan's strong commitment to its forests stems from the Constitution of the Kingdom of Bhutan, which directs every Bhutanese person, as a trustee of the Kingdom's natural resources, to contribute to the protection of the natural environment, and the conservation of the rich biodiversity of Bhutan. The constitution is backed by numerous policies and acts that emphasize the conservation and sustainable management of forests.

Assessment Criteria 12: Prioritization of direct and indirect drivers/barriers to forest carbon stock enhancement

The analytical study on the drivers of deforestation and forest degradation has identified the key drivers for both deforestation and forest degradation. The identified key drivers for deforestation were then prioritized based on the extent of forest areas estimated to be affected annually by the drivers and validated through consultation workshops carried out in the three different regions of Bhutan (South Central, East & West) represented by different sectors from each region. The key drivers of deforestation are the allotment of State Reserved Forest Land and forest conversion for a range of purposes, which include hydropower projects, roads, agriculture, mining and quarries, and transmission lines as shown in Table 9.

A total of 34 consultation meetings (Annex 3: NRS of Bhutan) were carried out in different districts of Bhutan. In addition, the annual GHG emissions were estimated based on the average carbon stock density estimated in the D&D study as presented in the 10 below.

Table 9: Priority ranking of drivers of deforestation

Driver	Area affected annually (Ha/yr.)	Annual GHG emissions as a result of forest loss (tCO2 e/yr.)	Ranking in the extent of deforestation
SRF land allotment for various purposes	1,923	604,852	1st
Hydropower projects	1,880	591,327	2nd
Roads	820	257,919	3rd
Agriculture	778	244,709	4th
Mines and quarries	633	199,101	5th
Power lines	542	170,478	6th

The details for every identified driver of deforestation and their projected future trends are described in the D&D report of Bhutan available at www.redd.dofps.gov.bt .

The key drivers identified for the forest degradation were prioritized and ranked based on the extent of timber volumes estimated to be affected annually by each driver and validated during the same consultation workshops mentioned above. In addition, the annual GHG emissions were estimated based on the average carbon stock density calculated for the year 2000. The priority ranking for the drivers of forest degradation is presented in the Table 10:

Table 10: Priority ranking of drivers of forest degradation.

Driver	Annual degradation (m^3/ha)	Annual GHG emissions as a result of forest degradation (tCO2 e/yr.)	Ranking in the extent of deforestation
Timber Harvesting	163,009	117,394	1st
Firewood	84,936	61,168	2nd
Forest fires	111,969	88,560	3rd
Livestock	Not available	Not available	4th

The key underlying drivers of deforestation and forest degradation in Bhutan include governance challenges, inadequate law enforcement, economic pressures and poverty and demographic factors. Land allotment decisions are compromised by limited guidance on addressing sectoral interests, which is creating conflicts and a lack of an overarching long-term spatial planning policy. The National Land Commission is currently undertaking land zoning in the country and in the process also developing an overarching land use policy to streamline and strengthen the land allotment system for various development activities. Stemming illegal activities is challenging, and there are potential loopholes in the timber allotment system to divert subsidized timber to urban markets. To address this issue, the forest and nature conservation bill has been tabled in the parliament and the revisions are

expected to address the above issues. Poverty is decreasing, although strong challenges for some rural communities may result in pressures to degrade forest for either economic or practical reasons. Urbanization is increasing, which leads to farm abandonment. The subsequent reversion to shrubland can result in increased human-wildlife conflict in the remaining adjoining agricultural lands.

The NRS Action Plan of Bhutan was developed based on the vision of a broad range of stakeholders, including government, forest dependent communities, non-governmental organizations, CSOs and the private sectors. Through extensive consultations and a collaborative process, which started since 2010, the government and stakeholders worked to identify potential strategy options and practical interventions which were then considered in the strategy to help address the drivers of deforestation and forest degradation.

Assessment Criteria 13: Link between drivers/barriers and REDD+ activities

The analysis of the drivers of deforestation and forest degradation provided the basic framework for understanding what was causing deforestation and forest degradation and the barrier to sustainable forest management, forest conservation and enhancement of forest carbon stock. These drivers and barriers were the basis for nationwide consultation meetings for the development of action plans to address them. The consultation meetings further validated the drivers and links were identified. The stakeholders identified possible actions plans, which were compiled and led to the development of the National REDD+ Strategy and Action Plan.

The National REDD+ Strategy[2] (NRS) of Bhutan has identified four strategy options that are described under the section REDD+ Strategy Options, subsection prioritization of REDD+ strategy options. The intervention actions proposed therein are highly relevant and responding to the identified drivers and underlying causes of deforestation and forest degradation.

These Strategy Options will be delivered through several cross-cutting policies and measures (PAMs). There are 10 PAMs identified in the NRS and under each PAM is a set of proposed actions, which will be the responsibility of different organizations for implementations. A number of PAMs are devised to develop the enabling environment, in order to ensure that policies, laws, regulation, approaches are strengthened and all work in harmony. These PAMs also address capacity and resource needs. This enabling environment is essential in addressing many of the underlying drivers of deforestation and forest degradation, and in providing the platform for direct interventions. Other PAMs provide direct interventions, which will reduce the impacts of deforestation and forest degradation while improving livelihoods and other co-benefits.

The combined results of the *Cost Benefit Analysis*, *Economic Valuation* https://www.dofps.gov.bt/documents/ and *Climate Change Mitigation Potentials* showed that the four Strategy Options will enable Bhutan to address the direct and indirect drivers

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[2] Bhutan National REDD+ Strategy…….

of deforestation and forest degradation; and overcome the identified barriers while contributing to the national economic development agenda.

Assessment Criteria 14: Action plans to address natural resources rights, land tenure and governance

All laws in Bhutan clearly recognize the ownership and rights to land, natural resources and other traditional/user rights. For instance, the Land Act (2007), which is the preeminent law in guiding land use in Bhutan clearly mentions the natural resource rights, land tenure, land leasing and allotment of SRF land. The Constitution of Bhutan (2008), the Forest and Nature Conservation Act (1995); the National Forest Policy (2011); the Forest and Nature Conservation Rules and Regulations (2017); the Land Act (2007); and the National Environmental Protection Act of Bhutan (2007) have adequate provisions to address natural resources rights, land tenure and governance issues. For the effective implementation of REDD+, four strategy options were identified and 10 PAMs detailed that are described under component 2b. For each PAM, several activities, expected outcomes and key performance indicators are set out under the REDD+ Action Plan *(Annex 1, NRS of Bhutan)*.

For the development of NRS of Bhutan, a detailed analytical assessment was done to come up with the National REDD+ Benefit Sharing Framework (BSF). The DoFPS has historically focused its efforts on strengthening forest management including equity in benefit sharing. Bhutan already has a number of existing systems for benefit sharing related to: a) biodiversity conservation: access and benefit sharing (ABS) of genetic resources and traditional knowledge; b) PES for watershed protection and drinking water; c) community forestry for the conservation and sustainable management of forest resources including timber and non-wood forest products, d) Cordyceps by the highlanders (a special case established by Royal Decree), e) eco-tourism; and f) farmer groups and cooperatives. However, the advanced BSF of Bhutan highlights the need for an appropriate alignment of land and tree ownership and harmonization or legal integration of the two land tenure regimes (customary and statutory).

The development of the FGRM has been completed and is now in implementation. The FGRM was developed as part of the safeguard framework to assist policy makers and relevant stakeholders in building and implementing a long term and effective REDD+ program anchored in good forest governance. The design of the FGRM aimed at reducing the vulnerability of local communities and vulnerable groups and strengthening their participation and ensuring accountability. The implementation of the FGRM will address issues relating to natural resource (including forest resources) rights, tenure and governance.

Assessment Criteria 15: Implications for forestry law and policy

The feasibility assessment of the regulatory and policy framework during the drafting of the NRS confirmed the overall consistency of the strategy options with the objectives set in the relevant Policies, Legislations and Regulations (PLRs). The regulatory framework, policies, and strategies linked to forest resources in Bhutan support forest conservation, sustainable forest management, including community forest management. Regulatory frameworks include principles on natural resource governance, sustainable management and utilization

of forest resources, rights and duties, access to information, and the equitable distribution of benefits. The legislative and policy framework provides a balanced pathway and enabling environment for implementing REDD+ measures intended to strengthen sustainable natural resources management in Bhutan.

The assessment recommended the introduction of a standardized and robust monitoring system highlighting the need for a clear scope and sequencing of the process. Despite the existence of enabling policies, it also recommended the development of effective management plans and strengthening institutional arrangements with a clearly defined set of responsibilities linked to the PAMs. This has led to the revision of the Forest and Nature Conservation Act of Bhutan (1995) and the revision of the Forest Nature Conservation Rules and Regulations (2017) in 2021.

Gaps and areas for further development for subcomponent 2a

Despite the progress achieved, there are gaps and areas requiring further development. The gaps are:
- Forest and Nature Conservation Bill is being revised
- The issues and interventions that need to be implemented are identified, but needs enough budget resources for implementation to ensure its visible impact.

Areas for further development are:
- Sensitization activity on drivers of deforestation and forest degradation should be in-built in DoFPS's future plan.
- Forest regulations and other action plans need to be developed
- Information sharing and awareness raising should be strengthened. The REDD+ Secretariat will strengthen this activity through trainings and workshops.

Progress and Achievements of Component 2a: Assessment of Land Use, Land-Use Change Drivers, Forest Law, Policy and Governance

The self-assessment for the land use, land use change drivers, forest law, policy and governance are presented below (Table 11).

Table 11: Assessment result for component 2a: Assessment of Land Use, Land-Use Change Drivers, Forest Law, Policy and Governance

Assessment Criteria	Progress			
	Significant Progress	Progressing well, further development required	further development required	Not yet demonstrating progress
11) Assessment and analysis	🟩	🟨		
12) Prioritization of direct and indirect drivers/barriers to forest carbon stock enhancement	🟩			

13) Link between drivers/barriers and REDD+ activities	🟩			
14) Actions plans to take into account the right to natural resources, land tenure, and governance		🟨		
15) Impacts on forest law and policies	🟩	🟨		

4.2 Subcomponent: 2b. REDD+ Strategy Options

As part of the implementation of subcomponent 2b, the R-PP outlined the following activities for implementation: a) Development of National REDD+ Strategy (assess feasibility (socioeconomic, political and institutional) relevant to REDD+, Conduct Cost-Benefit Analysis of REDD+ activities, study financing mechanisms for REDD+ activities and transactions, identify pilot project areas, Pilot benefit sharing arrangements in CF, Carry out economic valuation to assess non-carbon benefits of the forests and their contribution to community livelihoods); and b) Review and revise existing mechanisms/programs to befit readiness activities (review existing research on alternative livelihoods, analysis of domestic demand and trade of logs/timber, analysis of capacity building needs for improving technical background knowledge and skills, develop processes of EIAs and SIAs for biomass disposal, pilot participatory boundary demarcation for REDD+ pilots, and improve forest fire management mechanism).

The expected outputs from the implementation of the above activities were: a) a 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; b) Non-carbon benefits of forest quantified along with their contribution to rural livelihoods; c) Review and revise existing mechanisms/programs to befit readiness activities (there are 5 sub activities); d) Report published on livelihood alternatives and on domestic demand and trade of logs/timber for implementing REDD+ activities; e) Capacity building needs analyzed; f) Pilot sites boundary demarcated using participatory approach; g) Improved forest fire management practices in place.

Progress and Achievements of Component 2b: REDD+ Strategy Options

The following key activities have been completed:

- The selection and prioritization of the strategy options was done through in-depth consultation and participatory process in all the 20 districts and 205 blocks/geogs.
- Through the study, analysis was carried out for prioritizing the Strategy Options considering the legal, social and environment aspects.
- Preliminary assessment of the implication of the strategy options on existing sectoral policy were identified.

The progress achieved in identification and prioritization of the Strategy options, feasibility assessment and its implications of the sectoral policies are described below:

The study on Drivers of Deforestation and Forest Degradation provided the basic framework for understanding the causes of deforestation and forest degradation and the barriers to sustainable forest management, forest conservation and enhancement of forest carbon stock. These drivers and barriers were taken as the basis for carrying out nationwide consultations *(Annex 2, D&D report)* for the development of an action plan to address these drivers and barriers. The consultation meetings further validated the drivers and links were identified. The stakeholders provided ideas for possible actions, which were compiled and led to the development of the National REDD+ Strategy and Action Plan.

The main purpose of the National REDD+ Strategy is to reduce emissions from deforestation and forest degradation and enhance carbon stocks through the conservation, sustainable management of forests and enhancement of forest carbon stocks. The strategy seeks to achieve these measures within a far broader vision that also addresses co-benefits, including enhancing livelihoods, protecting ecosystem services, and conserving biodiversity. Therefore, the focus is on continuing to strengthen the conservation of existing forests and increase the adaptive capacity to climate change impacts without compromising opportunities for future economic development and prosperity. To achieve the vision of the strategy, there are four strategy options, which are multi-sectoral and take into consideration the unique status of Bhutan being a net carbon sink. All the four strategy options are equally important and can be considered as various strategic interventions. The Strategy Options will be delivered via a number of cross-cutting policies and measures (PAMs).

The National REDD+ Strategy (NRS) of Bhutan has identified four strategy options that are described under the section REDD+ Strategy Options, subsection prioritization of REDD+ strategy options. The intervention actions proposed therein are highly relevant and responding to the identified drivers and underlying causes of deforestation and forest degradation.

The strategy options define the general direction that Bhutan will take to achieve the vision of REDD+. These strategic options are supported by a feasibility and cost benefit analysis, strong social and environmental safeguards, a benefit sharing framework and a monitoring and evaluation system. During the process of developing the strategy, a number of alternative options were examined before settling on the four strategic aims which will address the direct and underlying/indirect drivers of forest deforestation and degradation. The four strategy options are equally important and can be considered as strategic interventions.

- *Option 1. Strengthened Forest Management Practices:* this option seeks to support the existing frameworks, policies and regulations for sustainable forest management as well as strengthening capacity, stakeholder and community participation, guidance and resource management monitoring and enforcement.
- *Option 2. Climate Smart Primary Production:* A key aspect of this strategic option is to improve forestry and agricultural productivity to enhance incomes and thus reduce the need for encroaching into forest land. Also, activities to enhance areas of

degraded forest and the management of forest growth to foster increased carbon sequestration are envisioned.

- *Option 3. Integrated Land Use Planning & Management:* This option intends to strengthen land use planning systems and processes by achieving greater levels of harmonization across policies, improved collaboration among implementing departments/agencies, improved institutional capacities and a stricter monitoring and enforcement regime.
- *Option 4. Improved Rural Livelihoods:* This option includes the broadening of opportunities for income generation through the sustainable management of NWFPs, payment for ecosystem services, nature-based enterprises and climate-smart agricultural and livestock practices. The option involves the promotion of high yielding livestock, crop diversification, agroforestry, intercropping, greenhouse farming, advanced irrigation systems, soil conservation and organic farming.

Assessment Criteria 17: Feasibility assessment

The feasibility assessment was carried out to understand how REDD+ strategy options may impact Bhutan's economic development as well as implications on existing policies and institutional establishments. The assessment was based on the situational assessment of drivers of deforestation and forest degradation including a cost benefit analysis for activities to address them. The cost-benefit analysis presents the implementation costs of each strategy option. The results of the feasibility assessment guided the prioritization of the strategy options and PAMs. The NRS entails a detailed assessment of the following;

Regulatory and Policy Framework: A detailed assessment of the interaction and coherence of the Strategy Options and relevant policies, legislation and regulations showed a relevant and conducive environment for the REDD+ programme. The Constitution conditions a minimum requirement of 60% forest of the total land cover at all times to come and thus directs the government to ensure sustainable forest management and safeguarding Bhutan's rich biodiversity and ecosystems. Table 12 presents an analytical summary of relevant policies, legislation and regulations.

Table 12: *Summary of the Relevant Policies, Legislation and Regulations.*

Policy	Summary Details	Interaction with the NRS
Gross National Happiness (1972)	Bhutan's unique development philosophy.	Need to consider indicators that measure the health of ecosystems, including a robust information management system. All four Strategic Options Support GNH.
Forest and Nature Conservation Act (1995)	Provides the primary authority for forestry activities in the country and framework for conservation and sustainable management.	FNCA is key in maintaining 60% forest cover and recognizes the traditional and cultural rights of local people to access and use forest resources.

National Environment Strategy (1998)	"The Middle Path" recognizes the need to develop the economy, while still maintaining the country's rich cultural heritage, traditional values and the natural resource base.	NRS is consistent with the objectives in the NES. All four Strategic Options Support the NES.
Environmental Assessment Act of Bhutan (2000)	Stipulates that environmental clearance is a prerequisite for development consent and sets out the environmental terms for project requirements.	The analytical work under REDD+ has confirmed sentiments expressed by communities and many stakeholders regarding the environmental impact of the energy sector.
National Environmental Protection Act of Bhutan (2007)	Umbrella legislation for environmental management and sets roles & responsibility of key agencies.	The Act does not mention climate change explicitly, but the framework encompasses considerations for addressing forest degradation.
Land Act (2007)	The preeminent law is guiding land use and allows for leasing and allotment of SRFL.	Natural resources rights and land tenure are quite clear, making the country relatively unique in the context of REDD+. Though no definition for carbon rights and no zoning of the land.
National Forest Policy (2011)	Defines the goal of sustainable management of forest resources and biodiversity to produce a range of social, economic and environmental goods and services.	While the NFP mentions climate mitigation and adaptation, it does not provide guidance on how to pursue this in relation to other priorities.
Water Act of Bhutan (2011)	Along with the early Water Policy (2007), this Act seeks an integrated approach for effective management of water resources.	References climate change, and the need to find a balance between the needs of water management and the demands of water users.
Economic Development Policy (2016)	Promotion of the Five Jewels, sectors that constitute core growth areas: hydropower; cottage and small industries; mining; tourism; and agriculture.	States that the NLC shall prepare a national land use plan (zoning). Informed land use planning can address the critical drivers of deforestation and develop necessary mitigation measures to reduce pressure on forests.

| Bhutan 2020 | Sets national aspirations and reaffirms GNH as a central development concept for the country. | NRS supports the concept that environmental conservation is at the core of development planning. |

Costs of implementation: To implement the NRS, the cost for investments and a related cost-benefit analysis (CBA) was undertaken to ensure that displacement of emission to other sectors and regions are avoided. The CBA was conducted by evaluating each of PAM over a period of 20 years assuming that the proposed budget for planned activities has a certain level of emission reduction potential and socio-economic benefits. It provided a net present value (NPV) of the suggested PAMs which is often used as an indicator for financial viability (See Table 15 of the National REDD+ Strategy document). Based on the combination of expert consultation and the cost modeling, a total cost of USD 54,595,000 was estimated to implement the strategy options of the NRS (Table 13).

Table 13: Budget estimates for operating the Strategy Options

Enabling PAMs	Estimate Cost (USD)	Direct Intervention PAMs	Estimate Cost (USD)
PAM 1 Developing institutional and sectoral capacity building to achieve sustainable forest management	3 000 000	PAM 5 Achieving a highly diversified and technology-based timber supply chain	5 800 000
PAM 2 Strengthening the effectiveness of existing policies and methods across all forestry jurisdictions and areas	1 670 000	PAM 6 Adopting fire management approaches that limit impacts on the environment and communities	5 000 000
PAM 3 Strengthened cross-sectoral planning and coordination	4 600 000	PAM 7 Establish plantations to provide sustainable wood products supply, increase carbon-stock, and enhance biodiversity	21 600 000
PAM 4 Harmonized EIA process to ensure infrastructure proposals are	1 600 000	PAM 8 Promoting the development of enterprises that sustainably manage NWFPs	1 075 000

assessed and monitored as a package			
		PAM 9 Broadening opportunities for income generation from ecosystem services	2 250 000
		PAM 10 Develop climate smart approaches in agriculture	8 000 000
Total Estimate	10870000		43,725,000
Grand Total, USD	**54,595,000**		

- **Financial gain and risks analysis:** A detailed analysis on estimated costs and benefits for each PAM was carried out in the D&D study and the details are available under the section *"estimated costs and benefits"* of the D&D report. Also, the risk analysis was covered in the same report for which details can be found under the section *"risks and mitigation measures: SESA & ESMF"* of the D&D report.

- **Institutional Analysis**: To ensure roles and responsibilities are well aligned while implementing REDD+, a thorough analysis of the relevant institutions and capacity requirements was conducted. For institutional settings, refer to the sections under the subcomponent 1a.

Assessment Criteria 18: Implications of strategy options on existing sectoral policies

The historical absence of a land use plan for Bhutan has been a significant limitation to effective environmental management. The projected allotment of SRFL for various development activities may result in significant deforestation and forest degradation unless there are adequate national spatial planning processes. The preeminent law guiding land use is the Land Act, 2007. The Act defines the mode of decision-making on land use, allowing for subdivision and leasing and provides procedural guidance and conveyances. To date, there have been challenges in achieving strong cross-sectoral planning. Land allotment decisions are made at project levels with input from line ministries and approval by the local government or National Land Commission Secretariat (NLCS). The lack of an overarching long-term spatial planning policy means that decisions often occur in a piecemeal manner. There is lack of adequate guidance, decision criteria, or accessible data and information, in order to align or mitigate regulatory and sectoral policy conflicts and reconcile trade-offs across different land use interests. Therefore, there is a need to harmonize existing land use planning legislation and policies, by developing a strategic approach land use. This strategic approach will require the establishment of a common reference frame in the form of a national land use zoning system and geospatial management system. Land allotment based

on national information and land use zoning system will encourage institutional decision-making with definitive land characterization and a better understanding of land use interests and trade-offs. This, in turn, will enhance biodiversity and ecosystem services, such as improving the quality and quantity of water resources while also improving law enforcement and help alleviate land disputes. However, the environmental, social, and economic goals should be adequately balanced to ensure environmental considerations will not lose out when trade-off decisions are made. It will address some of the underlying drivers of deforestation and forest degradation, including governance challenges, policy and regulatory enforcement, as well as conflicting sectoral policies. Investments will focus on providing support to mainstream and implement integrated spatial planning and participatory land use planning.

Stemming illegal activities is challenging, and there are potential loopholes in the timber allotment system to divert subsidized timber to urban markets. For this, efficient check post management systems are required to monitor timber and other forest produce movement from one place to another. Through the REDD+ project, an online forest clearance system was developed, however, it would need to be tested, improved and rolled out. Similarly, there is a need to enhance the patrolling capacity for detecting illegal activities particularly across the long porous southern border. Modern technologies such as drones, SMART and other information technologies will be necessary to safeguard the forest resources.

Urbanization is increasing, which has led to farm abandonment. By 2030, 50% of Bhutanese will live in urban areas, according to UN population statistics (www.Worldometers.info). Urbanization has the potential to directly affect forests, as a result of the deforestation that is often required to make room for urban expansion. Furthermore, farm abandonment is occurring because of outmigration, especially in economically depressed areas where market access is limited or not available. Many of these farms are reverting to shrubland and forest which is leading to human wildlife conflict because of fragmentation of the cropping system. Conflicts also occur in settlement areas where there has been habitat fragmentation due to deforestation, habitat loss and degradation (Distefano 2005). These conflicts can have social and economic impacts, as well as threaten the population viability of wildlife. Records show that 55% of crop damage can be attributed to damage from wildlife (NEC 2016).

The overall resource base of forests in Bhutan for producing good quality construction timber is limited given the large extent of protected areas, the remote location and steep mountain terrain of many of the forest areas. Basically, only around 14% of the total forest area is considered capable of producing commercial timber. Timber is allotted at subsidized royalty rates to the rural population for house construction maintenance and repair as well as other purposes. Presently, an individual is allowed to avail subsidized timber (4000 cft in log form or standing tree basis in log form) once in 25 years for new construction. Subsidized timber for repair/renovation/extension (700 cft in log or standing tree basis in log form) of rural houses is supplied once in 12 years. For making shingles standing trees are supplied once in 3 to 5 years depending on the climatic condition of the locality. The amount of timber required to meet the allotments changes from year to year, but in general, subsidized timber allotment accounts for 72% of overall timber harvested. The Rural Subsidized Timber Policy, 2020 is increasingly viewed by interviewees as requiring a redesign. Housing requirements have changed as building materials are shifting away from reliance on wood,

houses do not need to be repaired and rebuilt as often, and more people are living in suburban and urban areas than before. Further, the concept of entitlement is based on demand from beneficiaries, not what the forest can sustainably provide, and acts as a disincentive for local people to steward the forest around them. There is also concern that the entitlement competes with community forestry, which is a local forest governance approach that relies on local community management. The present allotment system has many loopholes that provide opportunities for diverting the rural subsidized timber to urban markets, basically relabeling it as commercial timber. This is incentivized by the price difference between the rural and commercial timber which has widened over time. Though changes to the Forest and Nature Conservation Rules and Regulations (2017) address the corrupt and illegal activity identified by the Anti-Corruption Commission in 2009, it does not comprise a redesign of the policy itself which will need to be considered in the near future if this issue is to be addressed.

Gaps/weakness and Areas for further development for subcomponent 2a

Despite the progress achieved, there are gaps and areas requiring further development. The gaps are:

- The prioritization of the strategy options was done based on the study on drivers of deforestation and forest degradation and also based on consultation and study covering all relevant stakeholders throughout the country.
- Lack of an overall land use policy

Areas for further development are:

- The strategy options need to be further elaborated in the REDD+ investment proposal
- The cost benefits analysis needs further study using more parameters.
- The NLC is developing the land use policy at the moment reflecting on sectoral policies

Results of the Self- Assessment for the Subcomponent 2b: REDD+ Strategy Options

The self-assessment results rated are presented below in the Table 14. The overall rating for the Subcomponent 2b is Green. However, out of three criteria one is rated as yellow.

Table 14: Summary of the Self-assessment for the Subcomponent 2b

Criteria of assessment	Progress				Remarks
	Significant Progress	Progress well, further development required	Further development	Not yet demonstrating progress	
16) Selection and prioritization					Prioritizations done based on

of Strategic options for REDD+	🟩				the identified drivers
17) Feasibility assessment	🟩				
18) Impacts of strategic options on sector policies		🟨			

4.3 Subcomponent: 2c. Implementation Framework

As part of the implementation of subcomponent 2c, the R-PP outlined the following activities for implementation: (i) Development of regulatory framework (assessment of existing regulation; (ii) developing framework for REDD+ activities & registry; (iii) develop benefit sharing modality); (iv) institutional reform (Study gaps in institutional arrangement); and (v) capacity building. The expected outputs from the implementation of the above activities include: a) suitability of institutional arrangements for REDD+ reviewed and gaps highlighted; b) current regulatory framework assessed for coherence pertaining to the implementation of REDD+; c) gaps and inconsistencies identified and addressed and, in the REDD+ framework of activities; d) benefit sharing mechanism/modalities developed for REDD+; and e) regulatory framework developed on REDD+ activities.

Progress and Achievements of Component 2c: Implementation Framework

Progress and achievements made from the implementation of the above activities are:

- The Forest and Nature Conservation Rules and Regulations (FNCRR) 2017 was revised in 2020 with adequate provisions for REDD+ activities. The revisions to the Forest Management Code of Bhutan (FMCB) and the Forest and Nature Conservation Act (FNCA), are being finalized.
- The National REDD+ Strategy and the Action Plan of Bhutan was completed in 2020 with a clear implementation framework. The Feedback Grievance and Redress Mechanism was completed and approved by the government in YEAR. REDD+ investment plan is being developed based on the findings of D&D, gender assessment and capacity needs assessment reports.
- The National REDD+ Benefit Sharing Framework document was completed in YEAR
- No REDD+ registry has been developed for Bhutan, however, the database management system related to Forestry and REDD+ activities is housed at the Forest Resource Management Division (FRMD) of DoFPS as part of the NFMS/FREL/MRV.

Details of progress and achievements made in development of the implementation framework are highlighted below:

Assessment Criteria 19: Adoption and implementation of legislation/regulations

The NRS of Bhutan provides a detailed framework for implementation of REDD+ activities in the country and considers the institutional mandates, policies and regulations at national and district level. The framework defines legal, policy, institutional, economic and governance arrangements necessary to implement REDD+ strategy options, described under the component 2b.

The institutional setup for the REDD+ implementation has been described in component 1a; however, the setting will be reviewed once the actual implementation of REDD+ starts. Monitoring and the evaluation of REDD+ has been integrated into existing national frameworks. The GNHCS monitors the implementation of plans and programmes at the national level through annual status monitoring of the NKRAs and corresponding KPIs as well as the mid-term review of the five-year plans. The implementation of the five-year plans is monitored through the national M&E system (single system).

The National Forest Policy of Bhutan (2011) has an overarching goal of sustainable management of forest resources and biodiversity conservation for meeting the long-term needs of people. The Forest and Nature Conservation Act (FNCA) (1995) provides the legal framework for appropriate forest uses and enabling community and social forestry. The Forest and Nature Conservation Rules and Regulations of Bhutan (FNCRR) (2017) cover general aspects of managing State Reserved Forest Land (SRFL), as well as management requirements for protected areas, community forests, forest management units, watershed managements and local forest management areas.

The 2017 FNCRR has been revised recently and has now adequate provisions for supporting REDD+ activities. It covers the issues of forest management, environmental protection and conservation, community participation, wood industries, enrichment plantation, forestry research, training and education. The revision provides for rationalizing the rural timber allotment with a view to ensure the optimal utilization of timber resources with minimal forest degradation. Management practices on ensuring sustainable forest management are described in detail in the Forest Management Code of Bhutan (FMCB) (2021). The revision of the 1995 Forest and Nature Conservation Act of Bhutan is in the final stage and is with Parliament for finalization and adoption. The provisions to support REDD+ activities, especially to safeguard the natural resources for both carbon as well as non-carbon benefits are further strengthened and included in the revised bill.

Assessment Criteria 20: Guidelines for implementation

The National REDD+ Strategy and the Action Plan of Bhutan 2020 outlines a clear implementation framework. The document was developed after having a series of consultations workshops at both national and local level. Local level consultations were carried out all across the country covering all 20 districts and 205 geogs (blocks). The NRS entails carbon rights, benefit sharing mechanisms, REDD+ financing modalities and Institutional arrangement and coordination. The documents on Feedback Grievance and Redress Mechanism have been approved by the Government very recently which have outlined detailed and adequate provisions on handling grievances and issues while implementing REDD+ activities.

The Department has finalized the proposal for implementing the NRS of Bhutan. The report is prepared based on the NRS and further analytical studies like a detailed study on Drivers of Deforestation and Forest Degradation, gender assessment and action plan and capacity needs assessment for implementing the REDD+ activities in the country.

Furthermore, the REDD+ implementation in the country will be backed by the following existing guidelines and strategies:

- *National Community Forestry Strategy:* It strategically charts the way ahead to ensure that Community Forestry contributes to Bhutan's overall socio-economic and environmental development goals and to local democratization, and thus guides the future implementation of the Community Forestry programme. It is based on a thorough analysis and reflection on the experiences gained with Community Forestry so far. The strategy guides all stakeholders involved in Community Forestry towards establishing an even more enabling framework for Community Forestry and simpler, but robust planning, implementation and monitoring procedures, so that Community Forestry continues to thrive for the benefit of the rural communities of Bhutan.

- *Plantation Strategy of Bhutan, 2019:* The plantation strategy of Bhutan was revised in 2019 to make the plantation programme more productive economically, socially and environmentally and to streamline the plantation programme in a more coordinated manner. This document helps in combating forest degradation by turning barren and degraded land into forest and reforestation in cleared or logged forests. Through this strategic plantation programme, barren and degraded areas are restocked to sustain forest productivity and at the same time improve the environment. This strategy guides the Department to effectively plan and implement the plantation programme in the country and at the same time meet the forest resources requirement in line with the recent policy and legislation of the Royal Government of Bhutan.

- *Forest Management Code of Bhutan*: The *Code* provides guidance for forest management in Bhutan covering sustainable forest management, wildlife conservation, watershed management, forest protection and enforcement, community forestry, payment for environmental services. The code was prepared integrating all existing guidelines for forest and biodiversity management in Bhutan to ensure that all SRF are managed scientifically to optimize use of its production, protection, conservation and ecosystem functions.

- *Non-wood forest products development strategy*: The development of non-wood forest products is a cross cutting issue of different fields including policy and legal frameworks, NWFP resource management, marketing and trade, research and capacity building, etc. Therefore, the national strategy for the development of non-wood product development draws on the contributions from many stakeholders from different backgrounds. There are currently over 800 community forests and 140 NWFP management groups. These networks facilitate a range of community-based programs and activities, which provide a platform to share expertise, build capacity and help in the marketing of products. A significant number of groups have the potential to produce products for sale. REDD+ will support and continue building on this progress, by strengthening supply chains, increasing value from products and accelerating the commercialization and domestication of NWFPs. Understanding the requirements for support and guidance will entail an assessment of existing bylaws,

regulations and capacity for promoting domestication, management and trading of NWFP.

- *Local forest management plans:* These are the management plans developed for those areas outside of existing formal management regimes (CF, FMU, PA, watersheds) and are managed for localized forest area management. There are numerous LFMPs already being developed and are mostly covering the smallest administrative units (Gewogs) of Bhutan.

Assessment Criteria 21: Benefit sharing mechanism

The implementation of the Strategy Options and associated PAMs will lead to a range of benefits. Benefits will include monetary benefits (direct cash) and nonmonetary benefits for goods and services and the emphasis is placed on leveraging on cash benefits that will be used for the implementation of National REDD+ Strategy and Action Plan through its various PAMs.

The implementation of the REDD+ strategy will also lead to several non-carbon benefits. Non-carbon benefits (NCB) encompass a wide range of positive outcomes, resulting from REDD+ activities beyond those associated with avoided emissions and/or carbon sequestration. They include social, environmental and governance benefits. Social NCBs of REDD+ activities may include providing opportunities for livelihood improvement and facilitating the empowerment of individuals and communities. Environmental benefits may range from biodiversity conservation to increased resiliency of ecosystems and improved ecosystem services, such as water regulation and erosion control.

For transparent and equivalent sharing of benefits, a benefit sharing mechanism is developed and is ready for implementation. Details are available in the *"National REDD+ Benefit Sharing Framework document"*. [3]

The Figure 5 illustrates the proposed institutional setting for REDD+ funds management. Any funding inflow from international sources is mobilized through GNHC and channeled into a REDD+ window within the Ministry of Finance, from where funding can be allocated in line with the FYP and NRS PAMs Action Plan for all institutions that hold roles and responsibilities for REDD+ implementation. The Ministry of Finance (MoF) is the financial arm of the government, and hence as a permanent institution has the required capacity and systems in place to administer relatively large funds. The mainstreaming of REDD+ into the National Five-Year plans will mean no separate process is required for fund allocation and monitoring and evaluation.

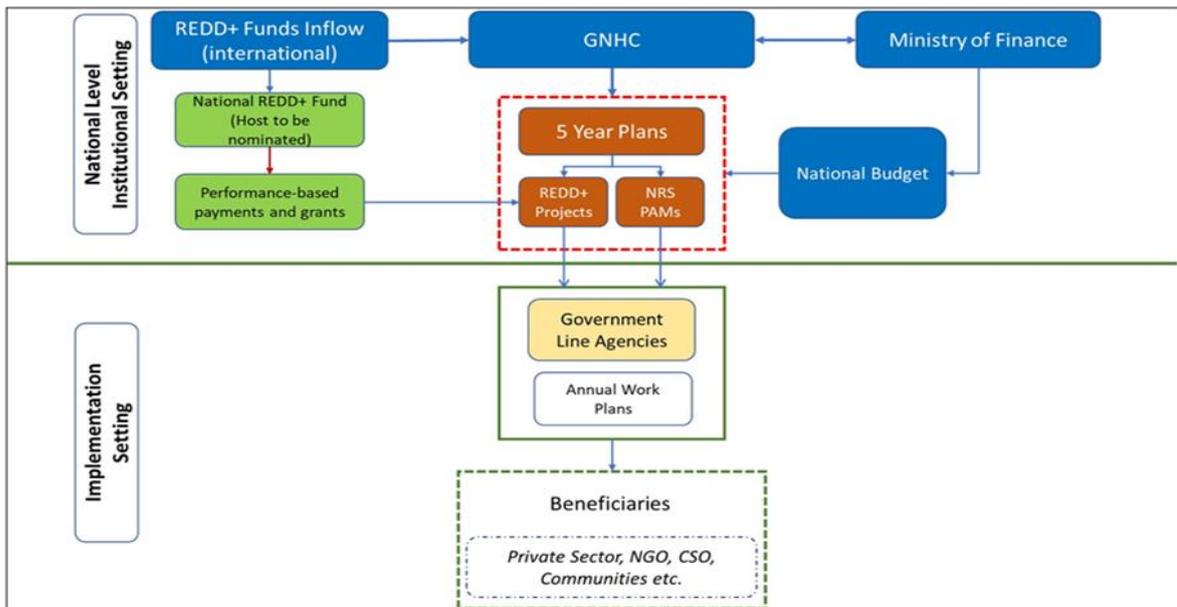[3] National REDD+ Benefit Sharing Framework document".

Figure 5: Framework for Benefit Sharing

Assessment Criteria 22: National REDD+ registry and system monitoring REDD+ activities

Bhutan has not yet established a National REDD+ Registry as there is limited potential to benefit from result-based payment for which a registry is required. The registry is expected to be part of a climate fund which is currently under development by the National Environment Commission Secretariat. For monitoring the REDD+ PAMs, the proposed institutional arrangement in Figure 5 under component 4a will be used and if required modified and tailored to function as the national REDD+ registry. The database management system related to Forestry and REDD+ activities is housed at the Forest Resources Management Division (FRMD) of DoFPS as part of the NFMS/FREL/MRV. The system has the provision of georeferenced information on REDD+ initiatives, activity data, emission factor data for different land use and land use change, and national forest inventory data, including the REDD+ safeguards.

The NFMS and MRV is developed based on the existing national framework. The implementation of plans and programmes at the national level is monitored by the GNHCS through annual status monitoring of the NKRAs and the corresponding KPIs and the mid-term review of the five-year plans. Therefore, all the agencies and local governments have ensured that cross-cutting themes such as environment, disaster management, gender, vulnerable groups and sports are mainstreamed in the programmes and projects. Similarly, the Local Development Planning Manual (LDD, GNHCS, Local Development Planning Manual, 2021) guides local governments to integrate cross-cutting issues and opportunities in their plan and programmes.

Gaps/weakness and Areas for further development for Sub-Component 2c

There remain gaps and areas requiring further development. Gaps are:

- Full awareness on FMCB yet to be carried out, revised FNCA awareness activities and implementation not tested in the field
- REDD+ investment plan is being finalized
- Benefits sharing mechanism is not tested in the field.
- National REDD+ registry and system monitoring of REDD+ activities not developed

Areas for further development are:

- Completion of the revision of the FNCA 1995.
- Completion of REDD+ investment plan of Bhutan and creation of awareness on the same
- The BSM needs to be tested in the field and adjusted, if necessary.
- National REDD+ Registry will be developed if the situation demands in future.

Results of the Self- Assessment for the Subcomponent 2c

Result of the self-assessment of the four criteria for Subcomponent 2c is presented in Table 15 below.

Table 15: Summary of the Self-Assessment for the Subcomponent 2c

Criteria of assessment	Progress				Remarks
	Significant Progress	Progress well, further development required	Further development	Not yet demonstrating progress	
19) Adoption and implementation of legislation/regulatio ns	■				
20) Guidelines for implementation	■				
21) Benefit sharing mechanism		■			
22) National REDD+ registry and system monitoring REDD+ activities	■	■			

4.4   Subcomponent: 2d. Social and Environmental Impacts

As part of the readiness process, the R-PP outlined the following activities for implementation: a) conduct SESA (identify and analyze key drivers influencing society and environment, analyze policy and strategy framework related to REDD+, assess Social and Environmental Impact of REDD+ activities; Establish monitoring system); and b) develop ESMF for strategy options identified. The expected outputs from the implementation of the above activities are: key drivers influencing society and environment identified, social and environmental impacts assessed, monitoring system established and ESMF developed.

As a result of the implementation of the above activities, the following achievements and progress have been made:

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

Progress and Achievements of Component 2d: Social and Environmental impacts

Through the implementation of the above activities, the following have been completed:

- SESA and ESMF completed
- Based on the SESA, a number of both positive and negative social and environmental impacts were identified which were then integrated into the NRS under the relevant strategy options, in particular, under the most relevant PAMs. ESMF and FGRM developed to address any potential impacts arising from REDD+ implementation.
- ESMF completed

The progress achieved for the social and environmental impacts are presented hereunder:

Assessment Criteria 23: Analysis of social and environmental safeguard issues

The Royal Government of Bhutan (RGoB) fully acknowledges that social and environmental safeguards are critical to ensure that planned activities are successful as well as to reduce conflict, optimize benefits, and help ensure that activities do not result in unintentional harm to people or ecosystems. The country already has a set of legislation aimed to minimize or mitigate harm to people and the environment, and at the same time to bring the most benefit from development activities, including REDD+. National policies, laws and regulations that are explicitly and some cases implicitly reflect social and environmental safeguards already exist.

The development of the SESA was informed by an analysis of Bhutan's existing safeguard policies and regulations along with relevant World Bank safeguards policies in a manner that confirms the execution of REDD+ activities are in accordance with UNFCCC guidelines. Bhutan has completed a Strategic Environmental and Social Assessment to identify potential adverse impacts and risks of NRS implementation and ensure coherence with the relevant World Bank safeguards operational policies. Bhutan has completed the development of these instruments that include a SESA for its NRS and an ESMF to reduce the potential environmental and social risks and enhance the benefits of REDD+ implementation. These safeguard documents provide clear directions for managing and

mitigating the environmental and social risks and impacts of future investments (projects, activities, and/or policies and regulations) associated with the implementation of the country's REDD+ strategy.

Assessment Criteria 24: REDD+ Strategy design with respects to impacts

The strategy development and safeguard framework development were carried out in a complimentary manner. Each process informed the development of each other and was done through several consultation processes. The SESA under the REDD+ framework of Bhutan was developed to ensure that REDD+ activities 'do no harm', and where possible go beyond this to 'do good' and achieve multiple (carbon and non-carbon) benefits during the implementation of the REDD+ activities. The safeguard framework identifies the possible social and environmental impacts that might arise during the implementation of REDD+ activities (SESA) and accordingly proposes the measures to minimize these negative impacts through ESMF.

Activities including i) identifying and prioritizing the drivers of deforestation and degradation; ii) analyzing the legal, policy and institutional "aspects" of REDD+ readiness; iii) assessing the environmental and social issues linked to the strategic options or Policies and Measures (PAMS) contained in the NRS; and iv) establishing outreach, communication and consultative mechanisms with relevant stakeholders were the main part of the SESA formulation process. The baseline data and information collected for the development of SESA has been used for the development of the ESMF, which will provide the measures to minimize/address any negative (social or environmental) impacts that may arise during the implementation of the REDD+ activities.

Based on the findings from the SESA development, several positive and negative social and environmental impacts were identified which were then integrated into the NRS under the relevant strategy options, in particular, under the most relevant PAMs. For instance, the SESA identified the potential environmental risk of introducing exotic species owing to the improper implementation of the proposed management plans. This potential risk has been proposed for interventions under the PAM 7 of the NRS through improved capacities on the management and control of invasive species and grazing. Similarly, all the social and environmental impacts identified through the SESA process are duly acknowledged and interventions are designed under the relevant PAMs of the NRS.

The ESMF and FGRM for the NRS of Bhutan are also developed and these instruments will help address any potential impacts and grievances arising due to the REDD+ implementation. Table 16 presents the social and environmental impacts of each PAM based on which activities for implementation in the strategy and action plan have been designed to address these negative impacts and enhance the benefits (see details in ESMF document.

Table 16: Identified positive and negative impacts under each PAMs (SESA)

Positive Impacts		Negative Impacts	
Environmental	**Social**	**Environmental**	**Social**
PAM 1: Strengthening sustainable forest resources management and conservation of biodiversity beyond Protected Area			
PAM 2: Promote diversification and efficiency in the wood value chain			
PAM 3: Strengthen Forest fire management			
PAM 4: Plantation development and restoration of degraded areas for increased carbon stock, biodiversity conservation and sustainable supply of wood products (timber and firewood)			
PAM 5: Harmonizing land use planning (cross sectoral integrated land use planning)			
PAM 6: Support & Strengthen environmental impact assessment and compliance monitoring system and coordination			
PAM 7: Sustainable management of NWFPs (domestication and cultivation) and promote enterprise development			
PAM 8: Encourage & promote income generation from ecosystem services in key sectors			
PAM 9: Climate smart livestock farming practices			
PAM 10: Climate smart agriculture practices			

Assessment Criteria 25: Environmental and Social Management Framework

Countries who have received funding from the FCPF for REDD+ readiness preparation through the World Bank are required to ensure compliance with the social and environmental safeguards of the World Bank and are required to mainstream their findings into the NRS. As a process for the development of the NRS, the Strategic Environmental and Social Assessment (SESA) and Environmental and Social Management Framework (ESMF) were developed to create a sustainable institutional structure that ensures effective management of social and environmental issues beyond the readiness phase of the REDD+. Bhutan has both SESA and ESMF endorsed and ready for implementation.

As required by the World Bank, Bhutan developed an ESMF as a direct output of the SESA process. The ESMF for the NRS of Bhutan has been endorsed by the RGoB and has been already submitted to the UNFCCC. The ESMF of Bhutan lays out principles, rules, guidelines and procedures for assessing issues and impacts associated with the planned REDD+ PAMs that may occur in the future but are not presently known or are uncertain. It largely provides a framework for the country to address environmental and social issues in the NRS as it is implemented.

The strategic level of the SESA is implemented at the national level. Upstream analytical work combined with robust consultations with key and relevant stakeholders were conducted, with the aim of identifying the social, environmental and gender issues, risks and impacts related to the NRS. The SESA process ensured that social, environmental and gender concerns would be integrated into the development and implementation process of the NRS and key interventions areas. Consultations were conducted using the community engagement approach used by several World Bank-financed projects supporting natural resource management in Bhutan, and a platform for participation of relevant stakeholders to integrate social, environmental and gender concerns related to REDD+ implementation. Furthermore, recommendations were made on how to address gaps in relevant policy, legal frameworks, and institutional capacity to manage risks/impacts.

Gaps and areas for further development under subcomponent 1a

Despite the above achievements, there are still gaps and areas requiring further development that need to be address. The gaps include:

- Awareness about the SESA and ESMF to the wider public will be carried out once the pandemic situation has improved
- SESA, ESMF and FGRM are only partially implemented
- Consultations and workshops were minimal due to the pandemic.
- Field testing was not done

Areas for further development are:

- Creating wide awareness on the documents across the country.
- Ensure full implementation of the SESA, ESMF and FGRM for any development activities
- Need to conduct field testing and if required, it needs to be adjusted.

The self-assessment sheet for the social and environmental impacts are presented in the table below:

Table 17: Assessment result for component 2d: Social and Environmental Impacts

Assessment criteria	Significant progress	Progressing well, further development required	Further development required	Not yet demonstrating progress
23) Analysis of social and environmental safeguard issues	■			
24) REDD+ strategy design with respect to impacts		■		
25) Environmental and social Management Framework	■			

5. Component 3: REFERENCE EMISSION LEVEL/ REFERENCE LEVEL

As part of the readiness process, the R-PP outlined the following activities for implementation for component 3:

a. Capacity building and review of methodologies for establishing REL/RLs (REL/RL capacity building workshop held with stakeholders; Study carried out into the context of REL/RL implementation in Bhutan and methodological options available; Stakeholder consultation workshop to present findings of the REL/RL methodological study; consultations to determine which methodologies to pilot at demonstration sites).

b. Analyze historical land use change trends at the national scale land use change analysis activities; Historical annual emissions calculated using emission factors from national forest monitoring system.

c. Review relevant national circumstances and collect data (Assessment of the drivers of deforestation, including policy and land use governance context; Stakeholder consultation workshop to present findings of the study on national circumstances; Development of potential REL/RL adjustment factors)

d. 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; Preliminary national and/or sub-national RELs/RLs and feedback on the methodology used from the UNFCCC; Lessons learned and feedback from implementation; Refined RELs/RLs methodology/ies)

Progress achieved

Through the implementation of the above activities, the following actions have been completed and achieved. Technical Assessment of Bhutan's FREL and FRL carried out by UNFCCC and a report published which was found to be transparent, accurate, complete and consistent and follows UNFCCC/ IPCC guidelines.

- As a result, National Level FREL and FRL developed with appropriate methodology.
- FREL and FRL are developed using the historical activity data.
- National circumstances are defined and relevant data are gathered. The adjustment is 0.1% of biomass carbon and not actual national circumstances.
- All REDD+ activities and carbon pools accounted for the development of the FREL and two separate FREL and FRL developed to enhance the transparency.
- Methodologically consistent with the greenhouse gas inventory in LULUCF.
- Used the historical data in generation of activity data and emission factors where available such as carbon density of forest, the biomass growth, the biomass expansion factor.

- FREL and FRL of Bhutan is transparent (TAT could reconstruction, complete (all REDD+ Activities and carbon pools included), accurate (Mostly national data), consistent (compliance with UNFCCC and IPCC guidelines) and comparable.
- Technical Assessment of UNFCCC completed. The technical assessment was able reconstruct the FREL of Bhutan.
- Bhutan is small country and there is no need for the sub-national level FREL.
- Future needs are identified and reported as part of improvement plan.

Details of progress and achievements made in component 3 are highlighted below:

Bhutan's FREL/ FRL

Bhutan currently enjoys one of the most intact and pristine environments, rich biological diversity, low air pollution and low habitat fragmentation. The conservation of the environment is closely intertwined with religious beliefs and cultural myths, which are mainstreamed into the national policy framework.

Bhutan is the only country in the world with a Constitutional mandate of maintaining 60% of the country's land area under forest cover at all times to come. Today, Bhutan has more than 71% of the country under forest cover. Further, Bhutan has been a carbon negative since 2010. This was reported as part of the Second National Communication submitted to the UNFCCC.

At COP15 in 2009 Bhutan committed to remain carbon neutral for all times and reaffirmed this commitment as part of the NDC1 and the updated NDC submitted to UNFCCC in year 2021. Forests form the cornerstone of Bhutan's commitment to remain carbon neutral. More than 50% of the land area are protected areas and the use of forest and forest resources are administered through Forest and Nature Conservation Act 1995, Forest and Nature Conservation Rules and Regulations 2000, 2003, 2006, 2017 and amended rules and regulations 2020. This contributes to Bhutan having one of the lowest deforestation rates amongst the Asian Countries at 0.01%.

However, development activities coupled with a growing population, the land use and land use changes are unavoidable. As a result, Bhutan experiences small-scale deforestation and an increased demand for wood and wood products. All efforts are made to restore degraded and barren areas through plantations and reforestation supported by the government.

Pursuant to the decision of UNFCCC and as requirement of the REDD+ Readiness package of FCPF, Bhutan developed the Forest Reference Emission Level (FREL) and Forest Reference Level (FRL) at national level to stock take emissions and removals of CO_2 from the forest sector; and, set a baseline to measure future performances with adjusted historical approach for emission and without adjustment for removals with reference period of 2005-2009 and 2010-2014.

The FREL and FREL was developed through a series of consultative meetings and trainings/workshops. The week-long training for the development of activity data for deforestation was conducted by the Food and Agriculture Organization of the United

Nations[4] in Bhutan and the general approach for the development of FREL and FRL workshop was conducted in 2019. This workshop motivated Bhutan to develop a separate FREL (concerning emission from deforestation) and FRL (concerning emission and removal from '+' activities of REDD+).

While developing the FREL and FRL, all relevant national circumstances were accounted for and adjustment of 0.1% of biomass carbon stock was made to the FREL while no adjustment was needed for the FRL.

Assessment Criteria 26: Demonstration of methodologies

Bhutan developed its FREL and/ or FRL using a stepwise approach at national level. The FREL and FRL was developed at national level as most of the required data are available at national level and Bhutan being a small country, the need for development of sub-national level FREL and FRL was not relevant. This was the greatest advantage Bhutan enjoys as a small nation, wherein, REDD+ projects could be implemented at national level.

Historical emissions from deforestation are estimated through analysis of remote sensing data; historical emissions from the conservation of forest carbon stocks and SFM are estimated using records of harvested timber for the reference period; historical removals for the conservation of forest carbon stocks and SFM are estimated based on biomass increment in forest land remaining forest; and historical removals from enhancement of carbon stock was estimated using the plantation record and biomass growth for natural forest[5]. The biomass increment and growth rate are derived from the NFI data, non-CO_2 emissions from forest fire are estimated using the forest burnt area record and IPCC default emission and combustion factor.

Activity data

Deforestation data over the reference period of 10 years (2005-2014), was generated from satellite images using a global forest change product and geospatial analysis of time series data of Landsat 7 and Landsat 8 imageries. Each point of deforestation is validated in field, ancillary information maintained by the department and by visual interpretation of point of loss with high resolution imageries in collect earth platform. Average annual loss of forest to different categories of non-forest land (cropland, grassland, settlement and other land) was then obtained for the estimation of emissions. The total deforested area is then multiplied by the difference in carbon density between forest land and non-forest land to estimate the CO_2 emissions due to deforestation, which is termed as FREL.

Second activity data consisted of the historical forest area under sustainable forest management (SFM), conservation of forest carbon stock and enhancement of forest carbon stock. These were used to estimate the removal, while the volume of wood removed from

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[4] The technical component such as capacity building and procurement was contracted out to FAO.
[5] Republic of Bhutan (2020) Bhutan's Proposed National Forest Reference Emission Level and National Forest Reference Level Submission for technical assessment to UNFCCC.
https://redd.unfccc.int/files/final_bhutan_frel_frl_20201207_for_webposting.pdf

these areas and the area of forest damaged by fire was used to estimate the emission. The net balance of removal and emission of these activities is termed as FRL for Bhutan.

Emission Factors

The emission factors or carbon density was calculated using the data from the National Forest Inventory (NFI) and biomass equations. The emission factor was used for estimating the emission from deforestation (mostly at Tier 1 level).

The wood density, biomass expansion factor and carbon fraction of 0.47 was applied for estimation of emissions from wood removals. The non-CO_2 gases CH_4, CO and N_2O is also estimated from the forest area damaged by the forest fire following the IPCC Guidelines 2006 and converted into CO_2 equivalents using Global Warming Potential of AR5.

Removal Factor

The removal factor of 2.01 t of dry matter per hectare per year was applied for remaining forest and non-forest land converted to forest land during the reference period. This is a country specific removal factor estimated through the NFI.

Forest Reference Emission Level

The FREL for deforestation was constructed by calculating the historical average emissions from deforestation and adding an upward adjustment of 0.1% of biomass carbon stock and delayed emission from soil. The adjustment was determined based on assessment of the National Circumstances and future projections of developmental activities in the Country. With adjustment, the average annual emission due to deforestation increased to 505,837 tons of CO_2 from the historical average of 159,781 tons of CO_2 per annum.

Forest Reference Level

The FRL for SMF, conservation of forest carbon stocks and enhancement of forest carbon stocks is constructed using the historical sequestration rate without applying any adjustment. CO_2 and non-CO_2 emission due to timber harvesting and forest fire are subtracted from the total CO_2 sequestration by forest. The average net annual removal of Bhutan's forest (FRL) is 8,539,085 tons of CO_2 per annum.

Bhutan also reported uncertainty of the FREL and FRL at using error propagation methods and outlined the list of future improvement areas in the FREL and FRL submitted to UNFCCC.

While the FREL and FRL were developed using the available activity data and emission factors from the national forest inventory, there is a scope to improve the FREL and FRL of Bhutan. The additional data required to improve the FREL and FREL of Bhutan include

        a. Develop forest type/ land use and land cover maps annually or periodically using same satellite imageries. Preferably with high resolution imageries

        b. Enhance the database system

        c. Develop species specific biomass allometric equations

        d. Conduct periodic inventories

Considering the significance of the improved data, Bhutan has developed a forest type map of Bhutan using the ground data from 1st NFI (2012-2015) and same will be produced using date of 2nd NFI (2021-2022). Further, there are plans to periodically produce the land cover statistics.

The Forest Resources Information Management and Reporting System (FRIMS) was recently strengthened to address identified data gaps. For example, there are cases of forest pest and disease infestation but these statistics are not properly recorded. Other information includes loss of forest due to harvesting in privately owned land, construction of road, location of plantation areas and mining activities. There are plans to further enhance the system. The FRIMS which acts as a centralized information and data collection system has been revamped recently to include comprehensive modules on each aspect of forest management to act as a data repository and a data protocol for the FRIMs has also been developed for the first time (FRMD, 2021) https://www.dofps.gov.bt/documents/. Trainings are also been conducted to ensure proper usage of the protocol.

The fieldwork for the development of additional 25 species-specific biomass allometric equations are in progress and it is expected that by the end of the 2022, the equations would be available for use. The first NFI used only 14 species.

Assessment Criteria 27: Use of historical data, and adjusted for national circumstances

For the purpose of the development of the FREL/FRL, all available historical data was used. A historical data on deforestation was generated for the historical time period from 2005-2009 and 2010 to 2014.

The average deforestation data for the 2005-2009 and 2010-2014 was used to assess the emission from the deforestation during the historical reference period between 2005 -2014. The rate of deforestation is very low at 0.01% or 263 ha of forest loss annually. Based on the assessment of national circumstances and development projections, future emissions from deforestation are predicted to increase to around annually in the next 5 years (2018 – 2023), which higher than the historical average. While the historical deforestation rate is 0.01%, the deforestation rate is expected to increase to 0.10 as a result of the increased pressure from development activities in roads, hydropower, mining[6]. There is also projected possible increases in emissions from agriculture, forest fires and harvesting of timber and firewood and thus can be considered as conservative estimate. Since there are planned development activities for 2018-2023 and beyond, these rates of deforestation are not a clear

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[6] Republic of Bhutan (2020) Bhutan's Proposed National Forest Reference Emission Level and National Forest Reference Level Submission for technical assessment to UNFCCC.
https://redd.unfccc.int/files/final_bhutan_frel_frl_20201207_for_webposting.pdf

representative for the future emission scenarios in Bhutan. Therefore, an adjustment was made against the average historical emission.

Historical record of wood removals, plantations and area of forest damaged by fires (from 2005 to 2014) was also used to estimate the emission from SMF, Conservation of Forest Carbon Stock and enhancement of forest carbon stock.

The data used for the development of the FREL and FRL were properly and transparently documented to be able to reconstruct the FREL and FRL. The UNFCCC technical assessment team was able to reconstruct the FREL and FRL using the same data and documentation provided by Bhutan. This is evident in the technical assessment report, which is available in UNFCCC website *(https://redd.unfccc.int/submissions.html?sortCountry=asc&sortYear=desc&country=btn)*

Assessment Criteria 28: Technical feasibility of the methodological approach, and consistency with UNFCCC/IPCC guidance and guidelines

The FREL and FRL were developed in accordance with the methodological guidance of the FCPF, the reporting guidelines of the UNFCCC, and the combination of Tier 1 and 2 approach provided in the IPCC guidelines. The document follows the recommendations of the GFOI methodological guidance. The methodology adopted for the calculation of the emission and removal for the FREL and FRL is consistent with the GHG inventory report submitted as part of the second national communication to UNFCCC. The emission factor used in the FREL and FRL is a combination of the Tier 1 and Tier 2 approach[7]. The consistency in terms of method and data use will be maintained for future GHG inventories.

The UNFCCC assessment team noted that the data and information used by Bhutan in constructing its FREL and FRL are transparent, complete and in overall accordance with the guidelines contained in the annex to decision 12/CP.17. The technical assessment team of the UNFCCC was also able to reconstruct the FREL and FRL of Bhutan based on the data shared with the assessment team. The methodological approach therefore, allows for technical assessment of the data sets, approaches, methods, and assumptions used in the construction of the FREL and FRL.

The FREL and FRL is consistent with UNFCCC and IPCC guidelines as all emission and removals are estimated using processed-based approach or Gain-Loss Method. The Equation 2.4 of the 2006 IPCC guidelines is adopted for estimating the emission factors, and emissions were estimated using equation 2.6 of the same guidelines.

$$\Delta C = \Delta C_G - \Delta C_L \qquad \text{(Equation 2.4 of 2006 IPCC Guidelines)}$$

$$Emission = A \; x \; EF \qquad \text{(Equation 2.6 of 2006 IPCC Guidelines)}$$

Where,

ΔC = annual carbon stock change in the pool, tons C yr^{-1}

ΔC_G = annual gain of carbon, tons C yr^{-1}

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[7] Republic of Bhutan (2020) Bhutan's Proposed National Forest Reference Emission Level and National Forest Reference Level Submission for technical assessment to UNFCCC.
https://redd.unfccc.int/files/final_bhutan_frel_frl_20201207_for_webposting.pdf

ΔC_L = annual loss of carbon, tons C year

A = Activity Data

EF = Emission Factor

The table 18, below shows the activity-specific IPCC Equations used for the development of the FREL and FRL.

Table 18: IPCC equations used for the development of FREL and FRL

Sl.	REDD+ Activity	Equation	Remarks
1	Deforestation	Emission = A x EF	
2	Sustainable Forest Management	1. $SMF_{Timber\_emission}$ = H x WD x BEF x CF x 44/12 Where, $SMF_{Timber\_emission}$ is emission from SMF in tCO_2, H is the volume of harvested timber (m^3), WD is wood density (tm^{-3}), CF is carbon fraction of 0.47 and BEF is biomass expansion factor. 2. Non-CO2 emission from Fire L_{fire} = A x M_B x C_f x G_{ef} x 10^{-3} ● Where, ● L_{fire} is the amount of GHG emission from fire tonnes of each GHG (e.g. CH_4, N_2O); ● A is the area burnt, ha; ● M_B is mass of fuel available for combustion, t/ha; ● C_f is combustion factor, dimensionless; and ● G_{ef} is emission factor, (g/kg) dry matter burnt. 3. Removal from forest growth $SMF_{Removal}$ = A_{smf} x G_{mean} x CF x 44/12 Where, $SMF_{Removal}$ is removal by SMF ($tCO_2\ yr^{-1}$), A_{smf} is the area under SMF (ha), G_{mean} is mean annual biomass increment (t d.m $ha^{-1}yr^{-1}$), CF is carbon fraction and 44/12 is $CO_{2\text{-}e}$ fraction.	1. Equation 2.12 ● 2.Equation 2.27 3. Equation 2.9

| 3 | Conservation of carbon stock | 1. $Con_{Timber\_emission} = H \times WD \times BEF \times CF \times 44/12$

Where, $Con_{Timber\_emission}$ is emission from Conservation in tCO_2, H is the volume of harvested timber (m^3), WD is wood density (tm^{-3}), CF is carbon fraction of 0.47 and BEF is biomass expansion factor.

2. Removal from forest growth
$Con_{Removal} = A_{smf} \times G_{mean} \times CF \times 44/12$

Where,
$Con_{Removal}$ is removal by Conservation ($tCO_2 \ yr^{-1}$), Acon is the area under Conservation (ha), G_{mean} is mean annual biomass increment (t d.m ha^{-1}yr^{-1}), CF is carbon fraction and 44/12 is CO_2-e fraction | 1.Equation 2.12
2. Equation 2.9 |
| 4 | Enhancement of carbon stock | 1.Removal from forest growth
$Plantation_{tCO2-e}$ =
(Age of plantation (yr) $\times$ Biomass growth (t d.m ha^{-1}yr^{-1} $\times$ Successful Plantation (ha) $\times$ .047 $\times$ 44/12) | Modified by equation of 2.2 and 2.3 |

Self-Assessment of the FREL and FRL

The development of the FREL and FRL followed a consultative and inclusive process which was commended by many stakeholders in the Royal Government of Bhutan. It has been presented to the technical working group of the REDD+, the Chief Forestry Officers, Renewable Natural Resources Gross National Happiness Commission, National Environment Commission Secretariat, the Climate Change Coordination Committee and the National Environmental Commission.

In the self-assessment note, the Bhutan's FREL and FRL are assessed using the four code indicators of, i) Green- significant progress, ii) Yellow- progressing well, further development required, iii) Orange – further development required, and iv) Red- not yet demonstrating progress. Based on the available information and stakeholder consultation, the overall rating for the FREL is GREEN-YELLOW with a few weaknesses and some areas of improvement.

Linkages with REDD+ strategy options and NFMS

The FREL and FRL was developed taking into account major drivers of deforestation and forest degradation. The table 19, below describes the linkages among the driver of deforestation and forest degradation, REDD+ Strategy Options, and FREL/FRL and NFMS.

Table 19: Linkages of REDD+ strategy options and NFMS

Sl	Drivers	FREL and FRL	REDD+ Strategy Options	National Forest Monitoring System
1	Drivers of deforestation	Forest land converted to non-forest lands such as cropland, grassland, settlement, and other land are computed for the reference period. These are the result of the drivers of deforestation as defined in table 9 above.	Three of the four REDD+ strategic options of *Climate-smart primary production; integrated land use planning; and, improved rural livelihoods* will enable and address drivers of deforestation and reduce the emission from deforestation	Through this study, NFMS try to understand what are the main drivers of deforestation and how much forest is being converted to other land use annually. For example; Hydropower was regarded as one of the main key driver of deforestation thereby separate study was carried out to understand the about of forest loss from hydropower.
2	Drivers of forest degradation	Wood removal (timber harvesting and fuelwood) and forest fire are the main drivers of forest degradation. The emission from the wood removals and forest fire are estimated as part of the FRL and reported.	All four REDD+ strategic options of *strengthened forest management practices; climate-smart primary production; integrated land use planning; and, improved rural livelihoods* will enable and address drivers of forest degradation and led to reduced emission from wood removals and forest fire while increasing the carbon stock	Though this study, NFMS try to understand the dynamic of forest canopy density changes over the period. If the canopy density reduces over the time, then that portion of forest will regard as degraded and accordingly it will be informed to concerned field

				office to take appropriate intervention.

Gaps and areas for further development under Component 3

The data used for the construction of FREL and FRL for Bhutan is based on historical data and does not necessarily represent the true scenario. The deforestation rate is historically very low and it is most likely that this rate would increase over time as more and more social and economic development activities are planned and implemented. Further, Landsat imageries was used for computing the activity data which has a spatial resolution of 30m and actual forest loss may be underestimated. Similarly, most of the emissions are estimated using Tier 1 approach and actual emission/ removals may be underestimated or overestimated. Therefore, there is a need to update the FREL and FRL of Bhutan in due course of time to reflect the true condition. Currently, it is expected that the updated FREL/FRL may be available by the end of 2024, when Bhutan submits the first biennial transparency report.

Gaps and areas for improvement

Some of the existing gaps in the current FREL and FRL are:

- Stratification of forest types is not carried out considering the small size of the area undergoing deforestation
- No spatially explicit maps of forest plantation are currently available and only statistics of plantation were used for development of FRL. No information on wood removals from the plantations available.
- Emissions and removals are estimated using IPCC Approach 2 and Tier1 methods
- Prior use to is not known for areas brought under plantation and no spatial record of the plantation area is available
- The spatially explicit data on the forest damage by fire not available.

Areas for further development are:

- Strengthening the database system
- The deforestation may be underestimated as the Landsat 7 and 8 with 30m spatial resolution was used.
- Development of biomass allometric equations
- Capacity building and development of carbon density maps across the country.

The improvement of the FREL and FRL will be implemented as per the action plan described in table 20 below:

Table 20: Action plan for FREL AND FRL improvement

Action to be taken	Timeline	Responsibility		Risk
		Lead	Collaborator	
Exploring use of high-resolution remote sensing data for generating national LULC dataset through advanced technologies and methodologies.	**2025**	FRMD	National Land Commission (NLC)	Lack of financial support to procure high resolution

				satellite imageries from the government
Strengthening Forest Information Reporting and Monitoring System (FIRMS) database to maintain proper record of timber harvest and plantation.	**2025**	FRMD	All Functional Division and field offices	Lack of technical expert financial support
Strengthening NFI data management system.	2025	FRMD	All Field Offices, NECS	No technical expertise and committed fund
Reducing the inaccessible plots during the next NFI to reduce uncertainties of EF.	2032	FRMD	All Functional Division and field offices	Time and financial constraint
Developing additional species-specific biomass allometric model.	2024	UWICER	FRMD	
Modeling and mapping carbon density using remote sensing.	2024	FRMD		1. Limited technical capacity 2. Use of SAR data in the absence of LiDAR
Developing a spatially explicit fire burnt area maps.	2025	FRMD, FPED	All field offices	-
Spatial mapping of plantations with survival percent.	2027	FRMD, SFED	All field offices	-
Improving uncertainty estimates for activity data and EF.	2024	FRMD		

Table 21: Assessment result for Component 3: Reference Emissions Level/Reference Levels

Assessment Criteria	Progress			
	Significant development	Progressing well, further development required	Further development required	Not yet demonstrating progress

26) Demonstration of Methodology				
27) Use of historical data and adjusted for national circumstances				
28) Technical Feasibility of the Methodological Approach and consistency with UNFCCC/ IPCC and guidelines				

6. Component 4: MONITORING SYSTEM FOR FORESTS & SAFEGUARDS

6.1 Subcomponent: 4a. National Forest Monitoring System

The R-PP outlined the following activities for implementation: a) capacity building and NFMS Action Plan development; develop Bhutan's NFMS Action Plan; rganize NFMS work and capacity building; b) formalize institutional arrangements for the implementation and management of the NFMS); c) Satellite Land Monitoring System developed and operationalized (Satellite Land Monitoring System developed and operationalized; Forest boundary delineation in the field and GIS boundary generation for demonstration activities; Capacity building on geospatial data processing and database management; Establish a Forest Management Information System and web-GIS platform); d) Multipurpose NFI implementation completed and data management strengthened (Develop participatory tools for community forest monitoring; Establish a harmonized classification system for land representation; Capacity building of NFI field crews and data analysts; Support to conducting NFI); e) National capacity built for compiling the GHG inventory for the LULUCF sector (Technical capacity building for the GHG inventory for the LULUCF sector); and f) NFMS-related research supported.

As a result of the implementation of the above activities, the following have been achieved:

- The MRV system proposed is consistent with the international system.
- Ground based forest carbon inventory was adopted
- RS method was used for generation of Activity data
- The GIS/RS lab was established.
- The NFMS and MRV system have been institutionalized in the DoFPS
- Capacity is built for the staffs (at the national level) working for the RS/GIS Section.
- Institutional arrangements have been done.

In line with 4/CP.15, 1/CP.16 and 11/CP.19, Department of Forest and Park Services (DoFPS), Ministry of Agriculture and Forest (MoAF) has developed a robust and transparent National Forest Monitoring System (NFMS). The national NFMS was developed with the following objectives:

- To monitor the health and state of Bhutan's forests for enabling long-term conservation and sustainable forest management, and uphold the Constitutional requirement of maintaining 60 % forest cover in perpetuity;
- To generate accurate and holistic data on forest area and carbon stock changes in a transparent and consistent manner using globally accepted methodologies for national and international reporting.

Based on the objectives, NFMS was further divided into two categories (i) monitoring and (ii) measurement, reporting and verification (MRV). The NFMS is based on a combination of ground measurement through National Forest Inventory (NFI) and remote sensing exercise to generate the state of national forest report. NFMS of Bhutan includes four components:

- *Satellite Land Monitoring System (SLMS)* - SLMS is designed to capture activity data resulting from both anthropogenic and natural causes using freely available satellite imagery based on the national definition of forest. Furthermore, SLMS is intended to generate periodic Land Use and Land Cover (LULC) maps that detail forest type as well as canopy density map to supplement NFI in understanding the forest dynamics in Bhutan.

- *Multipurpose National Forest Inventory (NFI)* - Bhutan NFI is designed as a multipurpose forest ecosystem health monitoring inventory, which means that it collects information on biodiversity, forest health (pests and diseases), forest disturbance, and soil carbon in addition to timber resource data, using permanent 2424 systematic plots.

- *National Greenhouse Gas (GHG) Inventory* - Using 2006 IPCC Guidelines for National Greenhouse Gas Inventories, national GHG emission and removal is assessed resulting from any anthropogenic activities within the forestry sectors. All the GHG gases and source has been already identified.

- *Forest monitoring with associated web-portal* - Forest monitoring allows archiving and accessing very reliable data on sustainable forest management, community and social forestry, watershed management, nature conservation and forest health and ecosystem.

The information is maintained and disseminated through a robust online database called "Forest Information Reporting and Monitoring System (FIRMS)". Patrolling and forestry activities are recorded using Spatial Monitoring and Reporting Tool (SMART) which supplements FIRMS in providing spatial data. Spatial data is maintained in geodatabase and shared through web-portal. Further, Spatial Decision Support System (SDSS) which is a web-based interactive tool allows DoFPS to rationalize and monitor forest area being lost to other developmental activities through the issuance of forestry clearance.

Details of progress and achievements made in development of the implementation framework are highlighted below:

Assessment Criteria 29: Documentation of monitoring approach

The documentation on the NFMS in Bhutan started prior to the inception of REDD+ project when the first NFI was initiated in 2008. The NFI field manual, the manual for Above Ground Biomass (AGB) and Soil Carbon Analysis, NFI implementation modality, NFI data management protocol is some of the NFI documents that are already in place which were technically reviewed and accepted through a series of National Stakeholders workshops. The inventory design was technically supported and reviewed by Yale University, USA.

Following the development of the National Forest Monitoring Action Plan in 2015, the documentation process for the NFMS was further enhanced. NFMS Action Plans outline the actions that Bhutan must take to receive adequate and predictable support, including financial, technical, and technological assistance, to implement its NFMS for REDD+ activities.

The interpretation of remote sensing data will be done in conjunction with NFI ground data to generate the periodic LULC map. A technical report on the creation of a LULC map to derive activity data and monitor the forest landscape is already in place. Currently, the LULC map is

generated using freely available medium resolution satellite images such as Landsat, but plans are in place to use high-resolution satellite images in the future. To ensure the consistency of LULC map development, the data source and technique were technically examined and accepted at a National Stakeholder Workshop, and it was agreed that Landsat, which is free and most appropriate at the national level, will be utilized in the future. Further the methodology for developing LULC maps was also reviewed by ICIMOD and FAO.

The DoFPS also publishes annual *Forestry Facts and Figures* (www.dofps.gov.bt) that detail summary activities of sustainable forest management, community and social forestry, watershed management, nature conservation, forest health and ecosystem, and forestry and wildlife offenses. The FIRMS database[8] (https://firms.dofps.gov.bt/) is used to generate the forestry facts and figures. DoFPS specifically uses this information to monitor and improve forest and wildlife management and conservation initiatives. In addition, researchers and policymakers make extensive use of this data.

The NFMS web-portal[9] (http://www.bhutan-nfms.org/) facilitates transparent data sharing at the national and international levels. To ensure long-term cost-effective maintenance, the spatial database and web interface are built on open-source software. The web-portal contains national datasets that have been categorized. It also includes global datasets about Bhutan.

GHG emissions and removal in the forestry sector were estimated using internationally accepted GFOI methodology and 2006 IPCC guidelines. Both the FREL/FRL and GHG inventory for the Second National Communication were built using the same guidelines. All pools and gases for GHG estimation have been recognized at the national scale, and they are in line with the development of the FREL/FRL and GHG inventory for the Second National Communication.

The uncertainty indicated in the FREL and FRL was estimated using the error propagation method, which combined the uncertainty of activity data and emission factors[10]. Other sources of uncertainty will be explored and estimated in the future. The uncertainty will be estimated in accordance with the IPCC's Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories (Publications - IPCC-TFI (iges.or.jp) published in 2000.

Assessment Criteria 30: Demonstration of early system implementation

The first NFI was completed in 2015, with two volumes of the report produced. Volume 1 of the NFI includes information on tree metrics (tree counts, basal area, and growing stock) at the national and subnational levels. Volume II of the NFI provides information on biomass and carbon at the national and sub-national levels. A second NFI is currently being carried out. Unlike the first NFI, where all the field measurement activities were centrally carried out, the second NFI is more decentralized. Overall, activities are centrally coordinated but field

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[8] FIRMS database: https://firms.dofps.gov.bt/

[9] NFMS web-portal: http://www.bhutan-nfms.org/

[10] Royal Government of Bhutan (2020) Bhutan's Proposed National Forest Reference Emission Level and National Forest Reference Level Submission for technical assessment to UNFCCC. https://redd.unfccc.int/files/final_bhutan_frel_frl_20201207_for_webposting.pdf

measurements were coordinated by divisional field offices. The NFI being a multipurpose inventory, different stakeholders are involved in collection and analysis of NFI data.

The Ministry of Agriculture and Forests was responsible for generating periodic national LULC maps. Although the mandate for producing LULC maps lies now with the National Land Commission Secretariat (NLC), DoFPS will still be generating forest type maps to assess forest cover change in collaboration with the NLC. At the national level, the Ministry has developed three LULC maps so far. The first LULC was created in 1995 using aerial photography and SPOT imagery. The second LULC was created in 2010 and was generated from ALOS imagery. The third and most recent LULC was created in 2016 using Landsat 8 which was led by DoFPS as part of REDD+ activity.

Bhutan decided and settled on a national level FREL and FRL, and therefore, the datea used for the NFI and LULC are generated and available at the national level. Having FREL and FRL at the national level avoids the issue of internal displacement or leakage of emissions and facilitates the assessment of the impact of national-level policies and measures. Therefore, the development of a FREL and FRL at sub-national level for Bhutan is neither justified nor necessary.

Activity data for FREL and FRL was generated using Global Forest Change (GFC) Product which was also based on Landsat imageries. Since the GFC product was at pixel level, in order to align the pixel level analysis with the definition of forest in Bhutan, fine scale level information on disturbance (pixel level gain and losses) were aggregated to the minimum mapping unit resulting in a larger scale element. Bhutan already agreed to generate the activity data and develop forest type map using freely available Landsat imageries at national stakeholder workshop, this will ensure the consistency in comparing the changes in forest and carbon content (and associated GHG emission) relative to the baseline estimates used for FREL and FRL.

Prior to the implementation of the first NFI, staff involved in the NFI received capacity building for ground data collection, data cleansing, and analysis. Similarly, similar capacity building has been provided to the foresters involved in the second ongoing NFI. This ensures that Bhutan's foresters can now carry out the NFI using current technology. Similarly, GIS and remote sensing technical experts were trained to generate the land use and landcover map and conduct the change analysis using currently available tools. Further, MoAF staff prepared the FREL and FRL using a combination of NFI and remote sensing technology. This ensures that Bhutan has the capacity to monitor the REDD+ activities that have been prioritized in the country.

Assessment Criteria 31: Institutional arrangement and capacities

DoFPS is the overall coordinator for REDD+ and NFMS implementation in Bhutan. For the smooth operation of the NFMS, a well-defined institutional system has already been established. The institutional framework involves several stakeholders. DoFPS will be responsible for the forestry sector's Satellite Land Monitoring System (SLMS), NFI, and GHG inventory. The GHG inventory for the forestry sector will be conducted in conjunction with the NEC, which also serves as the nodal agency for international reporting, such as the National

Communication to the UNFCCC. Data will be shared with other national stakeholders via National Geoportal managed by NLC. The NFMS geoportal will be used for worldwide data sharing. The figure 6 below depicts the institutional arrangement for the NFMS in Bhutan for which the DoFPS is the overall implementation coordinator.
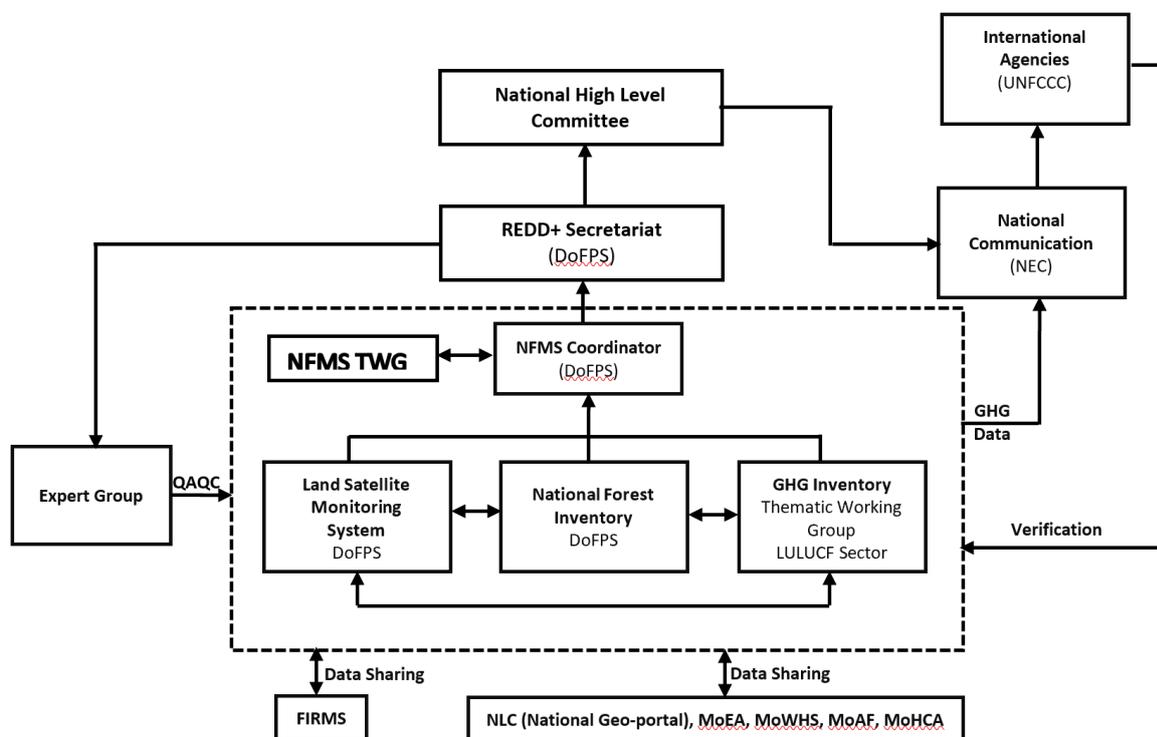

Figure 6: Institutional arrangement for FMS and MRV for REDD+ program of Bhutan

Agency	Roles
Department of Forests and Park Services (DoFPS)	• Coordinate the overall REDD+ activities • Form the NFMS Technical Working Groups • Carryout periodic land use and land cover change analysis using remote sensing technology • Carryout periodic NFI • Carryout periodic GHG inventory limited to forestry sector • Share the data through FIRMS • Ensure the smooth implementation of NFMS
NFMS TWG	• Advice the technical working group on generation of data and reporting pertaining to REDD+ activities
NLC, MoEA, MoWHS	• Share the data with DoFPS that's needs to be taken into consideration while monitoring the REDD+ activities
Expert Group	• Ensure the quality of the data and reports developed by the technical working group

National High-Level Committee	• Technically review the task carried out the DoFPS for international reporting
National Environment Commission	• National Communication • GHG reporting

Most of the capacity building for the implementation of NFI, SLMS, and GHG Inventory has already been developed during the REDD Readiness phase; however, a future strategy is already in place to expand human resource capacity building in line with tool and technology advancements. The necessary equipment, hardware, and software have already been purchased and are in operation. However, equipment, gear, and software may need to be updated or improved in the future. A MRV document (DoFPS, 2022) has also been developed to guide Bhutan in monitoring the forest cover and also to monitor impacts of REDD+ strategy implementation.

Gaps/weakness and Areas for further development for Sub-Component 4a: National Forest Monitoring System

Despite the above achievements, there are still gaps and areas requiring further development that need to be address. The gaps include:

- Demonstration and monitoring of early system implementation -
- Institutional capacity is not adequate at the district level. Capacity needs to be developed for all staff working at the district level.

Area for further development includes:

- Provide capacity building on NFMS at field office by the concern functional division
- Generate annul forest cover and canopy density map using medium to high resolution satellite imageries to monitor the annual forest cover changes at national level
- Enhance the geoportal with analysis capabilities.
- Develop database for NFI and integrate with NFMS

Table 22: Results of the Self- Assessment for the Subcomponent 4a. National Forest Monitoring System

Assessment criteria	Progress				
	Significant Progress	Progressing well, further development required	Further development required	Not yet demonstrating progress	Remarks
29) Documentation of monitoring approach					

30) Demonstration of early system implementation					
31) Institutional arrangements and capacities					

6.2 Subcomponent: 4b. Information System for Multiple Benefits, Other impacts, Governance, and Safeguards

The following activities were outlined in the R-PP for implementation as part of readiness: a) identification of non-carbon aspects, information sharing and definition of mandates (stakeholder consultation; b) identify priority non-carbon aspects of REDD+ implementation; c) development of SIS); d) development of methodologies and establishment of system for assessing performance related to REDD+ co-benefits (stablish participatory monitoring process and establish reference level and indicators for REDD+ co-benefits).

The expected outputs from the implementation of the above activities are: a) SIS and co-benefit monitoring systems established and operational; b) non-carbon aspects of REDD+ activities along with their impacts analyzed; c) Organizational mandates pertaining to non-carbon aspects of REDD+ assigned; d) Transparent information sharing platform developed; e) Indicators to assess co-benefits defined and reference levels established; and Monitoring system in place.

Progress and Achievements on Sub-Component 4b: Information System for Multiple Benefits, Other Impacts, Governance, and safeguards

Through the implementation of the above activities, the following have been completed and achieved:

- Through the SESA study, the social and environmental issues identified.
- Non-Carbon benefits identified
- NFMS developed and instituted for carbon and SIS for non-carbon benefits
- Institutional arrangement for monitoring of both carbon and non-   carbon established
- Capacity development plan is in place as part of REDD+ investment plan

Details of progress and achievements made in development of the implementation framework are highlighted below:

Assessment Criteria 32: Identification of relevant non-carbon aspects, and social and environmental issues
The RGoB recognizes that social and environmental safeguards are critical to helping ensure that planned activities are successful as well as to reduce conflict, optimize benefits, and help ensure that activities do not result in unintentional harm to people or ecosystems. The Constitution of Bhutan mandates the government to maintain 60% of the country's land under forest cover for all times to come. The National Forest Policy (2011) emphasizes the protection, conservation, sustainable management and utilization of forest resources and therefore provides high priority to the non-carbon benefits including social and environmental.

Environmental Conservation is one of the pillars of GNH and therefore any benefit that may arise from the implementation of REDD+ program will contribute to achieving the wellbeing and happiness of Bhutanese people. These set of legislations will help to minimize or mitigate harm to people and the environment, and at the same time bring the most benefit from development activities, including REDD+, to people of all ethnic groups throughout the country. The five-year development plan which integrates and operationalizes the policies will also include indicators for monitoring the performance including the non-carbon benefits.

The REDD+ Program activities were designed to produce multiple benefits such as carbon benefits and non-carbon benefits. The non-carbon benefits are diverse range from improved livelihoods, biodiversity conservation, ecosystem services, and strengthening institutional capacity for implementing activities. The monitoring system is expected to cover broad array of parameters that reflect in carbon benefits in terms of emission reductions and other multiple non-carbon benefits associated with management of forest resources.

Bhutan's National REDD Strategy, SESA and ESMF considers the World Bank Social and Environmental Safeguards and Cancun Safeguards in responding to the social and environmental issues and recommend measures for reducing or mitigating the risks and enhancing the benefits. addressing the social and environmental risks, including indicators for monitoring the performance of non-carbon benefits.

Further, a study on the economic value of forest ecosystem services was undertaken to know the actual realized values of forest ecosystem goods and services. The result of the study concluded that the economic use value of ecosystem services in Bhutan ranges between US$ 440 million to US$ 1,293 million per year indicating a substantive contribution of ecosystem services to the economy (see Table 23).

Provisioning services represent the highest values followed by recreation and regulating services. Currently, forests are accounted for in economic reports in relation to their contribution to timber, firewood and non-wood forest products, alongside agriculture and livestock, (see NSB-2017). In 2015, its contribution to GDP was approximately US$40 million, representing about 1.9% of national wealth [1]. This study showed that the contribution of forests and its associated ecosystems is much larger, with values that range between 21% to 63% of the national GDP showing the linkages to key economic processes such as hydroelectricity and tourism besides its importance to local economies in terms of energy, food and water quantity and quality.

Table 23: Economic value of selected ecosystem services in Bhutan

	Economic values (US$ in million per year)			Estimated from model (Costing Nature, using national data)
	Low	Medium	High	
Provisioning services	$355	$644	$973	$1031
Timber	$25	$49	$94	$189
Domestic water	$1	$2	$7	$74
Fodder for livestock	$82	$99	$136	$92
NWFP	$7	$7	$8	$6
Energy				
Hydroelectricity	$239	$482	$723	$657
Firewood	$2	$6	$6	$13
Cultural and recreation services	$77	$142.5	$216	$216
Tourism, Nature based	$43	$108	$182	$182
Biodiversity (investment flows)	$34	$34	$34	$34
Regulating and climate	$9	$23	$44	$46
Carbon	$7	$17	$34	$34
Water quality (sediment removal)	$4	$8	$12	$12
Disease and pest control (Human Wildlife Conflict)	-$1.1	-$1.3	-$1.3	-$0.003
Total	$441	$810	$1,233	$1,293

Assessment Criteria 33: Monitoring, reporting and information sharing

Bhutan has designed a safeguard information system (SIS) that will ensure sharing of information in a transparent manner to various stakeholders on its REDD+ implementation. Bhutan's Safeguard Information System (SIS) outlines the framework and the institutional arrangement for collection, analyzing and dissemination of information including reporting to

relevant platforms and conventions. The SIS will be operationalized once the implementation of REDD+ Strategy starts. The REDD+ Secretariat will collect data in collaboration with other stakeholders including private sector companies, government bodies, communities, through their designated Safeguard Focal Point in charge of respective PAMs, as a component of their monitoring and reporting responsibilities under the implementation of REDD+ interventions. Information will be compiled regularly from the REDD+ PAM implementing agencies as well as through other existing complementary sources for analysis and reporting purposes, and to ensure that REDD+ interventions have been implemented in consistency with the UNFCCC and other partners' safeguard requirements. Specific reporting templates (See Annex I of the Framework for SIS of Bhutan) will be used for the same (DoFPS, 2019).

One of the key sources of information for the non-carbon benefits will be the FRIMS (Forest Resource Information Management System). FIRMS is an online database system designed for collection of all information and data regarding forest conservation and forest resource utilization nationwide and therefore is the primary data repository of the forestry related information. Based on the information generated from FRIMS, annual forestry facts and figures are published as part of the annual RNR statistical database. FRIMS contain various modules covering wildlife conservation, timber harvesting, watershed management, payment for environmental services, non-wood forest products, community forestry, human wildlife conflicts, forest offences, forestry clearances, etc. and therefore includes all the management regimes and services produced by the forest department.

The planning and M&E frameworks for the five-year development plans of the Government will be used to monitor and evaluate the impacts of REDD+ activities at sectoral level contributing to the national monitoring and reporting system designed in Figure 6. The REDD+ PAMs are integrated into the FYP of the MoAF; and therefore, the monitoring and evaluation framework of the FYP will be used to monitor the impacts of the REDD+ implementation. The Policy and Planning Division (PPD), which coordinates the overall planning of the 12th FYP at the Ministry level, conducts mid-term review and the terminal evaluation at the end of every five-year plan. This as well as the periodic monitoring by respective REDD PAM implementing agencies will provide guidance to ensure that REDD+ strategy implementation achieves its intended purpose in a manner that is consistent with the safeguard requirements and thereby enhancing benefits and minimizing and or mitigating the risks associated with REDD+ implementation. This will also ensure information sharing on non-carbon benefits, social and environmental aspects of REDD+.

Building on the database system for organizing and reporting data on GHG emissions and removals, the NFMS will adopt procedures for monitoring and reporting on non-carbon benefits and safeguards linking and mobilizing the above existing frameworks of FRIMS, FYP, etc. The NFMS web portal will organize links to share information on non- carbon benefits and social and environmental issues.

The valuation of ecosystem services within protected areas is also planned and a development framework for the valuation is underway. Once the valuation is conducted and institutionalized, non-carbon benefits from the implementation of any plan and program under REDD+ will be reported.

Assessment Criteria 34: Institutional arrangements and capacities

The design of the NFMS (Component 4a, Figure 6) was developed based on the initial institutional arrangement proposed in the NFMS Action Plan and after discussion and validation workshops with stakeholders. The final design which includes FRMIS helps in integrating both carbon and non-carbon benefits. Technical capacities of the technical team have been built while generating the baseline information for the NFMS and MRV through LULC, SLMS, NFI, FRIMS and other related systems.

The NFMS is currently monitoring Bhutan's forest cover and changes in forest stock every 10 years. The NFMS framework has identified the institutions to monitor carbon components while non-carbon benefits are covered under the SIS framework of REDD+ for Bhutan with defined roles and responsibilities, but the roles need to be strengthened through operationalization of the framework and improvements during implementation. Further capacity buildings may be required in the process of implementation.

Relevant stakeholders and their mandates and tasks for the non-carbon benefits are reflected below while the detailed roles and responsibilities are covered in the section 2.2 of the SIS framework document for the REDD+ of Bhutan (https://redd.dofps.gov.bt/wp-content/uploads/2022/06/REDD-Safeguard-SIS.pdf).

Table 24: Institutional arrangements and their mandates for non-carbon benefits

#	Institutions/Stakeholders	Tasks/Mandates
1	Royal Audit Authority (RAA)	Ensuring accountability of civil servants and public budgets through compliance or regulatory audits and performance audits
2	Office of the Attorney General (OAG)	Ensuring accountability of civil servants and public budgets and enable access justice throughout REDD+ implementation
3	National Land Commission Secretariat (NLCS)	Recognize the rights over forest land throughout the REDD+ implementation
4	Dzongkhag and Gewog Administration	Recognize the rights over forest land and ensuring access justice throughout REDD+ strategy implementation
5	DoFPS	Protect and conserve natural forests and biological diversity, ensure REDD+ implementation does not lead to or incentivize the conversion of natural forests and; recognize and enhance ecological, biological, climatic and socio-economic benefits provided by forests.
6	National Statistics Bureau (NSB)	Ensure equitable distribution of benefits and promote gender equality throughout REDD+ implementation through PHCB, BLSS, economic census and publication of national reports (Statistical year books, national accounts report, etc.)
7	GNHC	Ensuring cross-sectoral coordination during design and implementation of REDD+ strategy and resulting PAMs, proposals to implement REDD+ are aligned to government policies and priorities and safeguard the interests of citizens.
8	National Biodiversity Centre (NBC)	Recognize and protect traditional knowledge, promote Access and Benefit sharing from the use of biological resources

The REDD+ Project supported the capacity building of key government staff through training, workshops and seminars. Numerous engagement and outreach activities have also been conducted as presented in Table 7. It will be important to continue the momentum gained so far and continue on building capacity and engaging with various stakeholders to support conservation benefits.

Progress and achievements for the component 4b: Information System for Multiple Benefits, Other impacts, Governance, and Safeguards

Table 25: Results of assessment of component 4b: Information System for Multiple Benefits, Other Impacts, Governance, and safeguards

Assessment criteria	Progress				Remarks
	Significant Progress	Progressing well, further development required	Further development required	Not yet demonstrating progress	
32) Identification of relevant non-carbon aspects, and social and environmental issues					
33) Monitoring, reporting and information sharing					
34) Institutional arrangements and capacities					

7. REPORT ON MULTI-STAKEHOLDER SELF ASSESSMENT PROCESS

7.1 Preparing for the assessment

The team for conducting the consultations and assessments consisted of relevant officials from WMD and FRMD, DoFPS. The organizing team prepared the background materials, logistics arrangements etc. for conducting the workshops. Questionnaires were developed as per FCPF assessment framework guideline's criteria participants were made to provide their ratings against each criterion in the online survey app. Consultation workshops were held with stakeholders across the country at two locations, in Thimphu District on May 30-31, 2022 and Bumthang District on June 2-3, 2022. Participants included District Agriculture Officers, Livestock officers, Chief Forestry officers and staffs from Territorial Forest Divisions, National parks and Wildlife Sanctuaries. Participants from all 20 districts attended the workshops and participated in the assessment rating process. Besides, the two most prominent CSOs/NGOs that work on natural resources, Tarayana Foundation and the Royal Society for Protection of Nature, also participated in the workshops.

7.2 Conducting the Assessment

The self-assessment was conducted with the involvement of stakeholders from all 20 districts in the country. The assessment was participatory and included different stakeholders who were involved in the implementation process of the readiness activities and local people at the beginning of the workshop, the team explained in detail the REDD+ Program, the benefits of implementing REDD+ activities in the field, and about the self- assessment process. Detailed discussions were held about the self- assessment. The team presented the R-Package components and sub-component, and the questions for the assessment were sent through an online app to all the participants. Respondents submitted the assessment ratings instantly. The team not only highlighted the achievements by showcasing various documents, but also presenting videos and other products that the project produced.

7.3 Self-Assessment Workshop Participants

A total of 104 participants attended the workshops held at two locations. Because of the ongoing reforms, there was limited opportunity for workshops and trainings in the post COVID recovery, hence not many consultations were conducted. Participants included people from all 20 districts in the country, including CSOs and NGOs like the Taryana Foundation and Royal Society for the Protection of Nature also participated in the assessment workshops. About 5% of the participants were from the CSOs/NGOs. Extension workers from other sectors like the agriculture and working closely with rural communities from all districts participated in the workshop. Details on the participants are presented in the table below.

Table 26a: Consultation workshop participants for self-assessment

Location	Total	Male Total	Male %	Female Total	Female %
Thimphu	51	47	92	4	8
Bumthang	53	46	87	7	13

Table 26b: Consultation workshop participants (Public/state agencies, CSOs/NGOs)

Location	Total	Public/State	Public/State %	CSO/NGOs	CSO/NGOs %
Thimphu	51	48	94	3	6
Bumthang	53	51	96	2	4

7.4 Summary of workshop participants

Overall, out of 34 assessment criteria, 24 criteria were assessed with a GREEN rating which indicates "significant progress were made" and 10 criteria were assessed at YELLOW meaning "progressing well but further development required". There were no criteria assessed at ORANGE or RED indicating that the stakeholders were not satisfied with the achievements that the REDD+ readiness process has made. Nevertheless, the stakeholders indicated more could be done in the area of safeguards, outreach and consultations particularly engagement of agriculture and livestock sectors. It was also observed that the benefit-sharing arrangement may need further work during the REDD+ strategy implementation as it may have social impacts. Similarly, rural-urban migration and shortage of farm labour needs to be included in any future analytical studies. The summary of the assessment rating and participants are in presented in Table 27.

Table 27: Participatory ranking for components & Sub-components

COMPONENTS	SUB-COMPONENTS	PARTICIPATORY RANKING	REMARKS
COMPONENT 1: READINESS ORGANIZATION & CONSULTATION	Sub-component 1a: REDD national management mechanisms.		Significant progress
	Sub-component 1b. Consultation, participation, and outreach		Significant progress
Component 1 Overall			Significant progress
COMPONENT 2: REDD+ STRATEGY PREPARATION	Sub-component 2a. Land use evaluation, forest policy and governance		Significant progress
	Sub-component 2b. REDD+ strategy options.		Significant progress
	Subcomponent 2c: Implementation framework		Significant progress
	Subcomponent 2d: Social and environmental impacts		Progressing well, further development required

			Significant progress
Component 2 Overall			Significant progress
Component 3: Reference Emissions Level/Reference Levels			Significant progress
COMPONENT 4: MONITORING SYSTEM FOR FORESTS & SAFEGUARDS	Sub-component 4a: National Forest Monitoring System.		Significant progress
	Sub-component 4b: Information System for Multiple Benefits, Other Impacts, Governance, and Safeguards		Significant progress
Component 4 overall			Significant progress

7.5 Feedback Provided by Stakeholders during the Assessment Workshops

The workshops were carried out in a participatory manner with informal exchanges of views and suggestions. Participants acknowledged the tremendous work that the project has undertaken and many expressed that the grant has helped the department and the nation in the most crucial stage of building the information base through NFI and LULC as well as enhancing the service delivery to the public through development of online systems like the Online Forestry Clearance and Check Post management systems and Spatial Decision Support System. Participants also shared that one of the major achievements of project is that it has helped to sensitize and ensure outreach to national as well as international levels to showcase the works done by Bhutan on forest management and environmental conservation while also contributing to achieving national as well as international commitments. Examples of feedback from the workshop participants include:

- Many recent initiatives like the million-fruit tree plantation, agroforestry, & soil and land management measures contribute to carbon sequestration and need to be adequately captured in such documents. This is because such initiatives involve active participation of local people which will ensure its sustainability.
- There is a shortage of mushroom billets and there is more pressure on oak forests because of commercialization of mushroom cultivation. The need to carry out oak plantations by households need to be featured in the potential areas for future plantations.
- There is a need to ensure adequate compliance monitoring in case of forest is cleared for development activities such as keeping of a 30m buffer for streams and rivers
- With the increase in usage of pipe systems for irrigation, water sources are tapped fully without leaving any water or seepage for wild animals. This is a cause of concern as human-wildlife conflicts are already an issue with more habitat fragmentation, intensive collection of non-wood forest products (including wild fruits), etc. Such

- increase in water usage for irrigation will further aggravate the issue as wild animals will come to villages in search of water
- The practice of community forestry has helped immensely in protecting and conserving the forests resources surrounding communities and has generated income. Such community forest management practices need to be supported further.
- The issue of waste also needs to be clearly brought out as it also leads to degradation of the environment.
- There is also a need to ensure monitoring as illegal timber harvesting is a serious concern in some places
- Concerns were raised on plantations created in forest areas used for grazing. Hence, new grazing areas need to be found leading to more degradation. If plantation areas are also used for grazing, this may lead to failure of plantations since livestock roams freely feeding on new growth. To resolve this, safeguard provisions will address this concern and the sites for plantations should be selected and protected in consultation with local communities
- Initiatives like self-help groups for improving stall feeding also needs to be included. These have a positive impact on livelihoods as well as reduce pressure on forests
- Bamboo plantations need to be considered to improve carbon sequestration while also improving livelihoods as bamboos can be used for multipurpose activities including using as timber substitute in the construction sector and for other purposes. Activities could include building/using a common facility where communities can do bamboo treatment, value addition and improve the value chain.

- There is a need to facilitate land exchange from forested areas to low forested areas that could help in reducing deforestation.
- Collaboration with the agriculture sector could be strengthened further to increase carbon sequestration and soil organic carbon e.g., in fruit orchards.
- Need to compensate for forest loss due to development projects like hydropower. For this, the existing regulations already have provisions to carry out compensatory plantations from hydropower and mining projects.
- Queries were raised on how carbon stored in form of harvested timber in buildings and other structures are taken into account. Since there was great uncertainty in estimating carbon in wood products, this was not included in the current FREL/FRL. This is an area of improvement in the future.
- Some deforested areas like that for hydropower rejuvenate and reforest naturally and therefore concern was raised how the FREL/FRL will take this into account. To this, it was explained that the area of forest gain is accounted in the FRL.
- Concern was also raised whether Bhutan will be able to fulfil its emission reduction target of 0.5 million tons of emissions that is proposed in its FREL. To this, it was explained that the 0.5 million tons of emissions is the baseline emission after adjusting for the high forest low deforestation and that has already taken into accountancy developments that will take place in the future.

7.6 Self-Assessment (Validation Workshop)

The self-assessment validation was carried out at the Department level by presenting the R-Package document to the Technical Advisory Committee. The participants agreed that many milestone activities have been implemented through the REDD+ Readiness project. The project filled the financial resources gap of the Department over two consecutive five-year plans and enabled the department to bridge the information gaps, strengthen its institutional capacity for

improved governance and continued engagement of stakeholders in forest resource management. The capacity built in the process of conducting the National Forest Inventory, preparation of Bhutan's FREL/FRL and Land Use Land Cover mapping are some of the highlights of the project for establishing a mechanism to monitor forest cover changes and lay the foundation for improving forest management and governance. The Department has now the necessary infrastructure (hard ware and software) and the human resources to undertake such highly technical works that require multiple skills which has been made possible through the project. As Bhutan enters into the post COVID era where there is huge pressure on forest resources for economic recovery, the information, technology and capacity built through the grant will go a long way in enabling the department to enhance the delivery of its services and to continue to conserve its rich and pristine forests. This will contribute towards achieving Bhutan's obligation to contribute to global low carbon emission development and the sustainable development agenda while responding to commitments under the Nationally Determined Contributions.

ANNEXES

Annex 1: List of reference documents

DoFPS, 2019. Framework of Safeguard Information System for REDD+ in Bhutan. Watershed Management Division, Department of Forest and Park Services, Ministry of Agriculture and Forests, Royal Government of Bhutan.

DoFPS 2015. Corruption Risk Assessment for REDD+ in Bhutan. Watershed Management Division, Department of Forests and Park Services, Ministry of Agriculture and Forests, Royal Government of Bhutan.

DoFPS 2017.Drivers of Deforestation and Forest Degradation in Bhutan. Watershed Management Division, Department of Forests and Park Services, Ministry of Agriculture and Forests, Royal Government of Bhutan.

DoFPS 2019. Forests in Bhutan: Economic value of Forest Ecosystem Services in Bhutan. Watershed Management Division, Department of Forests and Park Services, Ministry of Agriculture and Forests, Royal Government of Bhutan.

DoFPS 2020. National REDD+ Strategy and Action Plan "for a perpetually carbon neutral, climate change resilient and prosperous society". Watershed Management Division, Department of Forests and Park Services, Ministry of Agriculture and Forests, Royal Government of Bhutan.

DoFPS 2019. National REDD+ Benefit Sharing Framework. Watershed Management Division, Department of Forests and Park Services, Ministry of Agriculture and Forests, Royal Government of Bhutan.

DoFPS 2019. Environmental and Social Management Framework the National REDD+ Strategy and Action Plan of Bhutan. Watershed Management Division, Department of Forests and Park Services, Ministry of Agriculture and Forests, Royal Government of Bhutan.

DoFPS 2020. Feasibility Assessment and Cost Benefit Analysis for National REDD+ Strategy & Action Plan of Bhutan, Watershed Management Division, Department of Forest and Park Services, Ministry of Agriculture and Forests, Royal Government of Bhutan.

DoFPS, 2019. Strategic Environmental and Social Assessment of National REDD+ Strategy and Action Plan of BHUTAN. Watershed Management Division, Department of Forest and Park Services, Ministry of Agriculture and Forests, Royal Government of Bhutan.

2020. Readiness Package: Readiness progress and Multi-Stakeholder Self-Assessment Report for Vanuatu. REDD+ Unit, Department of Forests, Government of Vanuatu.

2021. Multistakeholder Self-Assessment of REDD+ Readiness in Pakistan (R-package). National REDD+ Office, Ministry of Climate Change, Government of Pakistan

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DoFPS 2021. Feedback and Grievance Redress Mechanism for REDD+ Program of Bhutan, Watershed Management Division, Department of Forest and Park Services, Ministry of Agriculture and Forests, Royal Government of Bhutan.

DoFPS 2020. Bhutan's Proposed National Forest Reference Emission Level and National Forest Reference Level, Submission for technical assessment to UNFCCC. Watershed Management Division, Department of Forest and Park Services, Ministry of Agriculture and Forests, Royal Government of Bhutan.

DoFPS 2020. Fund Mobilization Strategy for the National REDD+ Strategy & Action Plan of Bhutan. Watershed Management Division, Department of Forest and Park Services, Ministry of Agriculture and Forests, Royal Government of Bhutan.

Annex 2: List of meetings, workshops and other stakeholder consultation

Sl. No	Name of workshops/trainings/consultation workshops	Name of office/agency	Total participants	Male	Female	Date/Year
1	REDD+ Strategy consultation workshops	WMD	1229	1059	170	September to December 2018
2	Workshop on REDD+ strategy options, policies and measures conducted by Tarayana foundation	WMD	1313	564	749	2018
3	REDD+ SESA Workshop	WMD		49	11	24th-25th January, 2018
4	Identifying the risks and benefits of the REDD+ Strategy options and PAMs	WMD	60			8th-10th May, 2018
5	Presentation of the FREL/FRL to the RNR-GNHC committee	WMD	15	10	5	15th November, 2018
6	Stakeholder Consultation workshop on Forest Plantation Strategy Rivision	SFED, Plantation Section	45	41	4	May-19
7	Training on Open Street Mapping (OSM) for survey and mapping of barren and degraded areas in the country imparted to Divisions/Parks focal staffs	SFED, Plantation Section	35	34	1	Jun-19
8	International Trade Fair at Greater Noida (forestry official and people from WBIs)	FRMD, field Divisions and Wood-based industries	27	27		13th - 16th March, 2019
9	FGRM consultation workshop, Eastern Region Druk Deothjung Resort, Trashigang	WMD	100	84	16	7-10th October, 2019

10	FGRM Consultation workshop, Central Region Kuku Grand, Gelephu	WMD	87	73	14	13-16th November, 2019
11	FGRM Consultation workshop, Western Region Tashi Namgay Grand, Phuentsholing	WMD	108	90	18	22-25th November, 2019
12	FGRM Inception and Methodology discussions	WMD	18	11	7	7th June, 2019
13	REDD+ Strategy & Action plan presentation to the Department of Forests	WMD	38	35	3	29th-1st June, 2019
14	REDD+ Safeguard framework review workshop to review the final documents of SESA, ESMF and SIS	WMD	15	11	4	21st-24th May, 2019
15	REDD+ Safeguard workshop to discuss the ESMF and SIS	WMD	27	22	5	27th - 1st February, 2019
16	REDD+ Strategy review meeting	WMD	24	18	6	14th - 17th November, 2019
17	REDD+ workplan and planning discussion	DoFPS	61	48	13	26th - 27th August, 2019
	in-country training	WMD	76	64	21	2019
18	Finalization of the Non-wood Forests products strategy revision		68	61	7	28th August, 2019
19	Public consultation meeting for development of Local Forest Management plan	Dagana	117	76	41	17th - 19th October, 2019
20	Pedagogy Course ToT - M1 - Skill	UWICER-DOFPS/DTE, MoLHR	18	16	2	14-26 Jan 2019
21	Pedagogy Course ToT - M2 - Knowledge	UWICER-DOFPS/DTE, MoLHR	8	7	1	25 Feb - 9 March 2019
22	Basic of GPS and GIS	UWICER-DOFPS	29	20	9	1-6 April 2019
23	Pedagogy Course ToT - M3 - Visualization	UWICER-DOFPS/DTE, MoLHR	7	6	1	8-20 April 2019
24	Silviculture for Foresters	UWICER-DOFPS	22	19	3	16-21 April 2019

25	Pedagogy Course ToT - M4 - Evaluation	UWICER-DOFPS/DTE, MoLHR	7	6	1	27 May - 8 June 2019
26	Intermediate GIS	UWICER-DOFPS	18	12	6	24-28 June 2019
27	community forest and non wood		249	122	127	2019
28	PRA meeting		152	62	90	2019
29	Awareness waste mgt		994	464	530	2019
30	in house training and demonstration		631	341	290	2019
31	Waste awareness	Wangdue phodrang	540	227	313	2019
32	Waste cleaning campaign	Wangdue phodrang	408	236	172	2019
33	Consultation workshop on the findings of Survey and mapping of Barren/degraded area in the country	SFED, Plantation Section				Oct-20
34	International Trade Fair at Bengaluru, India (forestry staff and people from WBIs)		5	5		27th Feb-2nd March, 2020
35	Waste Cleaning campaign and awareness conducted in Kazhi, Phangyuel and Nyisho Gewogs under Baychu Watershed,	WangduePhodrang	408	236	172	9th December & 12th February, 2020
36	Community forest management planning training for forestry staff		45	40	5	28th-30th April, 2020
37	Basic of GPS and GIS	UWICER-DOFPS	23	22	1	8-14 Feb 2020
38	NWFP group training		35	17	18	2020
39	Ecotourism mgt. training	Wangdue TFD	96	38	58	2020
40	Sensitization/awareness	Punakha and Wangdue	42	30	12	2020
41	Regeneration survey in Themnangbi-Jaibab	Mongar Dzongkhag	50	45	5	2020
42	Development of Zimrong watershed management plan	Mongar	79	50	29	2020
43	Operational plan developed for 3 FMUs		50	48	2	2020

44	Development of scientific local volume table for Rongmachu FMU and Lingmethang FMU		56	50	6	2020
45	Forest management and planning awareness and training	Paro	34	31	3	2020
46	Training condcuted for the farmers on CFMG revision plan, Pakshika, BONGO	Gedu	37	22	15	2020
47	Training conducted for the farmers on CFMG revision plan, Chasilakha, Bongo	Gedu	17	7	10	2020
48	Forest Fire mangement training, Chapcha gewog	Gedu	155	89	66	2020
49	Forest Fire mangement training, Bjabchho gewog	Gedu	139	85	54	2020
50	Local Forest Management plan consultation meeting, Getana	Gedu	40	35	5	2020
51	Forest management and planning awareness and training	Pemagatshel	30	28	2	2020
52	Developed the LFMP and surveyed under Decheling Gewog	Pemagatshel	29	27	2	2020
53	Training on plan writing, data collection, compilation and on resource inventory		12	10	2	2020
54	31 household involved in the consultation meeting		31	25	6	2020
55	Stakeholder meeting (DcFMU staff, Division staff, NRDCL staff, Gewog staff and few communities)	Trashigang	19	18	1	2020
56	Consultation meeting for the development on LFMP Gomdhar gewog		50	40	10	2020
57	Awareness on forest fire, waste management, climate change, ETC	Bumthang	100	30	70	2020
58	Training on forest fire management groups and Dzongkhag level consultation	Bumthang	214	25	189	2020
59	Developed operational plan, preparation and review of Rodungla, Dawathang, Kharshong and Chendibji FMUS	Bumthang	42	38	4	2020
60	Training on Basic GPS and GIS	UWICER	25	23	2	2020

61	Public consultation and awareness meeting with local communities under Chang Gewog	Thimphu	85	35	50	2020
62	Public consultation and awareness meeting with local communities under Mewang Gewog	Thimphu	159	65	94	2020
63	Meeting on operational planning	Thimphu	10	6	4	2020
64	Forest management unit level committee meeting	Thimphu	17	9	8	2020
65	Interim Framework revision workshop in Pemagatshel	SFED	62	53	9	Oct-21
66	Interim Framework revision workshop in Jomotshangkha Wildlife Sanctuary	SFED	49	40	9	Oct & Nov, 2021
67	Training workshop on Nardostachys grandiflora (Pangpoe) data analysis and report writing	SFED	25	22	3	Nov-21
68	Training on conduct of National Forest Inventory 2, Druk Deothjung hotel, Trashigang (Trashigang, Mongar, BWS, SWS)	FRMD	44	41	3	April 5–10, 2021
69	Training on conduct of National Forest Inventory 2, Kaila Guest House, Bumthang (WCNP, Bumthang, Zhemgang)	FRMD	38	33	5	April 12-17, 2021
70	Training on conduct of National Forest Inventory 2, Punakha Residency, Khuruthang, Punakha (Dagana, Thimphu, Wangdi, JSWNP)	FRMD	38	34	4	April 19-24, 2021
71	Training on conduct of National Forest Inventory 2, Drubchhu Resort, Lobesa, Punakha (Gedu, Paro, Tsirang, JKSNR)	FRMD	41	36	5	April 26-May 1, 2021
72	Training on conduct of National Forest Inventory 2, Phrumsengla National Park, Ura (PNP)	FRMD	19	15	4	May 3-8, 2021
73	Training on conduct of National Forest Inventory 2, Jigme Dorji National Park, Damji (JDNP)	FRMD	28	26	2	May 3-8, 2021
74	Training on conduct of National Forest Inventory 2, Nature Conservation Division, Taba (Pemagatshel FD)	FRMD	14	13	1	May 10-15, 2021
75		FRMD	19	18	1	May 24-29, 2021

	Training on conduct of National Forest Inventory 2, Hotel ADD Bhutan Inn (Sarpang and PWS) (RMNP)	FRMD	14	12	2	May 31-June 5, 2021
76	Training on conduct of National Forest Inventory 2, Daphne Hall, UWICER (UWICER, Samtse FD)	FRMD	24	22	2	June 18-24, 2021
77	Training on conduct of National Forest Inventory 2, Druk Zhongar Hotel (Samdrup Jongkhar FD, JWS)	FRMD	27	23	4	July 12-17, 2021
78	virtual training on NFI data management	FRMD	80	65	15	July 1-3, 2021
79	Consultation for the Development of Investment and Implementation proposal NEC	WMD/Consultant	2		2	2021
80	Consultation for the Development of Investment and Implementation proposal DGPC	WMD/Consultant	2		2	2021
81	Consultation for the Development of Investment and Implementation proposal FRMD	WMD/Consultant	6	5	1	2021
82	Consultation for the Development of Investment and Implementation proposal SFED	WMD/Consultant	4	3	1	2021
83	Consultation for the Development of Investment and Implementation proposal FPED	WMD/Consultant	7	4	3	2021
84	Consultation for the Development of Investment and Implementation proposal Thimphu FD	WMD/Consultant	4	2	2	2021
85	Consultation for the Development of Investment and Implementation proposal NCD	WMD/Consultant	6	3	3	2021
86	Consultation for the Development of Investment and Implementation proposal DoA	WMD/Consultant	3	2	1	2021
87	Consultation for the Development of Investment and Implementation proposal Bhutan power corporation	WMD/Consultant				2021

88	Consultation for the Development of Investment and Implementation proposal Department of Renewable energy, MoEA	WMD/Consultant	1	1		2021
89	Consultation for the Development of Investment and Implementation proposal Department of Kydropower and power systems, MoEA	WMD/Consultant	8	4	4	2021
90	Consultation for the Development of Investment and Implementation proposal Department of Geology & Mines, MoEA	WMD/Consultant	3	3		2021
91	Consultation for the Development of Investment and Implementation proposal Department of cottage & small industries	WMD/Consultant	2	1	1	2021
92	Consultation for the Development of Investment and Implementation proposal Department of Roads, MoWHS	WMD/Consultant	3	2	1	2021
93	Consultation for the Development of Investment and Implementation proposal NRDCL	WMD/Consultant	2	2		2021
94	Consultation for the Development of Investment and Implementation proposal RSPN	WMD/Consultant	2	1	1	2021
95	Consultation for the Development of Investment and Implementation proposal Association of Bhutanese tour	WMD/Consultant	1	1		2021
96	Consultation for the Development of Investment and Implementation proposal Nado Poizokhang	WMD/Consultant	1		1	2021
97	Consultation for the Development of Investment and Implementation proposal construction Association of Bhutan (CAB)	WMD/Consultant	2	1	1	2021
98	Consultation for the Development of Investment and Implementation proposal Association of Bhutanese wood based industries (AWBI)	WMD/Consultant	1	1		2021
99	Consultation for the Development of Investment and Implementation proposal Entrepreneurship and self employment division, MoLHR	WMD/Consultant	2	2		2021

100	Consultation for the Development of Investment and Implementation proposal Bio Bhutan	WMD/Consultant	1	1		2021
101	Consultation for the Development of Investment and Implementation proposal Menzong sherig, Institute of Traditional Medicine services (ITMS)	WMD/Consultant	4	4		2021
102	Consultation for the Development of Investment and Implementation proposal TCB	WMD/Consultant	3	1	2	2021
103	Consultation for the Development of Investment and Implementation proposal PNP	WMD/Consultant	1	1		2021
104	Consultation for the Development of Investment and Implementation proposal Mongar Dzongkhag (Divisonal Forest office & Gewog Administration)	WMD/Consultant	12	11	1	2021
105	Consultation for the Development of Investment and Implementation proposal Rural power chain saw operators	WMD/Consultant	6	6		2021
106	Consultation for the Development of Investment and Implementation proposal RAMCO	WMD/Consultant	1	1		2021
107	Consultation for the Development of Investment and Implementation proposal Yakpugang PES-CFMGs, Thromde	WMD/Consultant	6	6		2021
108	Consultation for the Development of Investment and Implementation proposal Dozam community forestry group (NWFP and Amla pickle making), Drametse	WMD/Consultant	8	5	3	2021
109	Consultation for the Development of Investment and Implementation proposal Bumthang divisional forest office and WCNP	WMD/Consultant	5	4	1	2021
110	Consultation for the Development of Investment and Implementation proposal Sawmillers, furniture house, cable operators	WMD/Consultant	4	4		2021

111	Consultation for the Development of Investment and Implementation proposal Tamshing Lhendup community forest management group (CFMG), Chokhor Gewog, Bumthang	WMD/Consultant	4	3	1	2021
112	Consultation for the Development of Investment and Implementation proposal Paro divisional forest office	WMD/Consultant				2021
113	Consultation for the Development of Investment and Implementation proposal CSI bank	WMD/Consultant				2021
114	Consultation for the Development of Investment and Implementation proposal community forest management groups (CFMGs), Luni Gewog, Wochu	WMD/Consultant				2021
115	Consultation for the Development of Investment and Implementation proposal Haa territorial range & FMU staff	WMD/Consultant	12	10	2	2021
116	Consultation for the Development of Investment and Implementation proposal JKSNR	WMD/Consultant	5	5		2021
117	Consultation for the Development of Investment and Implementation proposal Dzongkhag staff dealing with eco-tourism	WMD/Consultant	1	1		2021
118	Consultation for the Development of Investment and Implementation proposal Kyentshen community forestry group, Wangtsa village, Katsho Gewog	WMD/Consultant	6	4	2	2021
119	Consultation for the Development of Investment and Implementation proposal Gedu territorial forest division	WMD/Consultant	4	4		2021
120	Consultation for the Development of Investment and Implementation proposal Bhutan board products limited (BBPL)	WMD/Consultant	1	1		2021
121	Consultation for the Development of Investment and Implementation proposal Darla research centre	WMD/Consultant	4	3	1	2021

122	Consultation for the Development of Investment and Implementation proposal Dagana forest division	WMD/Consultant	5	4	1	2021
123	FMU's Operation Planning	UWICER-DOFPS	22	21	1	1-5 March 2021
124	Forest Nursery and Plantation Management Training	UWICER-DOFPS	33	32	1	15-19 March 2021
125	Training on TEAMwISE	UWICER-DOFPS	21	15	6	13-14 May 2021

Annex 3: Identified positive and negative impacts under each PAMs (SESA)

Positive Impacts		Negative Impacts	
Environmental	**Social**	**Environmental**	**Social**
PAM 1: Strengthening sustainable forest resources management and conservation of biodiversity beyond Protected Area			
• Improved forest protection and conservation Enhancement of wildlife habitat and biodiversity outside of PAs Proper planning, use of technology, and methods can improve the sustainability of the supply of available natural resources Reduce soil erosion and land degradation • Better forest and watershed management through science-based approaches (Forest management plans, watershed	• Better inclusion of local stakeholders and communities in forest management will increase a sense of shared stewardship of the local natural resources. • Better managed forests and watersheds lead to improved livelihoods and increased availability of benefits • Better local understanding of Forest Rules and	• Risks of introduction of exotic species (if management plan not respected) • Possible large destruction in case of fire outbreaks (due to fuel accumulation)	• Increase of human wildlife conflict due to increasingly managed forests. • Accumulation of waste from other activities in the forest such as ecotourism, heritage forests etc. • Risk of elite capture of benefits within community groups. • Potential in 'black market' selling of timber and NWFP (from CF) due to lack of effective enforcement

management plans) can increase the speed at which the water supply recharges, thus improving water supply for multiple needs (for drinking, irrigation/agriculture, power generation through hydroelectricity) Increase carbon sequestration	Regulations, ability to engage with the government in developing management plans, better quality public participation. Protection of cultural and heritage sites. • Improved health and psychological well-being (because of improved environment and livelihoods)		
PAM 2: **Promote diversification and efficiency in the wood value chain**			
•Minimize pressure on preferred species through promotion of less preferred species • Increase timber recovery through use of advanced conversion technologies • Increase timber quality and durability through proper seasoning and treatment • More efficient use of timber may lead to smaller volumes of cut. • Wood waste should decrease, and production using secondary raw materials such as stubble, leaves, needles, resin, and treetops should expand.	• Enhancement of income through product diversification • Employment opportunities will increase (in harvesting and wood processing) • Increased choice of products for consumers • Collaboration and linkages between wood processing, logging sector and forest users will improve. • Enhancement of capacities of actors in the wood value chain	• Increased illegal activities • Improved harvesting technology may open up previously inaccessible forest	• Loss of Indigenous knowledge as modern technologies slowly replace traditional practices • High investment cost, therefore smaller producers may be negatively affected due to lack of initial start-up capital

PAM 3: Strengthen Forest fire management			
• Reduced forest fire risk • Reduced biodiversity loss/ ensured species persistence • Increased carbon stock/ forest cover. • Composition (age, species, growth) of forest will improve • Reduced risk of drying of water sources • Reduced soil erosion and landslide • Ensure healthy regeneration through intervention of controlled burning • Ensure Forest stand dynamics through intervention of controlled burning (research studies can be done)	• Enhanced people's knowledge on impact of forest fire • Reduced property loss and ensured safety • Improved community coordination and participation • Better fire management can lead to improved forest quality, which can in turn enhance livelihoods • Reduced human-wildlife conflict due to adequate food availability in the forests • Reduced risk of SRF land encroachment (if forest is quite good, people will not encroach). If open areas are created, encroachments will increase) • Can reduce risk of out-of-control fires which damage property or lead to loss of life	• Increased leaf litter (ground cover) and affected regeneration • Increased risk of extermination of endemic species and fire sensitive species • Exposed burnt land to overgrazing and colonization by exotic species and also pest and diseases might increase due to disturbances and lack of monitoring	• Limited quality and quantity of palatable species for livestock (due to controlled burns) • Increased cost implications through excessive use of resources (human and financial) • May have negative impact on poorer peoples' livelihoods, (e.g. those who set fires for hunting/ deadwood)
PAM 4: Plantation development and restoration of degraded areas for increased carbon stock, biodiversity conservation and sustainable supply of wood products (timber and firewood)			
• Reduced pressure on natural stock due	• Increased choice of timber	• Increased risk of mono-culture •	• Increased incidences of human wildlife conflict

to increased plantations and private forest • Improved quality and quantity of forest stands through effective application of silvicultural practices and alternative sources (private and plantation in degraded areas) • Promotion of native species, resulting in enhanced ecosystem services. • Enriched wildlife habitat (food, water and cover) and increased wild animal population • Minimized land degradation • Improved water catchment areas	species (high value and fast-growing species) • Increased accessibility for sustainable use of timber and fuel wood • Increased contribution to GDP from forestry sector (through increase in timber products) • Increased income opportunities for local communities. • Optimized use of non-arable land for private forest development • Ensure protection of water sources	Replacement of native species and reduced natural habitat for wildlife • Increased risk of forest pest and diseases outbreak • Displacement of existing land uses to other natural areas.	(because plantation will improve wildlife habitat) • Increased incidences of human wildlife conflict (other hand, increased habitat or wild animals through plantation may reduce HWC) • Reduced food self-sufficiency with probable conversion of agriculture land into private forest (reduce biodiversity) • Increased illegal logging • Competition for use of land. • Crowding out of existing local forest users. • Increased the risk of cost implication (human and financial)
PAM 5: Harmonizing land use planning (cross sectoral integrated land use planning)			
• Proper land categorization will help to delineate land uses in an area • Efficient and effective utilization of resources (science based/rational land management) • Minimize destruction to forests and environment • Improve quality and quantity of water resources (see PAM 1 for detail) • Enhancement of biodiversity conservation and	• Reduce land disputes through proper planning • Guide to future infrastructure development • Reduce human wildlife conflicts (HWC). All scattered settlements will be relocated to reduce HWC) • Lowering of cost for infrastructure development • More potential for fairer sharing of benefits. •	• Increased size of settlements may result in pollution of water and air • Could lead to fragmented wildlife habitat (due to increased infrastructure, change of allocated land use	• Reduced ability of local communities to influence forest planning.

forest ecosystem services.	Enhanced institutional capacity of relevant institutions at Dzongkhag and Geog levels for improved forest governance. • Improved law enforcement • Reduction in contradictory laws		
PAM 6: Support & Strengthen environmental impact assessment and compliance monitoring system and coordination			
• Stronger understanding of current environmental status which helps in future conservation plan • Improved ability to target key environmental impacts. • Minimize harm and pollution of air, water and land • Improve biodiversity conservation • Prevent or control illegal activities • Improvement in monitoring of environmental performance. • Improvement in environmental management of projects.	• Facilitate stakeholder coordination linkages, and participation • Inform community and obtain prior consent • Convince stakeholders on the project perspective though EIA report • Avoid unnecessary cost escalation • Ensure health and safety • Improve service delivery		• Difficulties in stakeholder engagement and participation • Project proposals declined despite huge investment (loss for investors) • Escalating cost estimation due to inclusion of environmental safeguards • Delay in the process of project approvals.
PAM 7: Sustainable management of NWFPs (domestication and cultivation) and promote enterprise development			
• Improved conservation of species and genetic	• Livelihoods can be improved:	• Possibility of Introduction of exotic species •	• Conflict of interest – between gender, between age group • Divert interest

diversity maintained • Increased productivity and utilization of fallow land • Reduced pressure on natural stock • Utilization of non-forested SRF land • Conservation of soil and water • Wildlife habitat and food resources maintained • Lower pressure on timber products • Better guidelines for extraction of NWFPs could prioritize environmental management	through sale of NWFP and employment opportunities for local population • More time for other income activities • Community empowerment: decision making, entrepreneurship and marketing of NWFP. Encourages small scale rural enterprise • Community participation in conservation and management • Enhance community cohesion through group formation and consequent minimizing of conflicts • Gender participation can be promoted as it involves activities for all ages and sex • Traditional knowledge preserved through use of NWFP in local medicines and other uses • Reduced rural-urban migration by way of active engagement in farms • Fairer distribution of benefits from	Increased resource exploitation due to improved capacity, which can lead to overexploitation or increased negative impacts on resources. • Hybridization of species (GMO) • Over harvesting from wild as they fetch a higher price • Can encourage monoculture of high-priced species • Chances of pest and disease outbreaks with domestication • Replacement of agriculture crops/native species • Pollution/waste due to increasing commercial activities • Land encroachment • Human-wildlife conflict • Habitat fragmentation through temporary barrier – electric fencing	from mainstream agriculture (shift to more lucrative activities) • Lack of space for livestock farming • Dependency on easy access to development facilities (e.g. Highlanders increased dependency on Cordyceps for better income) • Dependency on market competition and price fluctuation • Mass production and poor quality of products • Expansion of NWFP harvesting may benefit large operators (who will capture most resources) and harm small collectors

	forests.		

PAM 8: Encourage & promote income generation from ecosystem services in key sectors

• Improved water supply/quality (PAM 1) and soil stability • Increased wildlife population • Less harvesting of trees for timber (because of payments for maintaining trees standing), Increase in forest cover • More diligent protection of forests • Documentation of biodiversity and publication	• Investment in local areas will increase, encouraging growth in livelihoods, services, infrastructure, employment • Community participation and engagement • Diversification of community income sources. PES and Ecotourism, Capacity development of local people (chefs, guides) • Reduce rural-urban migration • Access to markets for local products • Change of mindset towards conservation	• Solid waste pollution • Disturbance to wildlife • Environmental pollution along trails and tracks due to tourists • Risk of illegal trading of exotic species due to increased public exposure to exotic species • Illegal collection of specimen rocks, plants could be collected, patent the species	• Increase human-wildlife conflict • Surplus products (eg. Too many Homestays leading to failure) and underutilization • Elite capture of business leading to intra-community conflicts • Restricted access to resources (might protect for tourists and drive local people from these resources) • Inequality in access to resources and benefit sharing among communities • Risk of community displacement/resettlement or land grabbing (through corruption) • Increased competition for land (for agriculture, for hotels etc.)

PAM 9: Climate smart livestock farming practices

• Reduce grazing pressure on SRF • Help increase natural regeneration by reducing free grazing • Reduce firewood consumption through implementation of biogas • Minimise greenhouse gas emission by reducing livestock population	• Reduce man power requirement through use of technologies and machinery • Uplift living standard by generating income • Improve health and hygiene of	• Less seed dispersal due to lack of free ranching livestock • Encourage single stand vegetation growth • Promote Invasive species (through pasture development/feeds & fodder). Import of feeds/fodders	• Loss of traditional system of farming • Loss of native livestock species • Exclusion of illiterate farmers (leading to lack technological expertise) • Less raw materials for biogas • less production of farm yard manure • Land fragmentation/displacement of small-scale farms. • Shortages of farmyard

• Higher land productivity and soil enrichment.	the communities • Reduce Rural urban migration through community engagement and creating employment opportunities	(for livestock) may lead to introduction of exotic grass species (e.g.: congress grass) • It will promote use of chemical fertilizer as there will be limited farmyard manure	manure at household leve
PAM 10: Climate smart agriculture practices			
• Smart use of limited land and resource which will have positive impact on environment • Reduce use of chemical fertilizers • Encourage sustainable management of water resources including rain-water harvesting • Reduction of continued expansion of agriculture into forest lands. • Contribution to the integrity of high conservation value forests and reduction in degradation. • Improvement in biodiversity as specific areas change ecological habitats. • Reduction in erosion, runoff and siltation and improvement in water quality in sub watersheds.	• Improvement in income generation opportunities (Can earn high income from organic farm products) • Employment opportunities • Varieties of products (Crop Rotation) • Farmers gain technical knowledge through capacity development • Mitigate human-wildlife conflict • Avoid water user conflict	• May cause degradation due to infrastructure development such as damage to irrigation channels, soil erosion, wildlife etc. • Restriction to wildlife movement due to electric fencing and other structures • Micro habitat destruction due to construction of basic amenities	• Labour intensive and low production. (organic/conventional vs mechanized farming: low volume high price and vice versa) • High inputs (cost) on organic way of farming • Lack of capacity to take up smart agriculture farming • Conventional farmers will not be able to adopt/compete smart farming system

Annex 4: List of participants for the self-assessment workshops

List of Participants for R-Package Workshop at Bumthang

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1	Karma Wangchuk	DAO	9808059	Trongsa	kwangchuk@trongsa.gov.bt
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Annex 3.2 List of Participants for R-Package Workshop at Bumthang

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Annex 5: Multi-Stakeholder Self-Assessment Questionnaire

Assessment Questionnaire

The purpose of this questionnaire is to assess the progress made by Bhutan during its REDD+ readiness phase. It was designed based on the FCPF REDD+ Readiness Assessment Framework Application Guidelines (based on the 34 criteria). We thank you in advance for taking out time to answer this questionnaire as frankly and openly as possible.

NB: Select or shade the correct section as appropriate

NB: Select or shade the correct section as appropriate

1. Not yet demonstrating progress	2. Further development required	3. Progressing well, further development required	4. Significant progress

Component 1: Readiness organization and consultation

Sub-component 1a: REDD national management mechanisms
C1   *Accountability and transparency*
• Is there evidence of progress in accountability and transparency in the functioning of national REDD+ management mechanism at the national level? (for example: is there evidence that national REDD+ institutions and management bodies are functioning in a manner that is accountable and transparent?

1. Not yet demonstrating progress	2. Further development required	3. Progressing well, further development required	4. Significant progress

Justifications/Comments (please specify)

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C2	***Operating mandate and budget***

- Is there evidence of progress in defining the tasks of management bodies and budget planning for the implementation of activities? (For example, is there evidence that national REDD+ institutions operate under clear, mutually reinforcing mandates with adequate, predictable and sustainable budgets?

1. Not yet demonstrating progress	2. Further development required	3. Progressing well, further development required	4. Significant progress

Justifications/Comments (please specify)

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C3	***Multi-sector coordination mechanisms and cross-sector collaboration***

- Are there elements that show progress in the multi-sector coordination process and collaboration with sectors in programming and implementing activities (for example, are there elements that demonstrate how national REDD+ institutions and management bodies verify that activities are aligned according to the sectoral policies that influence them (agriculture, environment, infrastructure development and land use planning)?

1. Not yet demonstrating progress	2. Further development required	3. Progressing well, further development required	4. Significant progress

Justifications/Comments (please specify)

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C4	***Technical supervision capacity***

- Is there progress in technical supervision capacity (e.g., do national REDD+ institutions and management bodies effectively and efficiently conduct and supervise the technical planning, including routine supervision of technical preparations through multi-sector involvement?).

1. Not yet demonstrating progress	2. Further development required	3. Progressing well, further development required	4. Significant progress

Justifications/Comments (please specify)

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C5	***Funds capacity management***

- Is there progress in the management of funds? (for example, are there elements that demonstrate effectiveness, efficiency and transparency in the way national

institutions and management bodies ensure budgetary management, monitoring and coordination of activities financed by development partners?

1. Not yet demonstrating progress	2. Further development required	3. Progressing well, further development required	4. Significant progress

Justifications/Comments (please specify)

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C6	*Feedback and grievance redress mechanism*

- Is there progress in the grievance and conflict management process (for example, is there evidence of a transparent and impartial grievance and conflict management mechanism or body that operates at the national, subnational and local levels with a clearly defined mandate, expertise and adequate means?

1. Not yet demonstrating progress	2. Further development required	3. Progressing well, further development required	4. Significant progress

Justifications/Comments (please specify)

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- Is there progress in the grievance and conflict management process (e.g. is there evidence that potentially affected communities are aware of, have access to and respond to feedback (grievance) and redress (complaint management)?

1. Not yet demonstrating progress	2. Further development required	3. Progressing well, further development required	4. Significant progress

Justifications/Comments (please specify)

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Sub-component 1b. Consultation, participation, and outreach

C7	*Participation and engagement of key stakeholders*

- Is there progress in the involvement, participation and engagement of key stakeholders? (For example, are there elements that demonstrate how the full, ongoing and effective participation of key stakeholders is done primarily through institutional mechanisms (such as additional operations to mobilize marginalized groups such as women, youth, indigenous peoples and forest-dependent local communities)?

1. Not yet demonstrating progress	2. Further development required	3. Progressing well, further development required	4. Significant progress

Justifications/Comments (please specify)

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- Is there progress in the involvement, participation and engagement of key stakeholders? (for example, are there participatory elements or mechanisms that are

used so that indigenous peoples and forest-dependent local communities can meaningfully participate in the REDD+ readiness and implementation phases?

1. Not yet demonstrating progress	2. Further development required	3. Progressing well, further development required	4. Significant progress

Justifications/Comments (please specify)

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C8	***Consultation process***

- Is there progress in the consultation process? (for example, is there evidence that consultations at national and local level are clearly carried out, representative, transparent, and provide access to information in a timely and culturally appropriate manner?

1. Not yet demonstrating progress	2. Further development required	3. Progressing well, further development required	4. Significant progress

Justifications/Comments (please specify)

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- Is there progress in the consultation process? (for example, is there evidence that the country applied a self-selection process to identify beneficiaries and stakeholders during consultations?

1. Not yet demonstrating progress	2. Further development required	3. Progressing well, further development required	4. Significant progress

Justifications/Comments (please specify)

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- Is there progress in the consultation process? (for example: is there evidence that indigenous peoples' institutions and decision-making processes are used in consultations to enrich consultations and enhance participation?

1. Not yet demonstrating progress	2. Further development required	3. Progressing well, further development required	4. Significant progress

Justifications/Comments (please specify)

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- Is there progress in the consultation process? (for example: is there evidence that consultations take gender equality into account?).

1. Not yet demonstrating progress	2. Further development required	3. Progressing well, further development required	4. Significant progress

Justifications/Comments (please specify)

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C9	*Information sharing and accessibility to information*

- Is there progress in the information sharing process and accessibility to information? (For example: is there evidence that national REDD+ institutions and management bodies have provided timely, transparent, ongoing and comprehensive sharing and disclosure of information (associated with all preparatory activities, including the development of the REDD+ strategy, reference levels and monitoring systems) in a manner appropriate to the national context?

1. Not yet demonstrating progress	2. Further development required	3. Progressing well, further development required	4. Significant progress

Justifications/Comments (please specify)

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- Is there progress in the information sharing process and accessibility to information? (For example, is there evidence that the information is accessible to all stakeholders (that it is shared in a form and language that they understand) and they actually receive it?

1. Not yet demonstrating progress	2. Further development required	3. Progressing well, further development required	4. Significant progress

Justifications/Comments (please specify)

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- Is there progress in the information sharing process and accessibility to information? (For example: Are there communication means used to properly inform stakeholders, especially those with little or no access to relevant information?

1. Not yet demonstrating progress	2. Further development required	3. Progressing well, further development required	4. Significant progress

Justifications/Comments (please specify)

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C10	*Implementation and public disclosure of consultation outcomes*

- Is there progress in the process of using and reporting the results of consultations? (For example: are there elements that demonstrate how the results of consultations are integrated (shared, and taken into account) in, the national REDD+ strategy document as well as in the technical activities associated with the construction of reference levels and monitoring systems (MRV)?

1. Not yet demonstrating progress	2. Further development required	3. Progressing well, further development required	4. Significant progress

Justifications/Comments (please specify)

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Component 2: REDD+ Strategy Preparation

Sub-component 2a. Land use evaluation, forest policy and governance	
C11	*Assessment and Analysis*

- Is there progress in the land use assessment and analysis process? (for example: does the synthesis of the work carried out during the formulation and readiness phases of the R-PP document present an analysis of recent land use changes and an assessment of problems associated with land tenure and title registration, natural resource rights, livelihoods (including traditional/customary), laws, policies and forest governance?

1. Not yet demonstrating progress	2. Further development required	3. Progressing well, further development required	4. Significant progress

Justifications/Comments (please specify)

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C12	*Prioritization of direct and indirect drivers/barriers to forest carbon stock enhancement.*

- Is there progress in prioritizing the direct and indirect drivers of deforestation and forest degradation, for example: are there elements that demonstrate how the analysis has been used to prioritize the main direct and indirect factors related to forest management that will be addressed by the programmes and policies proposed in the REDD+ strategy?

1. Not yet demonstrating progress	2. Further development required	3. Progressing well, further development required	4. Significant progress

Justifications/Comments (please specify)

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- Is there progress in the land use assessment and analysis process? (for example: has the analysis examined the main obstacles to forest carbon stock enhancement operations that will be addressed by REDD+ integrated programmes and policies?

1. Not yet demonstrating progress	2. Further development required	3. Progressing well, further development required	4. Significant progress

Justifications/Comments (please specify)

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C13	*Links between drivers/barriers and REDD+ activities*

- Is there progress in the land use assessment and analysis process? (for example: is there evidence that systematic links between drivers and barriers to carbon stock enhancement operations have been established and that REDD+ activities have been identified.

1. Not yet demonstrating progress	2. Further development required	3. Progressing well, further development required	4. Significant progress

Justifications/Comments (please specify)

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C14	*Action plans to address natural resource rights, land tenure and governance.*

- Is there progress in the process of addressing natural resource rights, land tenure and governance? (For example: have action plans been established to make short, medium and long-term progress in addressing land use, tenure and title, natural resource rights, livelihoods and governance issues in priority areas associated with specific REDD+ programs? Are there elements indicating the proposed further steps and resources needed?

1. Not yet demonstrating progress	2. Further development required	3. Progressing well, further development required	4. Significant progress

Justifications/Comments (please specify)

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C15	*Implications or impacts for forest laws and policies*

- Is there progress in the process of proposing forest law and policy reform or implementation? (for example: does the assessment process highlight impacts on long-term forest laws and policies?

1. Not yet demonstrating progress	2. Further development required	3. Progressing well, further development required	4. Significant progress

Justifications/Comments (please specify)

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Sub-component 2b. REDD+ strategy options

C16	*Selection and prioritization of REDD+ strategic options*

- Is there progress in proposing strategic options and in selecting and prioritizing them? (for example: has the process of proposing REDD+ strategic options including selection and prioritization been done in a transparent and participatory process?

1. Not yet demonstrating progress	2. Further development required	3. Progressing well, further development required	4. Significant progress

Justifications/Comments (please specify)

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- Is there progress in proposing strategic options and in selecting and prioritizing them? (for example: Has the emission reduction potential of these strategic options been estimated to the extent possible and what is the evidence that these policy choices informed the development of the REDD+ strategy?

1. Not yet demonstrating progress	2. Further development required	3. Progressing well, further development required	4. Significant progress

Justifications/Comments (please specify)
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C17	*Feasibility assessment*

- Is there progress in proposing strategic options as well as in assessing the feasibility of these options? (for example: is there evidence that REDD+ strategic options have been assessed and prioritized in terms of their social, environmental and political feasibility, as well as the risks and opportunities they present, and all this associated with a cost-benefit analysis?

1. Not yet demonstrating progress	2. Further development required	3. Progressing well, further development required	4. Significant progress

Justifications/Comments (please specify)

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C18	*Impact or implication of strategic options on existing sectoral policies*

- Is there progress in proposing strategic options and in analyzing the impact of these options on existing sectoral policies? (For example: have major discrepancies between REDD+ priority strategic options and policies or programmes in other sectors associated with the forest sector (for example: transport and agriculture) been identified?

1. Not yet demonstrating progress	2. Further development required	3. Progressing well, further development required	4. Significant progress

Justifications/Comments (please specify)

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- Is there progress in the search for procedures to address major discrepancies between priority REDD+ strategic options and sectoral policies in other sectors associated with the forest sector? (for example: has a timetable and procedure been established to address and integrate REDD strategic options with applicable development policies?

1. Not yet demonstrating progress	2. Further development required	3. Progressing well, further development required	4. Significant progress

Justifications/Comments (please specify)

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- Is there progress in proposing strategic options and in analyzing the impact of these options on existing sectoral policies? (For example: do these strategic options support broader development objectives and mobilize community buy-in?

1. Not yet demonstrating progress	2. Further development required	3. Progressing well, further development required	4. Significant progress

Justifications/Comments (please specify)
_____

Subcomponent 2c: Implementation framework:

C19	*Adoption and implementation of laws/legislation and regulations*

- Is there progress in the adoption and implementation of laws and regulations? (for example: have laws and/or regulations associated with REDD+ programmes and activities been adopted?)

1. Not yet demonstrating progress	2. Further development required	3. Progressing well, further development required	4. Significant progress

Justifications/Comments (please specify)

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- Is there progress in the adoption and implementation of laws and regulations? (for example: is there evidence that relevant REDD+ laws and policies are being implemented?).

1. Not yet demonstrating progress	2. Further development required	3. Progressing well, further development required	4. Significant progress

Justifications/Comments (please specify)

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C20	*Guidelines for implementation*

- Is there progress in the process of developing an implementation framework? (for example: is there evidence that the implementation framework defines carbon rights, benefit-sharing mechanisms, REDD+ financing modalities, formal accreditation procedures (for pilot or REDD+ projects) and grievance and conflict management mechanisms?

1. Not yet demonstrating progress	2. Further development required	3. Progressing well, further development required	4. Significant progress

Justifications/Comments (please specify)

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C21	*Benefit-sharing mechanisms*

- Is there progress in developing a benefit-sharing mechanism for REDD+? (for example: is there evidence that benefit-sharing mechanisms for REDD+ are transparent?)

1. Not yet demonstrating progress	2. Further development required	3. Progressing well, further development required	4. Significant progress

Justifications/Comments (please specify)

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C22	*National REDD+ registry and monitoring system for REDD+ activities*

- Is there progress in the construction of a national REDD+ registry as well as in the monitoring system for REDD+ activities? (for example: is there a national geo-referenced information system or an operational registry of all relevant information (e.g. location, ownership structure, carbon accounting and financial flows for national and subnational REDD+ programmes and projects)?
- Is there evidence of public access to REDD+ information?

1. Not yet demonstrating progress	2. Further development required	3. Progressing well, further development required	4. Significant progress

Justifications/Comments (please specify)

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Subcomponent 2d: Social and environmental impacts

C23	*Analysis of social and environmental safeguards issues*

- Is there progress in the analysis of social and environmental safeguards issues? (for example: is there evidence that social and environmental safeguards issues applicable to the national context have been fully identified/analysed through appropriate studies or diagnostics and consultation processes?

1. Not yet demonstrating progress	2. Further development required	3. Progressing well, further development required	4. Significant progress

Justifications/Comments (please specify)

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C24	*REDD+ Strategy Design with Respect to Impacts*

- Is there progress in building the REDD+ strategy based on impacts? (for example: are there elements that indicate how the results of the SESA and the identified social and environmental impacts (positive and negative) have been used to prioritize and define REDD+ strategic options?

Justifications/Comments (please specify)

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C25	*Environmental and social management framework*

- Is there progress in developing environmental and social management frameworks? (for example: is there evidence that the ESMF is in place and managing environmental and social risks/potential impacts related to or associated with REDD+ activities?

1. Not yet demonstrating progress	2. Further development required	3. Progressing well, further development required	4. Significant progress

Justifications/Comments (please specify)	
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Component 3: Reference Emissions Level/Reference Levels

C26	*Demonstration of Methodology*

- Is there evidence of progress in describing the methodology for developing the forest reference level (FRL)? (For example, is the sub-national or national preliminary FRL presented (in the preparatory document) using a clearly documented methodology and a step-by-step approach as appropriate?

1. Not yet demonstrating progress	2. Further development required	3. Progressing well, further development required	4. Significant progress

Justifications/Comments (please specify)

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- Is there evidence of progress in describing the methodology for developing the forest reference level (for example, is there information on planning additional measures for additional data collection? And have relationships between the sub-national reference level and the national reference level been demonstrated?)

1. Not yet demonstrating progress	2. Further development required	3. Progressing well, further development required	4. Significant pr

Justifications/Comments (please specify)

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C27	*Use of historical data and adjusted for national circumstances or context*

- Is there evidence of progress in the use of historical data and adaptation to the national context? (for example, to what extent does the establishment of the FRL take into account historical data, and, if it is adapted to the national situation, what are the reasons and data that demonstrate that the projected adjustments are credible and justifiable?

1. Not yet demonstrating progress	2. Further development required	3. Progressing well, further development required	4. Significant progress

Justifications/Comments (please specify)

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- Is there evidence of progress in the use of historical data and adaptation to the national context? (for example: are the data and documents provided in a transparent manner and sufficient to allow reconstruction or independent verification of the FRL?

1. Not yet demonstrating progress	2. Further development required	3. Progressing well, further development required	4. Significant progress

Justifications/Comments (please specify)

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C28	*Technical feasibility of the methodological approach, and consistency with UNFCCC/IPCC guidance or recommendations and guidelines*

- Is there evidence of progress in the technical feasibility of the methodological approach that is consistent with UNFCCC guidelines and IPCC recommendations and guidelines? (for example: is the FRL based on transparent, complete and accurate information, consistent with UNFCCC guidance and the latest IPCC guidance and guidelines, for the technical assessment of the data sets, approaches, methods, models and assumptions used to define the FRl?.

1. Not yet demonstrating progress	2. Further development required	3. Progressing well, further development required	4. Significant progress

Justifications/Comments (please specify)

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Component 4: Forest monitoring system and safeguard measures

Sub-component 4a: National Forest Monitoring System	
C29	*Documentation of monitoring approach or methodology*

- Is there evidence of progress in explaining the monitoring methodology (for example: explicit reasons or analytical evidence to support the choice of methodology used or proposed (combining remote sensing and ground-based measurements for forest carbon inventory, system resolution, coverage and accuracy, integration of carbon and gas reservoirs) and improvements over time?

1. Not yet demonstrating progress	2. Further development required	3. Progressing well, further development required	4. Significant progress

Justifications/Comments (please specify)

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- Is there evidence of progress in explaining the monitoring methodology (for example: has the system was technically reviewed and approved at the national level? Is it compatible with existing national and international guidelines and under development?

1. Not yet demonstrating progress	2. Further development required	3. Progressing well, further development required	4. Significant progress

Justifications/Comments (please specify)

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- Is there evidence of progress in explaining the monitoring methodology (for example: are potential sources of uncertainty identified to the extent possible?

1. Not yet demonstrating progress	2. Further development required	3. Progressing well, further development required	4. Significant progress

Justifications/Comments (please specify)
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C30	*Demonstration of early system implementation*

- Is there evidence of progress in the early stages of implementation (demonstration)? (for example: is there evidence that the system has the capacity to monitor REDD+ activities to which the national REDD+ strategy gives priority?

1. Not yet demonstrating progress	2. Further development required	3. Progressing well, further development required	4. Significant progress

Justifications/Comments (please specify)

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- Is there evidence of progress in the early application phases (e.g. demonstration) (for example: are there elements demonstrating how the system identifies and evaluates emission displacement (leakage) and, if so, what are the first results?).

1. Not yet demonstrating progress	2. Further development required	3. Progressing well, further development required	4. Significant progress

Justifications/Comments (please specify)

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- Is there evidence of progress in the early implementation (demonstration) phases (for example: is there evidence of how key stakeholders are involved in the development and early implementation phases of the monitoring system (including data collection and possible verification of results), is there evidence of how these stakeholders are consulted in this regard?

1. Not yet demonstrating progress	2. Further development required	3. Progressing well, further development required	4. Significant progress

Justifications/Comments (please specify)

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- Is there evidence of progress in the early implementation phases (demonstration) (for example: is there evidence that the system can compare changes in forest cover and carbon content (and associated GHG emissions) with baseline estimates used to establish the FRL?).

1. Not yet demonstrating progress	2. Further development required	3. Progressing well, further development required	4. Significant progress

Justifications/Comments (please specify)

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C31	*Institutional arrangements and capacities*

- Is there evidence of progress in institutional arrangements and capacities for monitoring? (for example: is there evidence that mandates for forest monitoring tasks are clearly defined (satellite data processing, forest inventory, information sharing)?

1. Not yet demonstrating progress	2. Further development required	3. Progressing well, further development required	4. Significant progress

Justifications/Comments (please specify)

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- Is there evidence of progress in institutional arrangements and capacities for monitoring? (for example: is there evidence that transparent mechanisms for public distribution of forest and GHG emissions data have been presented and are at least in their early stages of implementation?

1. Not yet demonstrating progress	2. Further development required	3. Progressing well, further development required	4. Significant progress

Justifications/Comments (please specify)

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- Is there evidence of progress in institutional arrangements and capacities for monitoring? (for example: is there evidence that related resource requirements have been identified and estimated (e.g. capacity, training, hardware, software and budget required)?

1. Not yet demonstrating progress	2. Further development required	3. Progressing well, further development required	4. Significant progress

Justifications/Comments (please specify)

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Sub-component 4b: Information System for Multiple Benefits, Other Impacts, Governance, and Safeguards

C32	*Identification of non-carbon aspects and relevant social and environmental issues*

- Is there evidence of progress in identifying non-carbon aspects and progress in identifying relevant social and environmental issues? (for example: are there elements that demonstrate how non-carbon aspects and relevant social and environmental issues of REDD+ readiness have been identified? Are there any recommendations for capacity building?

1. Not yet demonstrating progress	2. Further development required	3. Progressing well, further development required	4. Significant progress

Justifications/Comments (please specify)

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C33	**_Monitoring, reporting and information sharing_**

- Is there evidence of progress in monitoring, reporting and sharing of information? (For example: is there evidence that a transparent mechanism for regular sharing of information relating to non-carbon aspects and safeguards has been developed and is at least in its early stages of implementation?

1. Not yet demonstrating progress	2. Further development required	3. Progressing well, further development required	4. Significant progress

Justifications/Comments (please specify)

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- Is there evidence of progress in monitoring, reporting and sharing of information? (for example: is there evidence of how the following information is shared: quantitative or qualitative variables of primary importance reflecting improved living conditions of communities, biodiversity conservation, valuation of ecosystem services, key governance factors of direct relevance to REDD+ readiness, and application of safeguards with due regard to monitoring requirements contained in the ESMF.

1. Not yet demonstrating progress	2. Further development required	3. Progressing well, further development required	4. Significant progress

Justifications/Comments (please specify)

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C34	**_Institutional arrangements and capacities_**

- Is there evidence of progress in monitoring, reporting and information sharing mainly in terms of institutional arrangements and capacities? (for example: is there evidence that mandates for non-carbon-related tasks and safeguards are clearly defined?

1. Not yet demonstrating progress	2. Further development required	3. Progressing well, further development required	4. Significant progress

Justifications/Comments (please specify)

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- Is there evidence of progress in monitoring, reporting and information sharing mainly in terms of institutional arrangements and capacities? (for example: is there evidence that related resource requirements have been identified and estimated in terms of capacity, training, hardware/software, and budget)?

1. Not yet demonstrating progress	2. Further development required	3. Progressing well, further development required	4. Significant progress

Justifications/Comments (please specify)

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Thank You for Filling This Questionnaire!

Sub-component	Criteria	Significant progress	Progressing well, further development required	Further development required	Not yet demonstrating progress
COMPONENT 1: READINESS ORGANIZATION & CONSULTATION					
Sub-component 1a: REDD national management mechanisms.	Criteria 1: Accountability and transparency	43	29	2	0
	Criteria 2: Operating mandate and budget	41	27	6	0
	Criteria 3: Multi-sector coordination mechanisms and cross-sector collaboration	40	26	6	2
	Criteria 4: Technical supervision capacity	35	30	9	0
	Criteria 5: Funds capacity management	44	28	2	0
	Criteria 6: Feedback and grievance redress mechanism	35	31	4	4
	Subcomponent Average	**39.67**	**28.50**	**4.83**	**1.00**
Sub-component 1b. Consultation, participation, and outreach	Criteria 7: Participation and engagement of key stakeholders	39	33	1	2
	Criteria 8: Consultation process	43	26	5	1
	Criteria 9: Information sharing and accessibility to information	37	33	5	0
	Criteria 10: Implementation and public disclosure of consultation outcomes	28	41	6	0
	Subcomponent Average	**36.75**	**33.25**	**4.25**	**0.75**
	Component Average	**38.21**	**30.88**	**4.54**	**0.88**

Sub-component	Criteria	Significant progress	Progressing well, further development required	Further development required	Not yet demonstrating progress
COMPONENT 2: REDD+ STRATEGY PREPARATION					
Sub-component 2a. Land use evaluation, forest policy and governance	Criteria 11: Assessment and Analysis	35	35	4	0
	Criteria 12: Prioritization of direct and indirect drivers/barriers	43	27	4	0
	Criteria 13: Links between drivers/barriers and REDD+ activities	39	33	2	0
	Criteria 14: Action plans to address natural resource rights, land tenure and governance.	31	37	6	0
	Criteria 15: Implications or impacts for forest laws and policies	34	34	6	0
	Subcomponent Average	**36.4**	**33.2**	**4.4**	**0**
Sub-component 2b. REDD+ strategy options.	Criteria 16: Selection and prioritization of REDD+ strategic options	48	22	4	0
	Criteria 17: Feasibility assessment	37	33	4	0
	Criteria 18: Impact or implication of strategic options on existing sectoral policies	29	37	8	0
	Subcomponent Average	**38.00**	**30.67**	**5.33**	**0.00**
Subcomponent 2c: Implementation framework	Criteria 19: Adoption and implementation of laws/legislation and regulations	45	29	1	0
	Criteria 20: Guidelines for implementation	43	30	2	0
	Criteria 21: Benefit-sharing mechanisms	29	42	4	0

Sub-component	Criteria	Significant progress	Progressing well, further development required	Further development required	Not yet demonstrating progress
	Criteria 22. National REDD+ registry and monitoring system for REDD+ activities	35	35	5	0
	Subcomponent Average	**38**	**34**	**3**	**0**
Subcomponent 2d: Social and environmental impacts.	Criteria 23: Analysis of social and environmental safeguards issues	38	33	4	0
	Criteria 24: REDD+ Strategy Design with Respect to Impacts	31	43	1	0
	Criteria 25: Environmental and social management framework	38	36	1	0
	Subcomponent Average	**35.67**	**37.33**	**2.00**	**0.00**
	Component Average	**37.02**	**33.80**	**3.68**	**0.00**
COMPONENT 3: REFERENCE EMISSIONS LEVEL/REFERENCE LEVELS					
Component 3: Reference Emissions Level/Reference Levels	Criteria 26a: National Forest Reference Level and Forest Reference Level developed (Demonstration of Methodology)	56	16	1	0
	Criteria 26b: Need for future improvements identified (Demonstration of Methodology)	34	36	3	0
	Criteria 27: Use of historical data and adjusted for national circumstances or context	47	25	1	0
	Criteria 28: Technical feasibility of the methodological approach, and	50	23	0	0

Sub-component	Criteria	Significant progress	Progressing well, further development required	Further development required	Not yet demonstrating progress
	consistency with UNFCCC/IPCC guidance or recommendations and guidelines				
	Component Average	**46.75**	**25**	**1.25**	**0**
COMPONENT 4: MONITORING SYSTEM FOR FORESTS & SAFEGUARDS					
Sub-component 4a: National Forest Monitoring System.	Criteria 29: Documentation of monitoring approach or methodology	49	24	0	0
	Criteria 30: Demonstration of early system implementation	37	35	1	0
	Criteria 31: Institutional arrangements and capacities	37	33	3	0
	Subcomponent Average	**41.00**	**30.67**	**1.33**	**0.00**
Sub-component 4b: Information System for Multiple Benefits, Other Impacts, Governance, and Safeguards	Criteria 32: Identification of non-carbon aspects and relevant social and environmental issues	43	29	1	0
	Criteria 33: Monitoring, reporting and information sharing	42	31	0	0
	Criteria 34: Institutional arrangements and capacities	34	35	4	0
	Subcomponent Average	**39.67**	**31.67**	**1.67**	**0.00**
	Component Average	**40.33**	**31.17**	**1.50**	**0.00**

Annex 7: Pictures from the Self-Assessment Workshops.
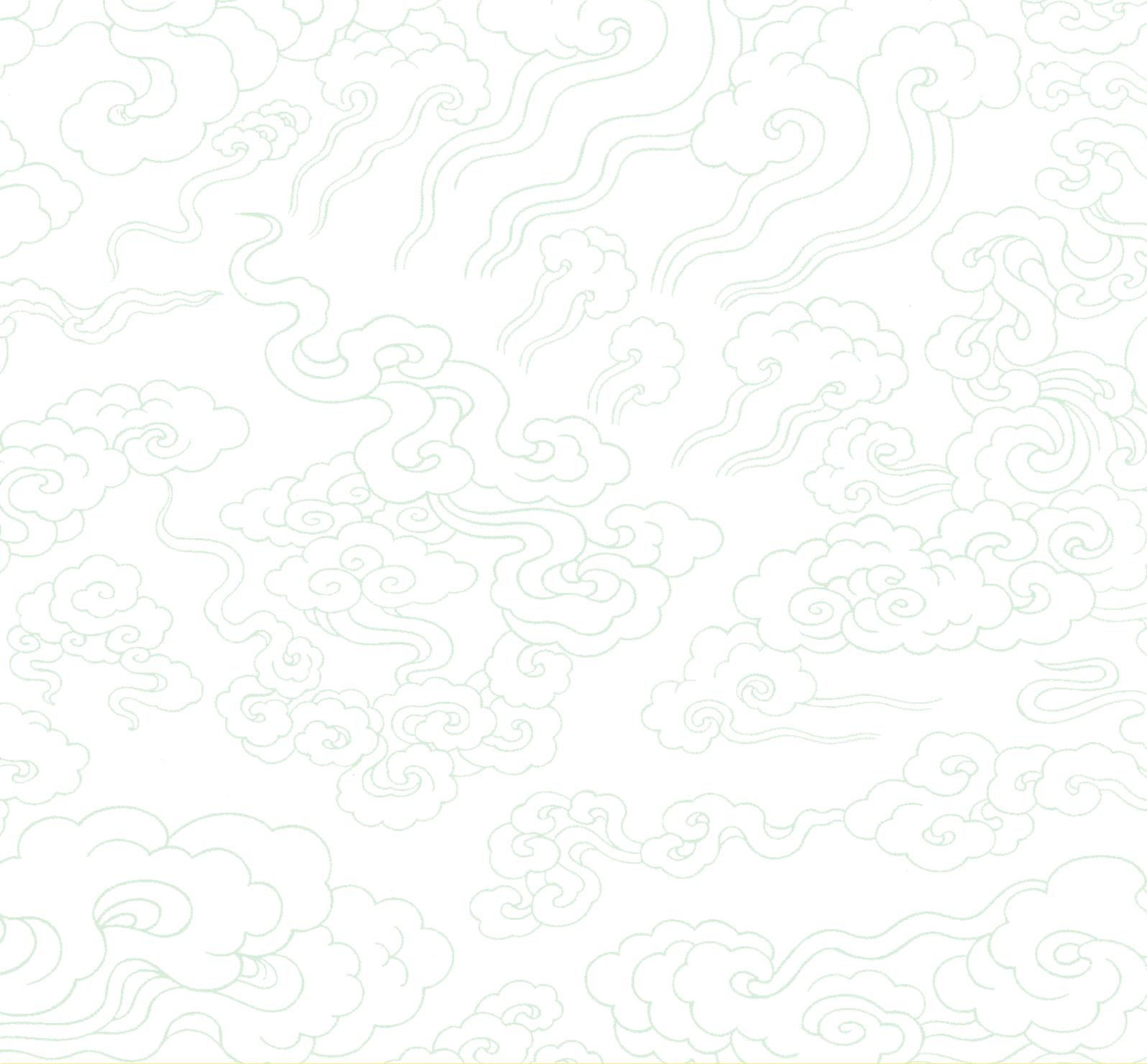

Stakeholders workshop in Bumthang

Stakeholders workshop in Thimphu

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