Nepal National REDD+ Strategy

Government of Nepal

Ministry of Forests and Environment

Singh Durbar, Kathmandu

2018

Endorsed on 19/04/2018

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Ph. 4211567
4211892
4211928
4211936
4211742
4211862
Fax. 4211868

P.O.Box No. 3987
Singha Durbar, Kathmandu

Ref. No.

Date :-

Foreword

Nepal is a party to a number of Multilateral Environmental Agreements (MEAs), including but are not limited to, UN Framework Convention on Climate Change, UN Convention on Biological diversity, UN Convention to Combat Desertification, Paris Agreement and the Indigenous and Tribal Peoples Convention (shortly known as ILO 169). Despite its minimum green house gas emission, Nepal has made commitment to reducing emission of greenhouse gases as a part of its Nationally Determined Contribution (NDC). Reducing Emission from Deforestation and Forest Degradation and associated activities (REDD+) is one of the programs Nepal has initiated to contribute to achieving goals of these agreements and commitments.

About 45 percent of Nepal's area is covered by forests, which provide a range of ecosystem goods and services at local, national, regional and global scale. The country adopts a community-based approach to sustainably managing forest ecosystems and adheres to the principles of fair and equitable sharing of benefits flowing from these resources. In this connection, Nepal has been participating in REDD+ since 2008. It has completed the readiness phase of the program moving toward the demonstration phase with a plan to implement a number of forest-related activities, such as scaling up sustainable management of forests, expanding community-based forest management, engaging private sector in forest plantation, increasing access of indigenous peoples, local communities and women to decision making of forestry governance and establishing fair and equitable benefit sharing mechanisms.

Nepal National REDD+ Strategy has been approved in line with country's needs for managing its forests and biodiversity for national prosperity as well as its commitment to MEAs including decisions of UNFCCC on REDD+. Ministry of Forests and Environment is committed to implementing the Strategy from community-based, multistakeholder, gender and socially inclusive approach in effective coordination with multiple actors including government agencies (federal, state and local level), civil society, community groups, private sector and development/conservation partners.

I would like to express my sincere thanks to all those who were involved in the formulation of this Strategy. I believe this Strategy will be crucial for directing Nepal's REDD+ readiness, process and results in a way that safeguards social harmony and ecological integrity while increasing a number of carbon and non-carbon benefits to the people, forests and the planet.

Shakti Bahadur Basnet

Minister for Forests and Environment

19/04/2018

Government of Nepal
Ministry of Forests and Environment
Ph. 4211567, 4211892, 4211928, 4211936, 4211742, 4211862
Fax. 4211868
Ref. No.
P.O.Box No. 3987
Singha Durbar, Kathmandu

Date :-

Acknowledgements

'Reducing Emission from Deforestation and Forest Degradation along with the Role of Conservation, Sustainable Management of Forests and Enhancement of Forest Carbon Stock in Developing Countries' (Shortly known as REDD+) is a high priority program of the Government of Nepal. REDD+ contributes to reducing green house gases, while at the same time, provides a range of opportunities including scaling up sustainable forest management, ensuring social and ecological safeguards, ensuring equitable benefit sharing, building capacity of women, indigenous peoples and local communities, supporting livelihoods of forest-dependent families and fostering global partnership in ecosystem, biodiversity an

d climate actions. Nepal has made substantial progress in REDD+ readiness since 2008.

Nepal National REDD+ Strategy aims at enhancing carbon and non-carbon benefits of forest ecosystems in the country for the prosperity of the people in a partnership from local to global level. The Strategy adopts a multistakeholer, community-based and gender and socially inclusive approach to REDD+, which is appropriate in line with the country's leadership in participatory model of forests and biodiversity management.

Many individuals and institutions have made remarkable contributions to formulating this Strategy. I would like to express my sincere thanks to Dr Sindhu Prasad Dhungana, the Joint Secretary and Chief of REDD Implementation Centre for leading the process toward the finalization and endorsement of the Strategy. Likewise, I am also thankful to the former Chiefs of the Centre---Mr PrakashNathPyakuryal, Mr Man Bahadur Khadka, Mr ReshamDangi, Mr RajendraKafle, Dr Krishna Chandra Paudel, Mr Krishna Prasad Acharya and Mr Jagadish Chandra Baral for leading REDD+ readiness including contribution to preparing this Strategy. I am grateful to several development partners including, but are not limited to, Forest Carbon Partnership Facility of the World Bank, UN-REDD, UNDP Nepal, FAO Country Office, WWF Nepal, Hariyo Ban Program, International Centre for Integrated Mountain Development and country offices of DFID, SDC, FINNIDA, USAID, GIZ and NORAD for technical and/or financial support to Nepal's REDD+ in general and to develop this Strategy in particular.

Following the endorsement of this Strategy, the Ministry of Forests and Environment through its National REDD+ Centre is moving on to the implementation phase of the REDD+. Contributions from all sectors and actors to this end will be highly appreciated.

Bishwa Nath Oli, PhD
Secretary
19/04/2018

Government of Nepal
Ministry of Forests and Environment
REDD Implementation Centre
Babarmahal, Kathmandu

Ref. No.:

Phone: 977-1-4239126
Fax: 977-1-4215261

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I would like to express my sincere thanks to individuals and organizations for their contribution to finalizing this Strategy. I am thankful to the task team headed by DrDhruba Prasad Acharya with Eveline Trines, Mr Hari Prasad Bhattarai, Dr Dilli Raj Khanal, Mr Gyanendra Karki, MrBasanta Gautam, Mr Ram Prasad Acharya and Mr Wonder van Goor for organizing consultations and preparing the initial draft.The contributions made by government officials, particularly Dr Ram Prasad Lamsal, Dr Pem Narayan Kandel, Mr BijayaPaudyal, Dr Akhileshwor Karna, Mr Deepak Kharal, Mr Sanjib Rai, Ms Radha Wagle, Mr DhananjayaPaudyal, Dr Maheshwar Dhakal, Mr Chandra Man Dangol, Mr Prakash Lamsaland Mr Sagar Rimal were tremendous.

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Sindhu Prasad Dhungana, PhD
Joint Secretary and Chief

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Acronyms and Abbreviations

AD	Activity Data
ADB	Asian Development Bank
CBD	Convention on Biodiversity
CBS	Central Bureau of Statistics
CHAL	Chitwan-Annapurna Landscape
CIAA	Commission for the Investigation of Abuse of Authority
CF	Community Forests
CFCC	Community Forest. Co-ordination Committee
CFM	Collaborative Forest Management
CFUG	Community Forest User Group
CIFOR	Centre for International Forest Research
COP	Conference of the Parties
CSO	Civil Society Organization
DD	Deforestation and forest Degradation
DFID	Department for International Development (UK)
DFO	District Forest Office
DFRS	Department of Forest Research and Survey
DFSCC	District Forestry Sector Coordination Committee
DMRVD	District REDD+ MRV Desk
DoF	Department of Forests
DRPMD	District/ Protected Area REDD+ Program Management Desk
DRWG	District REDD Working Group
ER-PIN	Emission Reduction Project Idea Note
ERPD	Emission Reductions Program Document
ESAMU	Environmental and Social Assessment and Monitoring Unit
ESFM	Environmental and Social Management Framework
ESMP	Environment and Social Management Plan
FCPF	Forest Carbon Partnership Facility
FCTF	Forest Carbon Trust Fund
FPIC	Free, Prior and Informed Consent
FRA	Forest Resource Assessment Project
GESI	Gender Equality and Social Inclusion
GIDC	Government Integrated Data Centre
GIS	Geographic Information System
GoN	Government of Nepal
GRM	Grievance Redress Mechanism
Ha	Hectare
ICIMOD	International Centre for Integrated Mountain Development
ILO	International Labor Organization
INC	Initial National Communication
IP	Indigenous Peoples
IPO	Indigenous Peoples Organization

LAMP	LiDAR-Assisted Mulit-source Program
LFUG	Leasehold Forest User Groups
LULUCF	Land use, Land-use Change, and Forestry
MOFE	Ministry of Forests and Soil Environment
MRV	Measurement, Reporting and Verification
MPFS	Master Plan for the Forestry Sector
NFD	National Forest Database
NFDIN	National Foundation for the Development of Indigenous Nationalities
NFI	National Forest Inventory
NFIS	National Forest Information System
NFMS	National Forest Monitoring System
NGO	Non-Governmental Organization
NITC	National Information and Technology Centre
NR	Nepalese Rupee
NRC	National REDD+ Center
NRCC	National REDD+ Coordination Committee
NRSC	National REDD+ Steering Committee
OSFIS	Open Source Forest Information System
PA	Protected Area
PES	Payment for Ecosystem Services
RDO	Regional Directorate Office
REDD	Reducing Emissions from Deforestation and Forest Degradation
REDD IC	REDD Implementation Centre (formarlly REDD Cell)
REL	Reference Emission Level
RFD	Regional Forest Director
RL	Reference Level
R-PIN	Readiness Plan Idea Note
R-PP	Readiness Preparation Proposal
RRFO	Regional REDD+ Focal Office
RRMU	Regional REDD+ MRV Unit
RWG	REDD Working Group
SDC	Swiss Development Cooperation
SES	Social and Environmental Safeguards
SESA	Strategic Environmental and Social Assessment
SIS	Safeguard Information System
TAL	Terai Arc Landscape
UNFCCC	United Nations Framework Convention on Climate Change
UN-REDD	United Nations Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries
USAID	United States Agency for International Development
VDC	Village Development Committee
WB	World Bank
WECS	Water and Energy Commission Secretariat

1. Introduction

1.1 Context of REDD+ in Nepal

The landscape of Nepal is topographically, physiographically and culturally diverse, with a complex mosaic of agriculture and forest land (Ministry of Forests and Soil Conservation (MFSC), 2010). The area of the country is 14.71 million hectares, of which 6.61 million hectares (44.74 percent) is covered by forests and other wooded land (DFRS, 2015). Over the last 50 years a significant area of forest was converted to agricultural land, degraded to shrub land, or deforested for other purposes such as roads and settlements. The area of natural forests decreased by an average of 1.7 percent per annum and shrub land increased by an average of 7.4 percent per annum during the period between 1978/79 and 1994. However, the recent Forest Resource Assessment (2010-2014) reported an increase in forest area and decrease in shrub area between 1994 and 2010/11: forest area increased by 2.33 percent per annum and shrub/other wooded land decreased by 3.44 percent per annum (DFRS, 2015). Factors responsible for these results include the success of community-based forest management such as community forestry, leasehold forestry, collaborative forestry, buffer zones and conservation areas. These figures may also be affected by differences in methodology used in the second National Forest Inventory (NFI) carried out in 1987-1998 and the third carried out in 2010-2014. Despite the overall improvement in national forest cover, trends in deforestation and forest degradation vary considerably across the physiographic regions.

Recent studies have identified at least nine drivers of deforestation and forest degradation, including unsustainable harvesting, encroachment, overgrazing, forest fire, unplanned infrastructure development and invasive species. Deforestation and forest degradation are posing direct threats to the livelihoods of a large number of people, particularly forest-dependent poor people, Indigenous Peoples and local communities. In addition, rapid urbanization and ongoing reconstruction following the 2015 earthquake have increased demand for forest products which may trigger further forest degradation. The dire need to address deforestation and forest degradation has opened up the opportunity for Nepal to participate in Reducing Emissions from Deforestation and Forest Degradation plus role of conservation, sustainable management of forests and and enhancement of carbon stock (a program collectively known as REDD+).

Participation in REDD+ has potential for Nepal to generate revenue from carbon financing as well as non-carbon benefits for the country and its people. Nepal envisions that REDD+ implementation will assist in advancing sustainable forest management, with the integration of various sectoral policies that optimize cross-sectoral synergies, leading ultimately to an improvement in forest law enforcement and governance in general, with needed amendment of acts and regulations that accommodate concerns of stakeholders and comply with relevant international standards, agreements and decisions. National participation in REDD+ will also contribute to global low-carbon economic development pathways and the global sustainable development agenda.

1.2 Nepal's REDD+ Journey

Nepal is a party to the United Nations Framework Convention on Climate Change (UNFCCC), the Kyoto Protocol and the Paris Agreement. After the 13th UNFCCC Conference of the Parties (COP13) in Bali in 2007, Nepal initiated various REDD readiness activities. The then Ministry of Forests and Soil Conservation submitted a REDD Readiness Plan Idea Note (R-PIN) to the Forest Carbon Partnership Facility (FCPF) of the World Bank in March 2008. Subsequently, Nepal's REDD Forestry and Climate Change Cell, now called the REDD Implementation Center, was established under the Ministry of Forests and Soil Conservation. The government then prepared the Readiness Preparation Proposal (R-PP), which was submitted to FCPF in April 2010 and endorsed by the FCPF Participants Committee in June 2010.

As planned in the R-PP, many studies have been carried out in key areas including a strategic environmental and social assessment (SESA) and environmental and social management framework (ESMF); analytical studies on drivers of deforestation and forest degradation; carbon ownership, the political economy of land use and the value of Nepal's forests; measurement, reporting and verification (MRV); and reference level/reference emission level (RL/REL). These have resulted in a large amount of valuable knowledge, providing a base for effective design and implementation of a National REDD+ Strategy.

In December 2013, Nepal submitted a Mid-Term Report (MTR) on R-PP progress to the FCPF. The MTR reflected progress in several areas (national arrangements and management; assessment of land use and drivers; forest law and governance; and national forest monitoring systems) but recognized that several other areas required additional focus nationally. In light of the readiness gaps identified by the MTR, Nepal prepared a Readiness Package through a multi-stakeholder self-assessment process which was endorsed by the FCPF in 2016. This enabled access to an additional grant to complete readiness activities. As a readiness demonstration, Nepal is currently developing an Emission Reduction Program Document (ERPD) at subnational scale in 12 districts of the Terai Arc Landscape (TAL). The readiness activities have been supported by several donors, especially FCPF managed by the World Bank, UN-REDD Program and development partners such as USAID, SDC, DFID, NORAD and GIZ. Nepal also submitted its National Forest Reference Level to UNFCCC in 2017 for its review.

To oversee and implement REDD+, the Ministry of Forests and Enviroment established a three-tiered institutional mechanism, including: 1) REDD+ multi-sectoral and multi-stakeholder coordinating and monitoring committee, called the apex body ; 2) REDD Working Group ; and 3) REDD Implementation Center as the coordinating entity. In addition, a stakeholder forum was established to engage a wide range of stakeholders in the entire REDD+ process. These institutional mechanisms, however, have been restructured in this Strategy.

Nepal committed at the national and international level to reduce emissions by addressing drivers of deforestation and forest degradation, and therefore it is actively engaged in the REDD readiness and implementation process. This process is an important step towards decentralization of forest management, strengthening of community-based forestry and resource use, enhancement of non-carbon benefits and recognition of customary practices. This process also creates opportunities to access finance for REDD+.

1.3 Strategy Formulation Process

In the development of the R-PP, critical issues were identified, such as tenure rights, access to traditional forest resources, carbon rights, forest governance, benefit distribution and safeguards. These topics were subsequently discussed in various national and sub-national meetings and were addressed in the various assessments and National REDD+ Strategy development.

Nepal has been implementing a series of activities as stipulated in the R-PP to prepare for a REDD+ mechanism to harness potential benefits of performance-based payments. A number of REDD Readiness studies, including Drivers of Deforestation and Forest Degradation, Forest Reference Level, Strategic Enviornmental and Social Assessment (SESA) and Economic Modeling were carried out over the past eight years provided key information for the development of this National REDD+ Strategy. Project reports and research articles were reviewed and relevant findings were also taken into account while formulating this strategy.

The first draft of the National REDD+ Strategy was produced in 2014, followed by a series of local, sub-national and national level consultations held across the country in all physiographic regions and with relevant stakeholders. These consultations resulted in the second draft of the strategy. This draft was subsequently reviewed by a Technical Committee, and laid the foundation for this National REDD+ Strategy document, which is a living document that will change with emerging information and insights. The purpose of this National REDD+ Strategy is to guide the development of a set of policies and programs that address the drivers of deforestation and forest degradation, and which improve the carbon sink capacity of Nepal's forests. The Strategy was developed to align with the principles of the sustainable development objectives of Nepal, particularly with the Forest Policy 2015, Forestry Sector Strategy 2016 and Nationally Determined Contribution, 2016.

1.4 Structure of the Strategy Document

Section 1 of this strategy document includes the context and background of Nepal's REDD+ journey, and contains information about the National REDD+ Strategy preparation process. Section 2 includes discussion and analysis of land use change, forest cover change, drivers of deforestation and forest degradation, and efforts in Nepal to address deforestation, forest degradation and forest land use. In Section 3, issues on policies, governance, institutions and tenure are discussed. The assessment of policies and laws in the context of REDD+ is provided, and gaps and contradictions are identified. The current scenario and issues on resource rights, governance, forest financing, carbon rights and benefit sharing, gender equity and social inclusion are discussed. Section 4 presents the vision, mission, objectives, strategies and strategic actions, and discusses strategy implementation challenges and measures to address these challenges. In Section 5, the REDD+ implementation arrangements are discussed, including the scope, scale, approaches, phases of REDD+ implementation and institutional arrangements required for REDD+ implementation. Section 5 also presents the benefit sharing, policy, legal and fund management arrangements needed for REDD+ implementation. Section 6 explores the potential social and environmental impacts, required safeguards system, and feedback and grievance redress mechanisms. Section 7 analyzes the Reference Level by highlighting available datasets and methods for developing the Reference Level in Nepal. Section 8 provides an overview of the National

Forest Monitoring System. Section 9 presents the financial requirements to implement the National REDD+ Strategy. Finally, Section 9 presents the next steps to be taken, in the coming five years, to implement the National REDD+ Strategy.

2. Land Use, Forest Cover Change and Drivers

2.1 Land use change

Detailed information on land use and land cover change of Nepal is available for 1978/79 (LRMP), 1985/86 (MPFS), and 1994 (NFI). Data analysis (Table 1, below) reveals that annual forest loss was high from 1978/79 to 1994, with 1.6% forest loss per year. Forest loss was particularly high between 1985/86 to 1994, 3.3% forest loss per year. As a result, the area of shrub land increased annually by 15.1% from 1985/86 to 1994. The rate over this ten-year period is nearly double the 8.4% annually from 1978/1979 to 1994. The average cultivated and non-cultivated land increment in these two periods was almost the same, at around 0.3% per year. This indicates significant deforestation and forest degradation occurred between 1978/79 and 1994. The rate of loss was higher from 1985/86 and 1994 than between 1978/79 and 1985/86.

Table 1. Land use and land cover change between 1978/79 to 1985/86 and 1994.

Category	1978/79 (LRMP)		1985/86 (MPFS)		1994** (NFI)		% Change 1978/79-1994		% Change 1985/86-1994	
	Area '000' ha	%	Area '000' ha	%	Area '000' ha	%	Total '000' ha	Annual	Total '000' ha	Annual
Cultivated	2,969	20	3,052	21	3,091	21	4	0.3	1.3	0.2
Non-cultivated	987	7	998	7	1,030	7	4	0.3	3.2	0.4
Forests	5,612	38	5818*	37	4,268	29	-24	-1.6	-26.6	-3.3
Shrubland	694	5	706	5	1,560	11	125	8.4	121.0	15.1
Grassland	1,756	12	1,745	12	1,766	12	1	0	1.2	0.2
Water	N/A	N/A	N/A		383	3	N/A	N/A		
Other	2,730	19	2,729	19	2,620	18	-4	-0.3	-4.0	-0.5
Total	**14,748**	**100**	**14,748**		**14,718**	**100**				

Source: MPFS, 1988; DFRS, 1999;
** Includes plantation and enriched plantation areas*
*** NFI (1994) data is cited from* GoN/MFSC, (2014).

The forest area of Nepal consistently declined from 1964 to 1994. The percentage of forest area reported was 45.5% in 1964, 38% in 1978/79, 37.4% in 1985/86 and 29% in 1994. Accordingly, the percentage of shrubland reported was 4.7% in 1978/79, 4.8% in 1985/86 and 10.6% in 1994. However, the recent National Forest Resource Assessment (NFRA) carried out between 2010-2014 showed an increase in forest area, implying a change in the trend of deforestation. The NFRA 2010-2014 reported 40.36% of Nepal's total land area (around 5.96 million hectares) covered by forest and an additional 4.38% (about 0.65 million ha) covered by Other Wooded Land (OWL)[1]. The increase in forest area compared to NFI (1994) is attributed to three factors: 1) method based on high-resolution image classification that captured the smaller forest patches, which were excluded by NFI (1994); 2) positive impact of community

[1] OWL is categorized as "the land not classified as forest spanning more than 0.5 ha, having at least 20 m width and a tree canopy cover of trees between 5% and 10%."

forestry intervention; and 3) abandonment of agricultural land for tree growth, particularly in the mountainous region.

2.2 Forest cover change

Over the course of 30 years, between 1964 and 1994, Nepal lost 2.134 million hectares of forest, which were either converted into shrub land or into other land uses. However, this trend reversed in 2010/11. From 1964 to 1994, there was a continuous decrease in forest area and increase in shrub land. The trend improved after 1994, with less forest loss, and between 1994 and 2010/11, the forest area increased from 29% to 40.36%. During this same time period, shrub land decreased from 10.6% to 4.38%, and total forest area (including shrub land and other wooded land as defined by the survey) increased from 39.6% to 44.74% (see Table 2 below).

Table 2. Forest Cover Status during five different time period.

Cover Type	Unit	Years				
		1964 (FSRO)	1978/79 (LRMP)	1985/86 (MPFS)	1994 (NFI)	2010/11 (FRA 2010-2014)
Forest	Area (000ha)	6402	5617	5518	4268	5962
	Percentage	45.5	38.0	37.4	29.0	40.36
Shrub	Area (000ha)	N/A	690	706	1560	648*
	Percentage	N/A	4.7	4.8	10.6	4.38
Total	Area (000ha)	**6402**	**6307**	**6224**	**5828**	**6610**
	Percentage	**45.5**	**42.7**	**42.2**	**39.6**	**44.74**

*Source: MPFS, 1988; DFRS, 1999; WECS, 2010; DFRS, 2015. * this also includes the area with tree cover 5-10%.*

The forest cover change across the five physiographic regions, in different time series from 1964 to 2010/11, varies considerably. The loss of forest cover was high across all physiographic regions up until 1994, although there was a slight increase in the Mid Mountains and High Mountains between 1978/79 and 1985/86. The trend of loss was reversed in 2010/11, in all physiographic regions except the Terai.

The Terai contains the lowest percentage of forest cover compared to other regions, and the deforestation rate has been consistently higher in recent decades. From 1978/79 to 1985/86, the annual deforestation rate was the highest, with annual loss of 2.11%, which is eleven times higher than the national average for that period. The FRA (2010-2014) also showed an increasing trend of deforestation in the Terai and Chure. Between 1991 and 2010, the forest area in the Terai decreased at an annual rate of 0.40%. This increased to 0.44% between 2001 and 2010.

The Chure/Siwaliks contains the highest percentage of forest cover (including OWL), 73.56%, compared to other regions in the country. However, the trend of deforestation is continuous from 1964 to 2010. Between 1964 and 1978/79, forest loss was estimated to be 1.1% per year. The period between 1978/79

and 1985/86 shows a decline in the deforestation rate to 0.09% per year. The FRA (2010-2014) reported a loss of forest area of 0.18% per year between 1994 and 2010. During this period, the forest and OWL increased at the rate of 0.30% per year. This shows that the deforestation rate is still continuous in the Chure, with an increase in OWL.

The Middle Mountain region has 53.75% covered by forest and OWL, which is 35% of the total forest and shrub land of Nepal. The time series data shows that the Middle Mountain region had continuous loss of forest until 1994, though there was a slight increase in forest cover between 1978/79 and 1985/86. However, the trend of loss was reversed between 1994 and 2010/11. Several other micro-level studies demonstrated improvements in forest area in different parts of the Middle Mountain region. The improvement in forest cover in the Middle Mountain region is attributed to the successful implementation of community forestry practices and conversion of farmland into forests.

The High Mountains and the High Himal together contains a substantial percentage of forest cover, 37.5% of total forest and OWL of Nepal. The High Mountains contain 60.3% of area under forests and OWL, and the High Himal contains 6.3%. Between 1978/79 and 1985/86, a slight annual increase in forest cover was observed in the High Mountains (+0.02%) and High Himal (+0.01%). Between 1985/86 and 1994, however, more prominent deforestation occurred with annual rates of 1.39% and 0.4% respectively in the High Himal and the High Mountains. A study commissioned by REDD IC about the drivers of deforestation and forest degradation in the High Mountain regions also reported an 18.74% decline in forest and 32.48% decline in grass land, and a 37.4% increase in shrub land and 25.7% increase in bare land (including non-cultivated land) between 1985/86 and 2001/02. The FRA (2010-2014), however, reported an increase in forest cover (including wooded land) between 1994 and 2010, with forest cover increasing annually by 6.43% in the High Himal and 1.02% in the High Mountains. A study in the Chitwan Annapurna Landscape (CHAL) also found a similar increase in forest cover between 1990 and 2010

2.3 Drivers of Deforestation and Forest Degradation

Nine direct drivers and ten underlying causes of deforestation and forest degradation were identified through a synthesis and analysis of the drivers identified in the R-PP, national and subnational studies, and verification and prioritization through stakeholder consultations in regional, district, and local level workshops.

Table 2, below, lists the direct drivers that were identified, their priority, where they occur, their impact in terms of magnitude, and crosscutting underlying causes. Each driver and underlying cause are presented together.

Table 2. Direct drivers, their nature, priority, and affected regions

SN	Drivers	Priority[§]	Drivers for/affecting region	Underlying causes
1.	Unsustainable harvesting and illegal harvesting	1	Degradation Affected regions: HM (2); MM (3); S (1); T (1)	1. Disproportionate population distribution and migration pattern 2. Policy gaps and poor implementation, as well as policy contradictions among different sectors or jurisdictions 3. Poverty and limited livelihood opportunities 4. High dependency on forest products and demand-supply gap 5. Land use policy and insecure forest tenure 6. Poor governance and weak political support 7. Weak coordination and cooperation among stakeholders 8. Inadequate human resource development and management 9. Low priority of research and development 10. Poor coping strategy for natural disasters and climate change
2.	Forest fire	2	Degradation Affecting regions: HM (1)*; MM (3); S (1); T (2)	
3.	Infrastructure development (includes manmade disasters)	3	Deforestation Affecting regions: HM (2); MM (1); S (2) T (4)	
4.	Over grazing/uncontrolled grazing	4	Degradation Affecting regions: HM (1)*; MM (4); S (1); T (1)	
5.	Weak forest management practices (unmanaged/under-managed)	5	Degradation Affecting regions: HM (1); MM (3); S (1); T (1)	
6.	Urbanization and resettlement	6	Deforestation Affecting regions: HM (5); MM (5); S (1) T (1)	
7.	Encroachment	7	Deforestation Affecting regions: HM (5); MM (5); S (1); T (1)	
8.	Mining/excavation (sand, boulders, stones)	8	Deforestation and degradation Affecting regions: HM (5); MM (3); S (1); T (1)	
9.	Expansion of invasive species	9	Degradation Affecting regions: HM (5); MM (4); S (1); T (1)	

HM-High Mountain; MM- Middle Mountain; S- Chure/Siwaliks; T- Terai and inner Terai

1- Very high effect; 2- High effect; 3- Medium effect; 4- Low effect; 5-Very low effect

**Effect of forest fire and grazing in terms of exposure, sensitivity and capacity to address*

[§] *Priority in terms of impact on the forests*

2.4 Forest Monitoring System

The Department of Forest Research and Survey (DFRS) has been the central authority in designing, operating and updating the National Forest Monitoring System (NFMS). In order to assess forest resources periodically, the existing NFMS aims to establish permanent sample plots across the country.

A minimum number of sample plots were selected, meeting 95% confidence limits for the inventory results with the range of ±10% accuracy of the actual total volume or biomass. Each of the sample plots are expected to be re-measured in five-year intervals. The district level monitoring and reporting system complements the NFMS. District Forest Offices (DFOs) and Protected Areas authorities monitor, measure, update and report land use change and forestry information to their central authorities (i.e. DoF and DNPWC) annually. Consistent with the NFMS, the resource inventory of CBFM is also conducted every five to 10 years. District level offices maintain updated data and information and report to the corresponding central authorities. Departments (including DoF and DNPWC) maintain and update the database and publish the summary in their annual reports.

In addition, the monitoring and evaluation division of the MFSC coordinates all monitoring activities across departments and in other subsidiaries. There are established mechanisms for monitoring and evaluation such as annual planning and monitoring workshops, quarterly review workshops, annual monitoring and reporting of CBFM groups, monitoring system for harvesting of forest products, and publication of annual reports by departments.

2.5 Efforts to Address Deforestation and Forest Degradation

Efforts to date to address deforestation and forest degradation, and to maintain and improve forest land use, have been manifold. These efforts include the following:

a) Progressive evolution of forest policy and legal instruments
b) Introduction of community forestry and other CBFM modalities, and involvement of local communities in forest management
c) Increase in protected areas and in-situ conservation of ecosystems and biodiversity, and better connectivity between the protected areas
d) Introduction of community-based conservation in and around PAs with expansion of buffer zone areas and conservation areas
e) Expansion of soil conservation and watershed management services across the country and focused conservation efforts in the Chure hills
f) Forest research, surveys and inventory to provide information to help reduce deforestation and forest degradation
g) Institutional restructuring of the forestry sector and supporting an active and vocal civil society
h) Expansion of forestry education, human resource development and large scale re-orientation and re-training of forestry staff
i) Awareness campaign and institutional mechanism to control encroachment, forest fire and over grazing
j) Massive plantation from the late 1970s to present, with the involvement of local communities
k) Improvement of sectoral and stakeholder coordination at local, sub-national and national levels
l) Provision and enforcement of EIA and IEE to ensure environmental and social safeguards against impacts of development projects

3. Policies, Governance, Institutions and Tenure

3.1 Assessment of Policies and Laws in the Context of REDD+

A number of strengths and weaknesses have been identified in forest policies and laws in the context of REDD+. In the last few years, major policies like the Climate Change Policy (2011), Land Use Policy (2015), Forest Encroachment Control Strategy (2012), Biodiversity Strategy and Action Plan (2014), Forest Policy (2015) and Forestry Sector Strategy (2016) have been formulated. These policy documents emphasized addressing drivers of deforestation and forest degradation, which is an important element of REDD+. A number of gaps in forest policy and law in the context of REDD+ are included below:

Forest conversion to other land uses

- Forest Act (1993) poses strict limitations on the conversion of forestland into other land uses, except for nationally prioritized projects and the resettlement of people affected by natural disasters. However, the Land Act (1964) and Land Revenue Act (1978) have provisions to register land under forest into agriculture and settlements on the basis of the possession by the tenants. This contradiction and overlap is an important gap which needs to be addressed and harmonized for effective implementation of the REDD+ program.

Infrastructure development in forest areas

- Despite the restrictions of the Forest Act (1993) on converting forestland to other land uses, there is no such mandate in the Environment Protection Act (1997) to carry out an EIA or IEE for conversion of forest area to other land use purposes. The compliance and enforcement of the mitigation measures as stipulated in the EIA and IEE have remained weak in the absence of effective coordination and appropriate monitoring systems.

Contradictory provisions and jurisdiction overlaps

- Contradictory provisions between the Forest Act, Local Government Operation Act (2018) and Mines and Minerals Act (1985) over the management, regulation and use of forest resources have created conflict between local governments, CBFM groups, forest agencies and other government agencies.
- Jurisdiction overlaps between forest legislation, environmental legislation and local government legislation regarding decision making authority over the resources and mitigation measures such as decisions on land allocation, under taking and approval of IEE, extraction of sand and gravel in forest land.

Forestland and resource tenure

- Guidelines need to be developed for the management of protection forests and the management of public land forestry.
- The Forest Act (1993) and the Industrial Enterprise Act (2016) recognize CBFM as business enterprises. However, additional guidelines are needed to operationalize these legal provisions, which will ultimately contribute to sustainable forest management for entrepreneurial development and value addition.

- The CBFM groups have contributed to enhancing and maintaining ecosystem services (carbon stocks, biodiversity, water and eco-tourism). However, no legal provisions are available for CFBM groups to claim payments for such contributions.
- Directives and guidelines need to be improved and aligned with acts and regulations, and to increase the roles and responsibilities of CBFM groups, in the REDD+ program.

Recognition of customary practices

- The existing legal framework of the forestry sector and protected areas does not adequately recognize the customary rights of Indigenous Peoples over forest resources. There is no national inventory of customary practices.

Promoting Private Sector

- The Forest Policy 2015 and the Forestry Sector Strategy 2016 emphasize the role of the private sector in forestry. However, the regulatory and implementation instruments have not been developed.
- The legal provisions related to private forests need to be simplified, in line with the Forest Policy 2015 and Forest Sector Strategy 2016.

Various attempts are underway to address these policy and legal gaps. However, further harmonization and improvement in relevant legal, institutional and procedural arrangements are needed to operationalize this National REDD+ Strategy.

3.2 Forest Tenure, Governance and Institutions

3.2.1 Forest Tenure and Resource Rights

Forest lands in Nepal are owned either by the state (national forests and protected areas) or individual landholders (private forests). National forests are managed under different tenure regimes, which include government managed forests, protection forests, community forests, collaborative forests, leasehold forests and religious forests. Protected areas are categorized into different management regimes, which include national parks, reserves, conservation areas and buffer zones. The tenure regimes and governance frameworks are defined by forest policies, legislation and institutional set up at the government and community level. The Department of Forests and Department of National Parks and Wildlife Conservation have their own defined forest territories under their direct management, regulation or oversight. They are also responsible for regulating private forests under their jurisdiction.

The clarity of forest tenure is vital for REDD+. Forest tenure is key in shaping the social and environmental impacts of REDD+ and related programs. Of particular importance is attention to the usage rights of local forest-dependent communities and to the rights of Indigenous Peoples to access, customary management and use of forests.

Local communities, under different CBFM regimes, manage more than one third of the forest area under their own forest management plans approved by government authorities. Among these regimes, the Forest Act provides clarity on the tenure rights of the community forestry regime. Securing these rights during REDD+ implementation can be challenging, however, particularly in exercising use, control, management and exclusion with respect to harvesting or forest product sales. In many cases, these

groups are demanding more robust protection and assurance of their rights over use and management of forest products and services. An emerging policy framework and public discourse on tenure reform is expected to contribute to the sustainability of REDD+ in Nepal. This indicates that CFUGs need secured forest tenure rights, and the users of other community based forest management regimes need further clarity on their tenure rights in line with REDD+ safeguards principles.

3.2.2 Governance

Literature on forest governance and studies on drivers of deforestation and forest degradation identified a number of governance challenges. These challenges include vacillating policies, weak law enforcement, inadequate monitoring, poor sectoral coordination, and inadequate gender and social inclusion in institutions and decision making processes. Maintaining transparency and accountability at political, bureaucratic and community levels have also been major governance challenges. CBFM contributes to improve governance, and some CFUGs have received FSC certificates for sustainable forest management. However, challenges remain with respect to inclusion, equity and optimum use of forest resources in many community groups.

Nepal is developing or revising policies, acts and institutional frameworks to improve forest governance. The Forest Policy 2015, Forest Sector Strategy 2016, Forest Act 1993 (second amendment 2016), Nepal Biodiversity Strategy and Action Plan 2014, among others, emphasize reforming forest governance. In these legal and policy instruments, there is emphasis on improving law enforcement, strengthening coordination among concerned agencies and monitoring of activities. Anti-corruption measures through the Commission for Investigation of Abuse of Authority (CIAA) and National Vigilance Centre (NVC) are also functioning to improve governance.

3.2.3 Institutional arrangement

A three-tiered institutional mechanism for implementing REDD+ was established and is functioning. This includes the REDD Multi-sectoral, Multi-stakeholder Coordinating and Monitoring Committee as the apex body; the REDD Working Group (RWG) as the decision making body; and the REDD Implementation Center as the implementing entity. In addition, two peripheral mechanisms, including a Stakeholder Forum and a REDD+ CSOs & IPOs Alliance, were also established to develop a common understanding on REDD+ among stakeholders including women, Indigenous Peoples Organizations, *Madhesis*, *Dalits,* and Civil Society Organizations. All five departments under the Ministry of Forests and Environment have varied roles in REDD+ implementation. These institutional arrangements have been restructured in this Strategy.

3.2.4 Forest financing

A number of multilateral and bilateral development partners have supported Nepal's REDD readiness. The MFSC, in its regular program, implements a range of activities to reduce deforestation and forest degradation and enhance forest carbon stocks. These activities are largely financed by the public funding of the Government of Nepal and partly by multilateral and bilateral projects. In addition to these, under community based forest management regimes, local communities have significant cash and in-kind contributions for forest protection, management and sustainable use. Private sector investment is

mainly in Non-Timber Forest Products and timber processing and trade. However, a clear financing mechanism is yet to be developed with regard to REDD+.

3.2.5 Carbon rights and benefit sharing

The Constitution of Nepal recognizes 'Carbon Service' as the right of the Federal Government. However, there is no standalone legal reference for clarifying carbon ownership and associated benefit sharing. The Forest Act 1993 [amendment 2016] recognizes forest carbon as one of the forest ecosystem services. CFUGs have the right to develop, conserve, manage and use the forests handed over to them. That means forest carbon rights of CFUGs can be similar to the right to other products and services produced by forests, and can be attributed to management inputs.

The benefit sharing arrangements are addressed at two levels: 1) between the government and communities, and 2) within communities. Between the government and communities, the benefit sharing of forest products is made clear by forest related legislation. Benefit sharing within the communities is largely shaped by the decisions of communities themselves and their approved forest management plans under the regulatory frameworks. The full benefit sharing plan for REDD+ will be developed and endorsed before results-based payments are claimed.

3.2.6 Gender Equity

Policy initiatives, such as the Gender and Social Inclusion Strategy (2009), have been pursued to acknowledge gender roles in forestry. These initiatives have focused on areas of reform to make more gender inclusive and sensitive policies, programs and institutions. This has resulted in better representation in some of the CBFM institutions, such as community forests, where 50% of women are represented in executive committees and key positions. However, there are gaps in gender and equity at all levels of forest governance. In particular, women are struggling to get fair access to decision making, resource allocation, opportunities, and sharing benefits from forest management. For example, women represent less than 5 percent of civil personnel in the forest bureaucracy, with minimal presence in managerial and policy level decision making positions.

The lack of understanding, internalization and implementing capacities of the regulating institutions and service provider agencies on gender issues also makes it difficult for women to lead and influence decisions to govern the forestry sector. A more nuanced framework and targeted investments are required to establish women's role in forestry institutions, forest management, resource use and benefits sharing.

3.2.7 Social Inclusion

The issues of social inclusion are pertinent in the forestry sector. Disparity among the different social groups, gender and classes persists, resulting in differentiated access, use and benefit sharing.

About 80% of rural households derive a significant part of their livelihood from the forestry sector. For some households, their livelihoods are totally dependent on access to forest products; for others, forests provide important household products, inputs to agriculture, income and environmental services. The community forestry and participatory protected area management system are globally recognized as best practice models to ensure social inclusion. The Gender and Social Inclusion Strategy (2009) focuses

on four areas: a) GESI sensitive policy and guidelines, b) Good governance and GESI sensitive organizational development, c) GESI sensitive budget, program and monitoring, and d) Equitable access to resources, decisions and benefits. Similarly, the CBFM Guidelines outline provisions for social inclusion and establish explicit mechanisms, tools and techniques to address the existing exclusion in the governance structure, programs and activities. Despite these policies and guidelines, there are multiple forms of exclusion in the forestry sector. Apart from economic factors, social ones such as gender, caste, ethnicity and location greatly influence the ways who have access to forest resources and decision-making processes, and who receive benefits. The distance of forests from settlements (particularly the southern belt of the Terai), the forms of tenure regimes (state, community, common property, private, open access) and law enforcement all shape the degree to which households gain or are prevented from having access to forest resources.

4. Vision, Mission, Objectives and Strategies

4.1 Vision

Enhanced carbon and non-carbon benefits of forest ecosystems contribute to the prosperity of the people of Nepal.

4.2 Mission

To strengthen the resilience of forest ecosystems for emission reductions and increased environmental, social, and economic benefits through improved policies, measures and institutions with enhanced stakeholder capacity, capability and inclusiveness.

4.3 Objectives

1. To reduce carbon emissions, enhance carbon stocks and ecosystem resilience through mitigation and adaptation approaches by minimizing the causes and effects of the drivers of deforestation and forest degradation, and promoting sustainable forest management across ecological regions. (Strategy 1, 2, 3, and 4)
2. To improve resource tenure and ensure fair and equitable sharing of carbon and non-carbon benefits of forests among rights holders, women, Indigenous Peoples, *Madhesis, Dalits*, and forest-dependent local communities with effective implementation of safeguards measures. (Strategy 5, 11)
3. To increase livelihood assets and diversify employment opportunities of women, Indigenous Peoples, *Madhesis*, *Dalits*, local communities and forest-dependent poor. (Strategy 6, 7, and 8)
4. To improve and harmonize policy and legal frameworks, in line with national and international requirements and standards, to harness carbon and non-carbon benefits; increase institutional capability and coordination; and strengthen governance, gender equality and social inclusion of the forestry sector (Strategy 5, 9, 10, and 11)
5. To improve National Forest Monitoring System with robust measurement, monitoring, reporting and verification mechanisms. (Strategy 12)

4.4 Guiding Principles

The guiding principles of Natinal REDD+ Strategy include the following:

1. Aligning with overall national development goals and strategies
2. Building on the successful community-based approaches and practices
3. Enhancing harmony and synergy among different sectors, agencies, states and municipalities
4. Utilizing and building on the existing capacity and capabilities
5. Maintaining ecosystem integrity and optimizing the wide range of ecosystem benefits
6. Promoting people-centric, gender and socially inclusive practices and approaches, as well as equitable benefit sharing and social justice

7. Addressing and respecting social and environmental safeguards
8. Strengthening participatory, reliable and efficient measurement, monitoring and information systems
9. Improving forestry sector governance and multi-stakeholder approaches

4.5 Strategies and Actions

To achieve the objectives, 12 strategies and 70 actions have been developed. These strategies and actions will be prioritized in the implementation plan using criteria developed through a consultative process among the relevant stakeholders. Actions associated with each strategy are presented below.

Strategy 1: Reduce carbon emissions, enhance forest carbon stocks, and improve supply of forest products (Objective #1)

Actions:

1.1 Identify, delineate, and expand CF, CFM and other CBFM, and improve management practices.

1.2 Intensify and expand Sustainable Forest Management (SFM) in all relevant forest management regimes, and pursue certification where feasible.

1.3 Update and improve management plans of all forest management regimes with provisions of carbon stock measurement, monitoring methods and measures to control drivers of deforestation and forest degradation.

1.4 Develop appropriate community-based forest management models specific to the High Mountain region, considering the specific context of High Mountain areas.

1.5 Strengthen fire control capabilities of DFOs, Protected Area Management Authority and CBFM groups with specific management plans, financial and human resources, monitoring, technologies and insurance mechanisms.

1.7 Rehabilitate degraded land by adopting appropriate measures, such as natural regeneration, plantation, and bio-engineering.

1.8 Increase supply of sustainably harvested timber and timber products with improved distribution mechanisms.

Strategy 2: Increase non-carbon benefits of forests ecosystems (Objective #1)

Actions:

2.1 Improve the management and conservation of forest, protected areas and watersheds at the landscape level by promoting integrated conservation, ecosystem based adaptation measures, and participatory models of ecotourism.

2.2 Address key threats to biodiversity as identified by the Nepal Biodiversity Strategy and Action Plan 2014-2020.

2.3 Identify and implement appropriate measures to address key threats to biodiversity.

2.4 Assess climate change vulnerability of forest ecosystems and strengthen spatial planning, and integrate both into forest management plans.

2.5 Develop and promote appropriate institutional arrangements for Forest Ecosystem Service certification and Payment for Ecosystem Services (PES).

Strategy 3: Promote private and public land forestry (Objective #1)

Actions:

3.1. Simplify regulatory provisions such as registration, harvesting, transportation, sale, and processing, and incentivize private forestry.

3.2 Provide technical and technological services to grow and manage indigenous, fast growing and high-valued tree species in private and public land.

3.3 Promote agro-forestry in public land such as canals, roadside areas, marginal lands, and riverbanks through regulatory frameworks and incentive mechanisms, with participation of poor, women and marginalized households.

Strategy 4: Promote optimum land use across all the physiographic regions (Objective #1)

Actions:

4.1 Promote implementation of the Land Use Policy 2015, particularly provisions related to the forestry sector. Update zoning and mapping of forest land use regularly.

4.2 Develop and implement economic and market-based incentives to promote optimal land use.

4.3 Develop extension materials on linking climate change and benefits of land use planning, and disseminate through mass media and other methods.

4.4 Ensure social and environmental safeguards during the formulation and implementation of land use plans.

4.5 Strengthen enforcement and monitoring capacity of district level land encroachment control committees and law enforcement agencies to reclaim illegally occupied forest lands.

Strategy 5: Improve forest tenure, ensure carbon rights and fair and equitable benefit sharing among right holders, women, Indigenous Peoples, *Madhesis, Dalits,* and forest-dependent local communities (Objective #2 & 4)

Actions:

5.1 Respect and address safeguards measures on forest tenure security of women, Indigenous Peoples, *Madhesi, Dalits*, local communities, and forest-dependent poor.

5.2 Assign carbon rights aligned with forest rights within policies and legal instruments.

5.3 Establish transparent and participatory mechanisms for marketing and selling carbon credits arising from future REDD+ activities.

5.4 Establish transparent and inclusive mechanism for equitable benefit-sharing (carbon and non-carbon benefits) among rights holders.

5.5 Recognize and integrate traditional and customary knowledge and practices in forest management plans, particularly in CF, CFM and other CBFM.

Strategy 6: Enhance the role of private sector in forestry to promote forest-based enterprises for livelihood and economic development (Objective #3)

Actions:

6.1 Revise policies on registration, operation, trade, transport, tax, and subsidy to encourage private investment in forest-based enterprises and wood technologies, including bamboo housing, timber drying, wood treatment, compressed and particle board, wood processing, and veneer production.

6.2 Invest in sustainable forest-based enterprises such as timber, NTFPs, and ecotourism to create employment opportunities to produce finished forest products for domestic and export markets that support livelihoods of forest dependent poor.

6.3 Simplify regulatory provisions such as registration, transportation, sale, and processing that is conducive to private sector involvement in forest-based enterprises, trade and wood/non wood technology development, targeting forest-dependent poor and other marginalized groups.

6.4 Promote vocational and skill-based training opportunities for enterprise development and forest operations such as harvesting, logging, sawmilling, carpentry, and wood technologies, especially for women, Indigenous Peoples, *Madheisis, Dalits,* local communities and forest-dependent poor.

6.5 Improve access to alternative technologies such as small sawmills carpentry, food processing, efficient stoves, kilns, briquettes, power looms and biogas by providing information, knowledge and loan services for women, Indigenous Peoples, *Madhesis, Dalits,* local communities and forest-dependent poor.

6.6 Incentivize and support Community Based Forest Management User Groups, and link these groups to local government resources such as matching funds and resource leverage to create income, livelihood options and job opportunities for the forest-dependent poor.

Strategy 7: Increase agricultural productivity of forest-dependent and other smallholders (Objective #3)

Actions:

7.1 Support climate smart agriculture such as agroforestry, ecological farming, Sloping Agriculture Land Technologies, minimum tillage, direct seeding technologies and use of farm yard manure (FYM).

7.2 Provide support to revisit and revise policies for small-scale sustainable agriculture.

7.3 Promote fodder and forage management in CF, CFM and other CBFM, and private land with increased access to seeds/seedlings, cultivation, management, and feeding and processing technology.

7.4 Conserve and increase water sources, and promote efficient water management technologies.

7.5 Support forest dependent and smallholders with information, technology and incentives to increase their access for the crop & livestock breeding and husbandry improvement.

Strategy 8: Increase access to sustainable, affordable and reliable alternative energy (Objective #3)

Actions:

8.1 Promote sustainable, cost-effective alternative energy and energy saving technologies such as bio-briquettes, biogas, solar, wind, and Improved Cook Stoves through educational, financial and technological interventions.

8.2 Simplify the registration process, provide input on technology, and subsidies on equipment for energy production that encourages use of available energy in operating forest-based enterprises.

8.3 Develop mechanisms to increase access of forest-dependent poor and marginalized people to alternative energy and energy saving technologies.

Strategy 9: Improve collaboration, cooperation and synergy among sectoral policies, sectors and actors (Objective #4)

Actions:

9.1 Establish strong coordination mechanisms among relevant sectors for integrated planning, implementation, monitoring and evaluation of sectoral policies, plans and programs.

9.2 Identify and align legal frameworks in line with international commitments and harmonize cross-sectoral policies and legal frameworks.

9.3 Strengthen multi-stakeholder and integrated planning approaches at all levels, involving key government and non-government agencies on land, forest, water, agriculture, energy, and infrastructure, and increase consensus and commitments.

9.4 Develop policies, legal frameworks and institutions for investment in climate change mitigation, including performance-based payment mechanisms.

9.5 Sensitize security agencies, media, and civil society on climate change, REDD+ and forest conservation.

9.6 Incorporate climate change, roles of forest on climate change mitigation and importance of forest conservation in formal education.

9.7 Control cross-border illegal trade of forest products through intercountry cooperation with Indian and Chinese authorities.

Strategy 10: Improve capacity, institutional performance and service delivery of the forestry sector institutions, right-holders and relevant stakeholders (Objective #4)

Actions:

10.1 Support restructuring and reforming forestry institutions as specified in the forestry sector strategy.

10.2 Improve management and leadership competency, GESI responsiveness, commitment and morale of forestry personnel through initiatives such as coaching, counseling, performance-based incentive mechanisms, capacity development programs, and code of conduct.

10.3 Provide support to review and simplify judiciary and judicial processes related to forest law enforcement.

10.4 Identify capacity needs of forestry institutions as well as communities, and equip them with necessary skills, knowledge and logistics to enhance law enforcement.

10.5 Increase knowledge and capacities of relevant stakeholders, political leaders, and right holders on climate change and REDD+ through extension, training, and workshops.

10.6 Institutionalize and strengthen the different tiers of REDD+ institutional mechanisms with clearly defined roles and responsibilities, proper planning, and review.

10.7 Institutionalize the REDD Implementation Centre as the REDD+ entity with capacity to generate, access, manage and utilize funds to effectively implement REDD+ strategies, policies, plans and programs.

10.8 Ensure adequate representation and meaningful participation of women, Indigenous Peoples, *Madhesis, Dalits*, local communities, private sector and forest-dependent poor in relevant forestry decision-making processes through policy provisions, institutionalization and capacity development.

10.9 Establish and strengthen feedback and grievance redress mechanisms that are gender-sensitive and socially and culturally appropriate.

10.10 Provide support for capacity and institutional development to improve and maintain governance of CF, CFM and other CBFM groups with enhanced governance practices including public hearing, public audits and performance monitoring.

10.11 Promote reward and penalty systems for both government agencies and forest user groups to control illegal harvesting, illegal trade and encroachment.

Strategy 11: Ensure Social and Environmental Safeguards including environment-friendly development (Objective #4)

Actions:

11.1 Integrate and ensure social and environmental safeguards in all REDD+ programs and activities.

11.2 Adopt approach to Free, Prior, and Informed Consent (FPIC) of rights holders, particularly Indigenous Peoples and local communities.

11.3 Develop and implement alternative rehabilitation arrangements for landless people living in forest lands.

11.4 Ensure effective implementation of IEE and EIA while using forest land under nationally prioritized development projects.

11.5 Avoid forest areas in infrastructure development and resettlement, and make compulsory provisions for tree planting to compensate for forest area being cleared.

11.6 Establish and maintain a National Forest Monitoring System with robust measurement, monitoring, reporting and verification mechanisms.

Strategy 12: Establish and maintain a robust and well-functioning national forest monitoring system (Objective #5)

Actions:

12.1 Enhance national capability with investment, technology and human resources to conduct forest resource surveys and inventories.

12.2 Develop the capacity of government agencies and local communities for the collection, analysis, storage, management and dissemination of carbon and non-carbon related data and information for planning and MRV.

12.3 Establish a well-functioning Forest Management Information System under the National Forestry Monitoring System.

12.4 Develop and operationalize cost-effective mechanisms for monitoring, measurement, reporting and verification of REDD+ programs.

12.5 Strengthen community-based monitoring systems with identified monitoring indicators in community-based forest management.

12.6 Establish spatially explicit information systems on land use potential, allocations and potential conflicts/complementarity with REDD+ strategies.

4.6 Challenges of REDD+ and Measures to Address them

The overarching Forest Policy 2015 and Forestry Sector Strategy, 2016 are in place and being implemented, and the adoption of a National REDD+ Strategy provides opportunities for additional benefits of mitigation measures and finance. The current context also creates a range of risks and challenges. Forestry programs, such as CBFMs and protected area management, have a long history in Nepal, and the potential costs and benefits can be estimated. But there remain a number of potential risks and challenges associated with REDD+. Although Nepal has adopted a 'no harm' strategy to the

existing social, economic and ecological benefits of REDD+ programs, the following potential risks and mitigation measures were identified.

Federal restructuring:

Nepal's forest resources are overseen and managed by the Ministry of Forests and Environment and its subsidiaries that were created under the unitary state. The ongoing political transition, particularly moving away from a unitary state to a federal governance structure, may shift natural resource management authority to province and local level governments and may pose challenges in implementing the National REDD+ Strategy. Currently, the REDD Implementation Centre (proposed NRC) is placed at the central level directly under the Ministry, and REDD desks have been set up in the Regional Forestry Directorate and District Forest Offices. How provincial level forestry organizations will be constituted is not yet clear. The potential risks surrounding this can be mitigated in three ways. Firstly, the NRC is placed at the federal level following the constitutional provision of regulating carbon services by the federal government. Secondly, the implementation of emission reduction programs will mainly take place at community levels, such as CBFM Groups which are relatively clear at this stage. Finally, the NRC will take the initiative to introduce REDD+ related roles and responsibilities in forestry organizations across all levels---national, state, local and community during the restructuring of the forestry sector.

Capacity, capability and technology:

The REDD+ program will need to be streamlined with the overall forestry program of the Ministry of Forests and Enviornment for effective implementation of this National REDD+ Strategy. While government foresters are relatively well trained in working with local communities and stakeholders, only a few are adequately trained and have experience with developing management plans integrating REDD+ activities and conducting MRV. The strategy proposes utilizing existing human resources of the MOFE to perform various functions related to REDD+. The existing human resources, however, have limited knowledge and skills to carry out those functions. These challenges will be mitigated by integrating REDD+ aspects in the government's regular training modules, and also by outsourcing the services where and when necessary.

Financing:

Nepal has to seek external financing for climate mitigation actions, including REDD+. A number of multilateral and bilateral funds, including FCPF and UN-REDD, have supported the readiness phase. However, uncertainty and a cumbersome process of receiving international funds may pose challenges for the implementation of this strategy. Finance related challenges will be minimized by transforming the REDD IC into a semi-autonomous NRC that can seek funds and can enter into partnership with international/bi-lateral climate finance, such as GCF, FCPF, FIP, Adaptation Fund and private sector investment. The National REDD+ Strategy is integrated with other policy interventions such as the Forestry Sector Strategy, National Biodiversity Strategy and Action Plan, Low Carbon Economic Development Strategy, and the Nationally Determined Contribution (NDC) and proposed Nepal's Forest Investement Program to fully utilize existing institutions, programs and activities and reduce additional costs.

Governance and over expectation:

Governance across the political, bureaucratic and community institutions is still a major challenge despite continued efforts to improve the performance, transparency and accountability. There has been high expectations among the local communities, who see REDD+ as a potential source of income. This may pose challenges in implementing this strategy. In addition to ongoing efforts of the government to improve governance, this strategy has also proposed several measures. In particular, REDD+ will be pursued as a means of forest governance reform, in addition to realizing emission reduction potential. Innovative governance improvement tools, such as public hearing, adoption of MIS, and active engagement with IPOs and CSOs will also be adopted in forest management and REDD+ implementation. The expectations of the local communities will be addressed through outreach programs and developing a transparent benefit sharing mechanism.

5. Implementation Arrangements

5.1 Scope, Scale and Approach

This strategy supports the implementation of the five key areas of REDD+: reducing emissions from deforestation; reducing emissions from forest degradation; conservation of forest carbon stocks; sustainable management of forest; and enhancement of forest carbon stocks. Implementation follows a nested approach with national and subnational scales in different phases, complementing each other. Measurement and Monitoring, Reporting and Verification (M and MRV) systems will be designed and established, while benefit sharing and monitoring activities will be based at multiple levels. REDD+ activities and regular/periodic carbon monitoring at the subnational level will, as much as possible, be conducted by the local communities that have authority for forest management, who will receive technical support from local forest authorities. The results-based payments and other financial incentives will be received at the national level. The federal government will then incentivize REDD+ actions at state, local and community levels based on performances and good management practices, with agreed benefit sharing mechanisms.

As a REDD+ entity, the REDD Implementation Center (which will be transformed to National REDD+ Centre) will coordinate with the Department of Forest Research and Survey (DFRS) to establish and maintain a Forest Carbon Registry at the central level. Projects at the national and subnational levels will submit data on carbon reduction performance to the DFRS for registry. The details of the carbon registry will be reviewed and updated periodically.

A number of instruments and tools will be designed and put in place before a national REDD+ mechanism can be operationalized. One of them is the determination of a Forest Reference Level (FRL/FREL), against which performance can be measured, and another is the design and operationalization of an appropriate financial mechanism. Regarding financing, Nepal intends to use the fund-based and compliance mechanism, though opportunities for other markets will also be explored as country capacity strengthens. A separate mechanism will be developed to clarify the benefit sharing among the various rights holders at different levels.

Under the existing land and forest tenure regimes, substantive measures will be taken to secure the carbon rights of the rights holders.

The coverage of forest and other related sectoral laws, regulations, policies and plans is comprehensive in the context of REDD+. Issues associated with alternative land use, forest conservation and utilization, irrigation and water resource use, environment and climate change, which are broadly linked to overall sustainable development, are covered by these laws, regulations and policies. These policy and legal instruments will be enforced in a coordinated way to further address the drivers of deforestation and forest degradation.

Nepal is committed to enforcing REDD+ related social and environmental safeguards. Potential environmental and social risks, either perceived or real, associated with the implementation of the National REDD+ Strategy will be avoided or mitigated, and the opportunity to promote multiple benefits is operationalized. In principle, Nepal has an established policy framework to implement and include

environmental and social safeguards in development activities. The policies and regulations related to safeguards, applicable for the implementation of National REDD+ Strategy, can be broadly categorized into four groups:

1. Policies and regulations related to land acquisition, compensation and resettlement
2. Safeguards for Indigenous Peoples (IPs) and other Vulnerable Communities (VCs)
3. Good governance, social accountability and public consultation
4. International safeguard instruments applicable for Nepal's REDD+ program

Further formulation of policies, as needed, will ensure the meaningful participation of all stakeholders and strengthen the REDD+ program. Communities are facing a number of issues related to governance, Gender Equality and Social Inclusion. These issues will be addressed through policy reform, awareness raising and increased investments at all levels to enhance the capacities of stakeholders.

The National REDD+ Strategy will be implemented through stakeholder consultations in line with Free, Prior and Informed Consent (FPIC) as per the national and international decisions, including UNFCCC, UNDRIP, ILO 169, CBD, Nagoya Protocol on Access and Benefit Sharing and other relevant international decisions and agreements. An FPIC framework will be developed, which will describe mechanisms to engage with communities, groups, or individuals affected by REDD+ activities and projects, and with civil society and other stakeholders.

In addition to existing Feedback and Grievance Redress Mechanisms (FGRM) such as 'Hello Sarkar', complaint box, and National Vigilance Centre, mechanisms to address REDD+ related FGRM will be established at federal, state and local levels. However, at the project level, a specific Environmental and Social Management Plan (ESMF) will identify the detail of the grievance mechanism, process and procedure.

5.2 Phases of REDD+ Implementation

REDD+ takes place in three phases, namely Readiness, Demonstration and Results-Based Payments. The readiness phase in Nepal is almost complete with basic readiness activities, including completion of a draft REDD+ strategy, studies evaluating strategies, awareness raising, consultations, capacity building of various right holders and stakeholders, and preparation of the REDD+ Readiness Package. The readiness phase focused on finalizing the REDD+ strategy and Forest Reference Level, developing the Emission Reduction Program Document at the subnational level, refining the outcomes of the studies and translating them into policies, legislation and guidelines, and additional awareness raising, consultation and capacity building.

In the demonstration phase, the Emission Reduction Program will be implemented in the Terai Arc Landscape. In addition, the possibility of an ER Program in other landscapes will also be explored and expanded. In this phase, the country will invest in emission reduction and removal activities.

In the results-based payment phase, Nepal will enter into the full implementation of the National REDD+ Strategy, including institutional, policy and legal reform. In this phase, the country will carry out MRV and claim for payment against the results in terms of reduced emission.

5.3 Institutional Framework

5.3.1 Institutional arrangement for REDD+ implementation

The institutional structure for the implementation of REDD+ strategies and programs will be based on existing government institutions. The key elements of these structures will be coordination and management, undertaking MRV and sharing benefits. However, in order to access REDD+ funds from diverse sources, working directly with the private sector and mobilizing funds for REDD+ benefit sharing by a semi-autonomous entity will have to be explored during the demonstration phase. The REDD+ institutions will be responsible for the following:

1) Setting policy direction and coordinating and managing REDD+ programs
2) Managing the flow of information among different entities and stakeholders, including information on changes in forest carbon stocks and ensuring that women, Indigenous Peoples, *Madhesis, Dalits,* local communities and the poor are consulted and informed
3) Managing the flow of incentives to carbon rights holders including women, Indigenous Peoples, *Madhesis, Dalits,* local communities and the poor

The proposed institutional structure is presented in Figure 1. The structure and function will be reviewed and updated on a periodic basis during the implementation of the strategy.

At Federal Level

National REDD+ Steering Committee (**NRSC**), chaired by the Minister for Forests and Environment, is the high level policy insitution for REDD+. The NRSC will meet at least once a year and will promote collaboration and cooperation among different sectors and stakeholders, and harmonize REDD+ related policies and programs. In addition to providing overall policy direction for Nepal's REDD+, the NRSC will oversee operating procedures and membership of related sectors and stakeholders. The structure of the NRSC will be as follows:

Hon. Minister, Ministry of Forests and Enviornment	Chairperson
Secretary, Ministry of Forests and Environment	Member
Secretary, Ministry of Finance	Member
Secretary, Ministry of Water Resource, Energy and Irrigation	Member
Secretary, Ministry of Agriculture, Land Management and Cooperatives	Member
Secretary, Ministry of Industry, Commerce and Supplies	Member
Secretary, National Planning Commission	Member
Secretary, National Natural Resources and Fiscal Commission	Member
Representatives from the networks/organizations of women, indigenous peoples, local communities, Madhesis, Dalits and private sector engaged in forest resource management not exceeding 6 reprentatives with at least two women to be nominated by the Ministry	Members

State secretaries, State Ministry of Industry, Tourism, Forests and Enviornment (7 States)

Representative from Network of Local Governments, 3 members with at least a woman nominated by the Ministry Member

Chief, National REDD+ Centre, Member Secretary

The detail Terms of Reference of the NRSC will be prepared by the Ministry. NRSC can invite relevant experts, organizations or individuals as observers in its meeting where appropriate.

The National REDD+ Coordination Committee (NRCC) will be an institution to make decisions on technical matters such as endorsing research documents, implementation and monitoring of REDD+ programs and recommend agenda for NRCC meeting. RWG is chaired by the Secretary of the Ministry of Forests and Environment. The structure of the RWG will be as follows:

Secretary, Ministry of Forests and Enviornment	Chairperson
Joint Secretary, Climate Change Management Division	Member
Joint Secretary, Environment and Biodiversity Division	Member
Joint Secretary, Planning, Policy and Monitoring Division	Member
Joint Secretary, Participatory Forestry Division	Member
Joint Secretary, Forests and Watershed Division	Member
Joint Secretary, Administration Division	Member
Director General, Department of Forests and Soil Conservation	Member
Director General, Department of National Parks and Wildlife Conservation	Member
Director General, Forest Research and Survey Centre	Member
Director General, Department of Plant Resources	Member
Director General, Department of Environment	Member
Chief, Central Forests Training and Extension Centre	Member

Representatives from the networks/organizations of indigenous peoples, local communities, Madhesis, Dalits and private sector engaged in forest resource management not exceeding 9 reprentatives with at least three women to be nominated by the Ministry Members

Chief, National REDD+ Centre, Member Secretary

The NRCC is expected to provide innovative ideas, monitor program activities and help to integrate program priorities under the National REDD+ Strategy. In addition, the members of the RWG will advocate and lobby at the political level to guarantee that their local constituencies are represented in regional planning processes. The detail Terms of Reference of the NRCC will be prepared by the RWG itself. NRCC can invite relevant experts, organizations or individuals as observers in its meeting where appropriate.

National REDD+ Centre

The current **REDD+ Implementation Center** will be called the **National REDD+ Centre** (**NRC).** The NRC functions as the primary operational body to provide national program leadership, coordinate ER Program planning, and bridge state and district-level planning and priorities under the National REDD+ Strategy. The NRC works closely with the RWG on overall strategic planning and priorities; with the Planning, Monitoring and Coordination Division of MoFE to ensure close coordination of activities across districts; and to ensure harmonization of the ER Program with other finance streams. Under the ER Program there will be several staff members of the NRC who are dedicated to national-level support and coordination of the program. Nepal's National REDD+ Strategy proposes to transform the National REDD+ Centre as a semi-autonomous entity before result-based payment phase of the REDD+. The Terms of Reference for the proposed National REDD+ Centre will include the following:

- Explore and access national and international funds including result-based payments
- Coordination among sectors and actors for REDD+ related policy decisions
- Coordinate regulation of green house gas emissions from forests
- Coordinate REDD+-related benefit-sharing
- Coordinate safeguards implementation and monitoring
- Establish and operate national Safeguards Information System
- Coordinate implementation of ER Program and National REDD+ Strategy
- Carry out and publish research and studies
- Coordinate with DFRS for implementation of MMRV, the National Forest Information System and Carbon Registry
- Establish contractual arrangements for private forestry owners interested to opt-in in ER program private forestry incentives.

The **REDD+ Multi-Stakeholder Forum** will function as the principal outreach and communication platform. The forum includes representatives from the private sector, civil society, media, government organizations, community-based organizations, Indigenous Peoples Organizations, local and international NGOs, donors, academic and research institutions, Gender and Social Inclusion related organizations and other stakeholders interested in REDD+. The forum will meet at least twice a year.

The **REDD+ CSOs & IPOs Alliance** will discuss and develop a common understanding on REDD+ on behalf of a wide spectrum of women, Indigenous Peoples Organizations, *Madhesis*, *Dalits* and Civil Society Organizations. The alliance will meet at least once a year.

The **REDD+ Focal Desks** will be established in different Departments under the MOFE. These desks will liaise with the NRC, State REDD+ Focal Desk and with District/ Protected Area REDD+ Desk**.**

State Level REDD+ Structure

A REDD+ desk will be established in each of the state level Ministry of Industry, Tourism, Forests and Environment. State Level REDD+ Desks will coordinate with District/Division level REDD+ Desks for implementation and monitoring of REDD+ programs within the State.

Local Level REDD+ Structure

Forest and environment related section or coordination committee of local governments will coordinate REDD+ programs in order to implement the Strategy at local level. At community level, CBFM groups such as Community Forestry User Groups, Collaborative Forest Management User Groups will implement REDD+ as incorporated in their respective Forest Management Plans.

5.3.2 Institutional arrangement for monitoring and MRV system

A four-tiered institutional structure of national, state, sub-state and local/community levels is proposed for Nepal's MRV system.

At **the national level**, there will be two structures responsible for the monitoring and MRV function---1) Forest Survey and Carbon Measurement Division (FSCMD) in the Department of Forest Research and Survey (DFRS); and 2) Carbon Accounting, Monitoring and Reporting Coordination Section (CAMRCS) in the National REDD+ Centre (NRC).

The DFRS is the lead organization for Nepal's National Forest Resource Assessment. In its new structure, DFRS has proposed three divisions---one of which is the Forest Survey and Carbon Measurement Division (FSCMD). FSCMD carries out sample plots measurement periodically as a part of National Forest Resource Assessment. **At community level**, FSCMD coordinates with Community-based Forest Management Groups for measuring sample plots. **At sub-state level**, FSCMD coordinates with District/Division Forest Offices and Protected Area offices for sample plot measurements. **At State Level**, FSCMD coordinates with the State Forest Directorate for data compilation across each state. FSCMD compiles all the data at jurisdictional level and national level. Then it analyses data for forest resource assessment, activity data, and carbon accounting and emission reductions by using sample plot data, satellite images, emission factors etc. FSCMD will also operate National Forest Monitoring and Information System (NFMIS) and Forest Carbon Registry. FSCMD reports to NRC through DFRS. NRC has Carbon Accounting, Monitoring and Reporting Coordination Section (CAMRCS), which compiles data and information about MRV reported from DFRS, prepares periodic reports for NRC. Upon the approval from REDD Working Group, NRC then reports to FCPF/Carbon Fund, UNFCCC and other relevant international agencies.

5.3.3 Institutional arrangement for implementing safeguards

The following institutional arrangements will be set up for the implementation of the various safeguard measures:

At the central level, a Social and Environmental Safeguards Section will be established within the National REDD+ Center, which will serve as the coordinating and implementing agency for REDD+ safeguards. The section will be responsible for the overall coordination, planning, implementation and monitoring of REDD+ safeguards activities, including the Safeguards Information System.

The State Level REDD+ Desk (RRFD) will have oversight and monitoring responsibilities over the respective Divisional Forest Offices or PA Offices and line agencies that will be implementing the REDD+ safeguards measures.

At the district/local level, a feedback and grievance redress focal officer will handle REDD+ related environmental and social concerns. For effective implementation of safeguards, a separate Strategic Environmental and Social Assessment (SESA) and Environmental and Social Management Framework (ESMF) will be in place at the national scale, and Social and Environmental Assessment (SEA) and associated Environmental Social Management Framework will be prepared for jurisdictional level emission reduction programs.

5.3.4 Institutional arrangement for feedback and grievance redress mechanism

The FGRM will be built into the existing structure of the Ministry of Forests and Environment operating at the national, state and district levels. At the central level, the grievance redress will be handled by the Social and Environmental Safeguards Section of the National REDD+ Center. At the state and district levels, the REDD+ Desk in the State Ministry for Industry, Tourism, Forests and Environment and District Forest Officer (DFO) will handle the FGRM. At the local level, the judicial committee under the chair of the Deputy Mayor/Vice Chairpersons of rural/municipalities will handle FGRM. At the community level, CBFM groups will resolve the disputes and conflict related to REDD+. In order to effectively implement FGRM, a separate FGRM plan will be in place.

5.4 Benefit Sharing Arrangement

A REDD+ program specific benefit sharing plan and service delivery mechanism will be developed to clarify the benefit sharing among the carbon right holders at different levels. The mechanisms require schemes that address the issues of equity, exclusivity, and conditionality. A specific regulatory provision and accompanying institutional arrangements will be defined in the future for the implementation of a benefit sharing plan and maintaining equitable benefit sharing arrangements at different levels.

Specific provisions will be incorporated in instruments and forest management plans to ensure and protect the customary practices of Indigenous Peoples during the implementation of the REDD+ program. The benefit sharing plan and mechanism among different regimes and levels will be based on the performance of forest carbon stock increments and enhancing non-carbon benefits.

5.5 Policy and Legal Arrangements

5.5.1 Institutionalization of REDD+ program entity

The implementation of the National REDD+ Strategy requires predictable sources of finance. As per the Warsaw Framework for REDD+, the parties to the UNFCCC require designating an entity to receive results-based payments for REDD+ from international fund-based or compliance mechanisms for the implementation of REDD+ programs. Only accredited national entities can have access to the Green Climate Fund (GCF) to undertake climate change programs, including REDD+. For this, the National REDD+ Center (NRC) will be developed as a semi-autonomous national entity for REDD+ by promulgating a formation order or any other relevant legal instruments. The institutional capability of NRC will be enhanced over time to meet the fiduciary principles and standards, environmental and social safeguards (ESS) and gender policy of international climate or REDD+ financing institutions, such as the Green Climate Fund, Climate Investment Funds or FCPF Carbon Fund. The NRC will apply for accreditation that has authority to submit funding proposals through the National Designated Authority (NDA) to access GCF, and it will have also authority, ability and capability to direct access in other REDD+ related funds.

5.5.2 Strengthening administrative capability of NRC

As a REDD+ program management entity, the NRC will fulfill the basic fiduciary standards of financing institutions, generate its own funds and compete to access international REDD+ related funds by

maintaining an effective fund administration. For this purpose, the NRC will establish an independent, internal and external auditing systems. The NRC will develop administrative capability to maintain high standards in administration and governance.

5.5.3 Policy and legal environment for the implementation of Strategy

The vision, mission, objectives, strategies and actions of this strategy are consistent with the existing policies and strategies of the forestry sector. However, some provisions of regulations, directives and guidelines of the forestry sector need to be improved to mainstream the REDD+ activities, safeguards and benefit sharing generated from REDD+.

5.5.4 Harmonization of Sector Legislations

The Constitution of Nepal commits to maintaining balance between environmental protection and development activities. For this, several laws related to the environment, energy, roads, industry, agriculture, land use, urban settlement and resettlement are currently being revised. During these revision processes, MFSC will take the initiative to overcome gaps and contradictions in policy and legal instruments, as mentioned in section 3.1. This will also include provisions related to forest-based climate mitigation measures in relevant laws in order to harmonize sectoral legislation.

5.6 REDD+ Fund Management

The NRC, as a semi-autonomous entity, will manage a national level REDD+ fund. The NRC will seek finances from multiple sources, including national and international funds such as GCF, Carbon Fund and Climate Investment Funds. Financial procedures will be developed in order to administer and mobilize the fund.

All payments for forest carbon will first be deposited in the REDD+ fund, which will then be distributed following benefit sharing plans.

6. Safeguards Measures

6.1 Potential Social and Environmental Impacts

The implementation of strategies and actions will likely to lead a range of environmental and social impacts. These impacts will be both positive and negative. The positive impacts include a range of carbon and non-carbon benefits for various stakeholders. REDD+ can bring multiple benefits which can be much more than emissions reduction. Depending on the location and type of REDD+ activities, these benefits potentially include poverty alleviation, recognition of the rights of Indigenous Peoples and forest dependent communities, improved community livelihoods, technology transfer, sustainable use of forest resources and biodiversity conservation through community mobilization. This calls for reconfiguration of forest authority and enhanced good governance. This is particularly important for equitable benefit sharing among women, Indigenous Peoples, local communities, *Madhesis, Dalits* and poor, which is an important aspect of social safeguards.

The implementation strategies and actions may incur a number of negative impacts on social, cultural, economic and environmental aspects. A number of examples of potential negative impacts include restriction to forest resource use, increased costs, social exclusion, social conflicts, human wildlife conflict, loss of traditional knowledge and practices, and decrease in biodiversity if proper safeguards measures are not adopted.

The impacts of REDD+ implementation were identified by analyzing the findings of the SESA[2], and stakeholder consultations held at different levels. The details of positive and negative social and environmental impacts likely to occur as a result of the implementation of each REDD+ strategy is presented in the Nepal REDD+ Strategy Reference Document. Impacts may be cumulative and may also occur simultaneously or stepwise.

6.2 Social and Environment Safeguards System

Safeguards can be broadly understood as policies and measures that aim to address both direct and indirect impacts on communities and ecosystems, such as enhancement of positive impact and minimizing negative impacts. The safeguard principles provisioned in UNFCCC and other national and international instruments available seek to minimize any adverse impacts. UNFCCC (COP 16) agreed to a set of seven safeguards, known as the Cancun REDD+ Safeguards, to support REDD+ implementation to ensure that REDD+ actions do not cause negative social and environmental impacts. The UNFCCC REDD+ Safeguards outline a global framework of social, environmental and governance principles, and aim not only to mitigate the risk of adverse social and environmental impacts, but also to actively promote benefits in addition to carbon emission reductions, such as strengthening forest tenure security, enhancing biodiversity, improving forest governance and empowering relevant stakeholders by ensuring their rights and full and effective participation. The countries pursuing REDD+ activities must comply with the social

[2] SESA has been conducted to identify the likely outcomes, opportunities and adverse impacts, and to recommend appropriate measures to mitigate environmental and socio-economic risks during the implementation of a REDD+ mechanism in Nepal.

and environmental safeguard principles outlined in the Cancun Safeguards, as well as the procedures stipulated in other decisions of UNCCC-COPs, including Paris Agreement. Furthermore, Nepal has a number of policies and legal instruments to promote safeguards to address negative social and environmental impacts, including: Constitution of Nepal 2015, Good Governance (Management and Operation) Act (2008), Right to Information Act 2007, Environmental Protection Act 1997, Labor Act 1992, National Foundation for the Development of Indigenous Nationalities (NFDIN) Act 2002, Forest Policy 2015, Forestry Sector Strategy 2016, Community Forestry Development Guidelines 2015, National REDD+ Social and Environmental Standard 2014, and Gender and Social Inclusion Strategy 2006.

Nepal conducted a SESA and prepared an Environmental and Social Management Framework (ESMF) following both national and international safeguard standards and requirements. The ESMF serves as a framework for managing and mitigating environmental and social risks and impacts for future investments (projects, activities, and/or policies and regulations) associated with implementing the National REDD+ Strategy. A REDD+ project-specific Environment and Social Management Plan (ESMP) will be mandated to ensure that risks are mitigated as part of the implementation process through periodic monitoring, reporting, and evaluation. The ESMP will be prepared in line with the agreed safeguard principles.

Moreover, Nepal prepared country specific REDD+ Social and Environmental Standards (SES) in 2014 as voluntary safeguard standards. These standards complement the safeguards information system, as required by the UNFCCC decisions.

6.3 Review and Harmonization of the REDD+ SESA and ESMF

Nepal prepared the REDD+ SESA and ESMF at the national level. The essence of the SESA is broadly consistent with this strategy. However, there are some gaps in the SESA and ESMF that need to be clarified during the implementation of the National REDD+ Strategy, against which an ESMF could be reframed.

6.4 Safeguard Information System (SIS)

The National REDD+ Safeguards Information Systems (SIS) will be established considering the decision on guidance during UNFCCC-COP 21. The SIS will provide a systematic approach for collecting and providing information on how REDD+ safeguards are being addressed and respected throughout the implementation of the REDD+ program. Institutional arrangements will be also established to implement the SIS, and preparation of the Summary of Information report will be completed and submitted to the UNFCCC.

6.5 Feedback and Grievance Redress Mechanisms

The Feedback and Grievance Redress Mechanisms (FGRMs) are designed to overcome potential concern and conflicts while implementing REDD+ activities, governance mechanisms and benefit sharing. GRMs are intended to complement formal legal channels for managing grievances. The FGRMs at national, regional/provincial and district/local levels are required to address the grievances of stakeholders and harness positive impacts of REDD+.

The Ministry of Forests and Environment (MOFE) is responsible for addressing the grievances received from the stakeholders while implementing the REDD+ program. The FGRM will be built into the existing system and structure of the MFSC at three levels: District/local, Regional/provincial and Central. The formal and informal mechanisms, such as FUGs and their federation and customary laws and institutions of Indigenous Peoples, will be utilized to resolve disputes and conflicts related to REDD+ at relevant levels.

Any grievances and complaints while implementing REDD+ will be referred to the relevant, accessible level which allows all interested parties to participate and appeal any disagreeable decisions, practices and activities.

A grievance record file will be maintained at each level of the FGRM where all written and oral grievances and complaints will be recorded and filed. Grievances can be submitted by email, website, written letter, telephone, SMS and a suggestion/complaint box. The general public, as well as affected persons, can register their grievances at the respective community level GRM. All cases will be registered, categorized and prioritized by the designated staff member at each GRM level. The GRM will be reviewed and updated periodically.

7. Forest Reference Level

7.1 Methods for the Estimation of the FRL

The Forest Reference Level (FRL) is estimated to identify the historical average of net emissions (emissions by sources and removals by sinks) from forests. It is the basis to assess performance of REDD+ policy intervention. The FRL requires estimation of Activity Data (AD) and Emission Factors (EF). Activity Data (AD) refers to the quantity of an activity that results in emissions/removals (in most cases AD are measured as change in forest area (ha) over time). Emission Factors (EF) are the amount of emissions/removals per unit area per year. AD is calculated using remote sensing data while EF is calculated using national forest inventory data along with appropriate allometric equations. Countries hosting REDD+ project estimate their historical FRL following stepwise methodological procedures as guided by the UNFCCC decisions (Decision12/COP 17).

The stepwise approach suggests three major steps to estimate FRL, including: 1) estimation with simple projections, based on historical data; 2) progressively updating the FRL based on more robust national datasets for country-appropriate extrapolations and adjustments; and 3) ultimately basing the FRL on more spatially explicit activity data and driver-specific information support. These steps also indicate methodological robustness of the process (i.e. methodological tiers). Countries achieve higher methodological tiers as they use data that are more reliable.

Following the above-mentioned approach, Nepal estimated a landscape level (subnational) FRL for the Terai Arc Landscape in 2013, considering the period between 1999 and 2011 to estimate the historical average. The purpose of the TAL FRL was to meet FCPF requirements for ER-PIN submission. Nepal is also preparing a national FRL of the period between 2000 and 2010 as its reference years for the historical average. The objective for developing the national FRL was to submit to the UNFCCC and further showcase Nepal's intentions to engage in REDD+. Both national and subnational FRLs are consistent in terms of activities, carbon pools and gases estimated. Three REDD+ activities (deforestation, forest degradation and enhancement of carbon stock), two carbon pools (above and belowground biomass) and one greenhouse gas (CO_2) are estimated for both national and subnational FRLs. However, there are differences between the two FRLs. The subnational FRL used LiDAR images along with Landsat images and NFI data of TAL, while the national FRL used Landsat images and FRA data (2010-2014) of the whole country. The national FRL applied proxy indicators to assess degradation while the subnational FRL used LiDAR data to estimate emission factors of all activities. Further, estimations of EF of activities were also complemented using available biomass tables, allometric equations and IPCC default values. Based on the applied data sources and methods, the first national FRL of Nepal is considered to be between tier 1 and tier 2 with respect to methodology.

Further adjustments in the FRL will be performed as more reliable data sources and robust methodologies become available. Nepal identified the following five areas to improve the FRL:

- Fully include the activities of forest carbon stock enhancement on remaining forest. This would allow Nepal to report on the important results of improved forest management achieved in the country through the community-based forestry programme.

- Replace the indirect assessment of forest degradation from grazing and livestock management by cost-effective direct measurements of forest degradation from grazing. It will provide avenues for consistent and sufficiently accurate monitoring.
- Replace the indirect assessment of forest degradation from fuelwood extraction by cost-effective direct measurements of forest degradation from fuelwood extraction. It will provide avenues for consistent and sufficiently accurate monitoring.
- Include small-scale deforestation and afforestation in a cost-efficient manner with sufficient accuracy in order to cover small patches of forest within the definition of forests in the FRL.
- Include estimates of degradation by drivers, beyond fuelwood collection and grazing.

7.2 Available Data Sets

The availability of accurate and reliable information remains a major problem for the analysis of forest cover and land-use change in Nepal. The most comprehensive yet non-compatible data sets are the data from the Land Resource Mapping Project 1976-1984 (LRMP 1986) and the NFI data from the Forest Resource Assessment (FRA) project (2010-2014) of the DFRS. The DFRS published the FRA report (2015) for all physiographic regions with species-wise growing stock, biomass and carbon stock (above ground and below ground) by forest type, and development regions. The FRA (2010-2014) applied both field inventory and remote sensing technology such as LiDAR-Assisted Multi-source Program (LAMP) methods to generate forest biomass maps. These data sets were also used to estimate Activity Data (AD) for the subnational FRL that covers the 12 districts of TAL.

As discussed above, the estimation of the national FRL based on the average between the years 2000 and 2010 is underway. The national FRL estimation process used FRA (2010-2014) data and other available inventory data between 1986 and 2010, as discussed earlier. However, the national FRL estimation process did not use LiDAR data, due to high costs and difficulties with financing LiDAR imaging again in the future. The national FRL estimation process used Landsat images that are freely available. This, however, does not mean that Nepal will rely only on Landsat images. Other data sources (images, inventory data) can be used in the future, as more reliable and efficient data sources become available. As discussed earlier, the UNFCCC methodological framework allows for a phased approach and improvement over time whereby countries can develop an FRL based on available data, and update and refine the FRL with better data, improved methodologies, and estimates for additional pools becoming available overtime (Decision 12/CP.17).

8. National Forest Monitoring System (NFMS)

8.1 Design of a National Forest Monitoring System (NFMS)

The National Forest Monitoring System (NFMS) will be designed in line with decisions of the UNFCCC COPs to provide data and information that are transparent, consistent over time, suitable for measuring, reporting and verifying anthropogenic forest-related emissions by sources and removals by sinks, forest carbon stocks, and forest-area changes. The system will support decision making related to REDD+ strategy options and provide information to governmental organizations, NGOs, research institutions, other relevant institutions and the public.

The design of a monitoring system will be closely linked with the technical approach for assessing emissions and removals, since the system will be designed to monitor carbon stock changes over time. The development and capacity building efforts of a forest monitoring system will be based on experiences and learnings from ongoing NFI activities, REDD+ readiness activities and piloting activities such as the proposed Emissions Reduction Program in the TAL area.

Nepal will proceed towards spatially explicit activity data and forest strata level emission factors. The reliability of emission factors estimation will be improved as existing gaps in capacity are addressed, such as through delivery of technical trainings. In order to ensure effective, efficient and transparent governance of measuring, monitoring and managing data under the MRV system, DFRS (the national MRV implementing agency) will, under the overall guidance of the RWG, be responsible for the following:

1. Periodic execution of forest assessments for deforestation and degradation, and carbon enhancement monitoring;
2. Designing, maintaining and operating the National Forest Monitoring System (NFMS);
3. Coordinating the collection of subnational level information so that double counting of emissions is eliminated by allocating each district/local level to a single subnational level area;
4. Disseminating NFMS deliverables through a web portal; and
5. Providing technical guidance and institutional/capacity support to the institutional set-up at subnational/district/local community levels

8.2 The National Forest Database and National Forest Information System (NFD and NFIS)

The UNFCCC-COP Decision 11/CP.19 outlines the modalities for national forest monitoring systems to be built upon existing systems (as appropriate), to enable the assessment of different types of forests, to be flexible and allow for improvement, and to reflect the phased approach. The DFRS developed an Open Source Forest Information System (OSFIS) consistent with the UNFCCC guidance. The OSFIS supports managing the inventory data and spatial data sets. In addition, it has a standard platform for data dissemination, but this is primarily designed for inventory management purposes. The OSFIS will be upgraded to enable continuous monitoring of the permanent sample plots with an advance user interface, modules and database structure. REDD IC has also been working on developing and upgrading NFD and NFIS to maintain web-based systems for NFD and NFIS for REDD+.

The NFD and NFIS system provides a foundation to integrate data from the existing databases and to provide tools for monitoring forest resources, forest management, carbon stocks, forest users and REDD+ activities. The data will need to originate from various governmental and non-governmental sources operating at national, subnational, district, forest management unit and stand level, including the community based monitoring system. Key modules that will be included in the NFD and NFIS are forest types, carbon stock, work plan and programs, users and beneficiaries, remote sensing, Land use, Land-use Change, and Forestry (LULUCF), REDD+ activities and social and environmental safeguards (SES) indicators.

The NFIS will be based on a user-friendly interface so that its use does not require extensive expertise with information technology. The system will be accessible by the public on the internet. A web-based information system will enable easy access, updating, and sharing of data and information with the relevant stakeholders.

The NFIS will be designed as an overarching information management system that includes: (i) tools and protocols for system managers and interfaces for accessing data, (ii) information and maps from the NFD and other relevant databases, (iii) links to and between these databases, analysis, synthesis, tabulation and other thematic tools. The NFIS will include tools for decision support modules and user-friendly graphical interfaces for data query and reporting, GIS analysis and mapping. The GIS module will include standard web mapping interfaces and tools.

The NFIS will be deployed through a dedicated web application server to be based in the Government Integrated Data Centre (GIDC) that has facilities for space, continuous power supply, high speed internet connectivity, security and technical support. A backup server will be set up in the National Information and Technology Centre (NITC), Singh Durbar, Kathmandu.

The NFD and NFIS study commissioned by REDD IC developed guidelines for institutional coordination and standard operating procedures for NFMS. The study provided several recommendations for the institutional management of the system, including human resources, computer hardware and software to ensure system sustainability and use. The study recommended several trainings and capacity-building activities targeting government staff that will be engaging in system operation, maintenance and administration of the NFIS from national to district/local levels. The NRC will conduct the recommended trainings and other capacity building activities as the REDD+ development and implementation process moves forward.

9. Finance for Implementing the Strategy

The financial requirements for the activities identified in section 4.5 and section 9 above will come from multiple sources, including the government's budget, the additional readiness grant from FCPF (US $5 million), Forest Investment Program (US $ 28.5 million) and other bi-lateral and multi-lateral grants.

10. Implementation Steps

The following implementation steps were identified to implement the first five years of the National REDD+ Strategy. The strategy will be reviewed in 2020 to plan for the next phase.

Table 3. Proposed implementation steps

SN	Actions	Year 1-2018	Year 2 2019	Year 3 2020	Year 4 2021	Year 5 2022
1.	Approval of the National REDD+ Strategy document					
2.	Development of Monitoring and Evaluation framework of National REDD+ Strategy					
3.	Develop implementation plan of the strategy with detailed action plan and budget					
4.	Restructure REDD IC into a National REDD+ Centre					
5.	Development of benefit sharing plan and financial mechanism					
6.	Update and harmonize SESA-ESMF in line with the National REDD+ Strategy					
7.	Establish Safeguards Information System					
8.	Development of projects at subnational level					
9.	Policy and legal framework update and harmonization					
10.	Research, studies and knowledge generation					
11.	Awareness raising and capacity development on REDD+ of all stakeholders					
12.	Institutional set-up for REDD+ implementation, safeguards, GRM and provision of human resources					
13.	Establishment and management of functional MRV and NFMS, including SIS					
14.	Coordination, collaboration and communication with different sectors and stakeholders					
15.	Review and evaluation of the strategy					

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