

**ENSURING REDD+ SAFEGUARDS FOR  
SOCIOECONOMIC SUSTAINABILITY OF FOREST  
DEPENDENT MOUNTAIN COMMUNITIES (A CASE  
STUDY OF PRIVATE FORESTS OF GILGIT  
BALTISTAN, PAKISTAN)**

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**UNIVERSITI SAINS MALAYSIA**

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**ENSURING REDD+ SAFEGUARDS FOR SOCIOECONOMIC  
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COMMUNITIES (A CASE STUDY OF PRIVATE FORESTS OF GILGIT  
BALTISTAN, PAKISTAN)**

**By**

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## ABBREVIATIONS

<b>AIPP</b>	Asia Indigenous Peoples' Pact
<b>AGPR</b>	Accountant General of Pakistan Revenue
<b>AKESP</b>	Agha Khan Education Support Program
<b>AKRSP</b>	Agha Khan Rural Support Programme
<b>BACIP</b>	Building and Construction Improvement Program
<b>CDM</b>	Clean Development Mechanism
<b>COP</b>	Countries of Partnership
<b>FAO</b>	Food and Agriculture Organization
<b>FPIC</b>	Free, Prior and Informed Consent
<b>GB</b>	Gilgit-Baltistan
<b>GBFD</b>	Gilgit – Baltistan Forest Department
<b>GEF</b>	Global Environmental Facility
<b>GHG</b>	Green House Gas
<b>GIS</b>	geographical Information System
<b>GtC</b>	Giga Tons of Carbon
<b>HFCs</b>	Hydro Fluorocarbons
<b>HFHD</b>	High Forest Cover High Deforestation Rates
<b>HFLD</b>	High Forest Cover Low Deforestation Rates
<b>ICIMOD</b>	International Centre for Integrated Mountain Development
<b>IGF</b>	Inspector General of Forest
<b>IFF</b>	Intergovernmental Forum on Forests
<b>IPCC</b>	Intergovernmental Panel on Climate Change
<b>IPF</b>	Intergovernmental Panel on Forests

<b>IPSS</b>	Institute for Peace and Security Studies
<b>IUCN</b>	International Union for the Conservation of Nature and Natural Resources
<b>IWGIA</b>	International Work Group for Indigenous Affairs
<b>KARDO</b>	Karakorum Agriculture Research Development Organization
<b>LFHD</b>	Low Forest Cover High Deforestation Rates
<b>LFLD</b>	Low Forest Cover Low Deforestation Rates
<b>LFND</b>	Low Forest Cover Negative Deforestation Rates
<b>LULUCF</b>	Land Use, Land Use Change and Forestry
<b>MDGs</b>	Millennium Development Goals
<b>MOCC</b>	Ministry of Climate Change
<b>MoE</b>	Ministry of Environment
<b>MoNDM</b>	Ministry of Natural Disaster Management
<b>MRV</b>	Monitoring, Reporting and Verification
<b>NASSD</b>	Northern Areas Strategy for Sustainable Development
<b>NCHD</b>	National Commission for Human Development
<b>NGO</b>	Non-Governmental Organization
<b>NRM</b>	Natural Resource Management
<b>NTFP</b>	Non-Timber Forest Produce
<b>OIGF</b>	Office of Inspector General of Forests
<b>PES</b>	Payment for Ecosystem Services
<b>PFCs</b>	Per Fluorocarbons
<b>PIF</b>	Project Investment Fund
<b>PWP</b>	Pakistan Wetland's Program
<b>QUAL</b>	Qualitative
<b>QUAN</b>	Quantitative

<b>REDD+</b>	Reducing Emissions from Deforestation, Forest Degradation, and the Role of Conservation, Sustainable Forest Management and Enhancement of Carbon Stocks
<b>REL</b>	Reference Emission Level
<b>SD</b>	Sustainable Development
<b>SEPC</b>	Social and Environmental Principles and Criteria
<b>SFM</b>	Sustainable Forest Management
<b>UNCSD</b>	United Nations Conference on Sustainable Development
<b>UNDP</b>	United Nation’s Development Program
<b>UNEP</b>	United Nation’s Environmental Program
<b>UNFCCC</b>	United Nation’s Framework Convention on Climate Change
<b>WSSD</b>	World Summit on Sustainable Development
<b>WWF</b>	World Wild Life Fund

**MIMASTIKAN PERLINDUNGAN REDD+ BAGI KELESTARIAN  
SOCIOEKONOMI KOMONUTI GUNUNG YANG BERGANTUNG HARAP  
PADA HUTAN (SATU KAJIAN KES HUTAN PERSENDIRIAN DI GILGIT  
BALTISTAN, PAKISTAN**

**ABSTRAK**

Pakistan menyertai program UN-REDD dan memulakan inisiatif REDD+ pada tahun 2010. Lembah Darel dan Tangir di Gilgit Baltistan dipilih sebagai salah satu tapak yang berpotensi untuk demonstrasi REDD+. Walau bagaimanapun, pelaksanaan REDD++ adalah sesuatu yang mencabar kerana hutan di Darel dan Tangir adalah milik komuniti dan kehidupan mereka banyak bergantung kepada hutan tersebut. Justeru, sebagai perancangan awal yang berkesan, keselamatan sosial dan ekonomi perlu diberi tekanan yang khusus. Tujuan utama kajian ini adalah untuk mengenal pasti keupayaan perlindungan REDD+ yang dikaitkan dengan kehidupan, pemilikan tanah hutan, dan penyertaan komuniti setempat dalam hutan persendirian yang terletak di kawasan gunung yang beriklim kering. Objektif kajian ini adalah: (i) untuk menilai sumber hutan semasa berdasarkan kehidupan dan perkaitannya dengan status komuniti gunung yang hidup di kawasan hutan persendirian, (ii) untuk meneroka sistem pemilikan tanah hutan, dan (iii) untuk mengenal pasti potensi perlindungan berkaitan dengan kehidupan, pemilikan tanah serta penyertaan komuniti gunung. Kawasan yang dipilih bagi kajian ini adalah Wilayah Utara, iaitu Gilgit-Baltistan, di Pakistan. Suatu pendekatan kajian kes disesuaikan bagi kajian ini dan seramai 128 buah keluarga atau isi rumah dipilih secara rawak daripada sepuluh buah kampung yang terletak di kedua-dua lembah, dengan tumpuan kepada tiga kumpulan sasaran, iaitu pemimpin agama, ahli persatuan kampung, dan komuniti setempat. Data yang diperolehi dianalisis menggunakan statistik deskriptif. Dapatan kajian mampu menambah baik dasar dan program REDD+ sedia ada dengan saranan

perlindungan sosial yang lebih baik dan berkesan melalui proses perancangan REDD+ yang teliti serta melindungi masyarakat asli, yang bergantung harap pada hutan, daripada menjadi mangsa projek yang tidak terancang. Kajian ini mendapati bahawa 84% daripada keluarga yang terlibat mempunyai hak pemilikan tanah dan mendapat royalti, dalam bentuk tunai, sebagai imbalan bagi pengkomersialan hutan. Sementara itu, bakinya, iaitu 16%, tidak mempunyai hak pemilikan, tidak dibenarkan menikmati faedah tersebut. Walau bagaimanapun, mereka dibenarkan menggunakan makanan ternakan (untuk binatang peliharaan) serta kayu api dengan syarat tertentu. 67%, 99% dan 33% daripada keluarga berkenaan (termasuk bukan pemilik) menggunakan makanan ternakan / foder, kayu api dan kayu balak masing-masing untuk kegunaan binatang ternakan, memasak, memanaskan badan dan keperluan pembinaan. Purata min penggunaan kayu api semasa musim panas (summer) adalah 45 kg/hari/keluarga, sebaliknya pada musim sejuk (winter) adalah 86 kg. Kadar purata penebangan pokok (deforestation) dalam kawasan berkenaan adalah 247 pokok /hari. Memastikan perlindungan REDD+ merupakan suatu usaha yang mencabar terutamanya dalam kawasan yang komunitinya mempunyai pemilikan, amat bergantung harap serta capaian kepada sumber hutan untuk kelangsungan hidup mereka. Di samping itu, dapatan juga mendapati 84% keluarga tidak mengetahui tentang REDD+, 98% keluarga menyokong penuh penyertaan komuniti terutamanya dalam pengambilan keputusan berkaitan hutan sebagai wadah penting bagi kejayaan pelaksanaan REDD+.

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BALTISTAN, PAKISTAN)**

**ABSTRACT**

Pakistan has joined UN-REDD program and started REDD+ initiatives in 2010. Darel and Tangir valleys in Gilgit Baltistan have been selected as one of the potential sites identified for REDD+ demonstration in the country. However, the implementation of REDD+ seems challenging as the forests in Darel and Tangir are owned by communities and their important livelihoods are dependent on these forests. The efficient pre-planning, therefore, requires special focus on social and economic safeguards. The main purpose of this study was to identify the potential REDD+ safeguards associated with livelihoods, forest land tenure and access rights and the local community participation in the private forests located in dry temperate mountain areas. The objectives of this study were (i) to assess the current forest resource based livelihoods and their relationship with the overall well being status of the mountain communities living in private forests (ii) to explore the current forest land tenure systems and access rights of the dependent communities and (iii) to identify the potential safeguards related to livelihoods, land tenure and access rights as well as community participation. The areas selected for this study were private forests of Darel and Tangir Valleys situated in the Northern Province i.e. Gilgit-Baltistan of Pakistan. A Case study approach was adopted for this study and a total of 128 households were randomly selected from ten village of both the valleys targeted at three groups i.e. religious leaders, members of village organization and local community. The data was analyzed by using simple descriptive statistics. The findings of the study provide lessons for the ongoing REDD+ policies and

programme to address the social safeguards in a better and efficient way by refining the planning process of REDD+ and prevent the indigenous people, who are depending on the forest, from being victimized by an ill-planned projects. The study revealed that 84% of the households have the ownership right over the private forests and gets royalty, in the form of cash, in lieu of commercial harvesting of forests while the 16% non owner households are not allowed to enjoy these benefits, however, they are allowed to graze their livestock and use firewood under certain conditions. 67%, 99% and 33% of households (including non owners) use fodder, firewood and timber respectively to support their livestock, cooking, heating and local construction requirements. The mean average use of firewood in summer is 45 Kilograms/day/ household while in winter it is 86 Kilograms. The average deforestation rate in the area found to be 247 trees/ day. Ensuring REDD+ safeguards could be a challenging task in the area where communities have complete ownership and high dependency and access to forest resources for their livelihoods besides 84% of the households have no information about REDD+. 98 % of the households strongly supported community participation in forest related decisions as crucial tool for the successful implementation of REDD+.

# CHAPTER 1

## INTRODUCTION

### 1.1 Introduction

Reducing Emissions from Deforestation (RED) (COP 11, 2005) and Forest Degradation (REDD) (COP 12, 2006), and the Role of Conservation, Sustainable Forest Management and Enhancement of Carbon Stocks in Developing Countries (REDD+) (COP 13, 2007) is a financial mechanism agreed in Cancun, Mexico in 2010 under the UNFCCC negotiation processes. REDD+ is a climate change mitigation tool to reduce the carbon emissions from forestry and sequester the carbon from the atmosphere. The forestry sector is recognized as the third largest sector contributing to the global carbon emissions as emissions from forest amount to 20% of global carbon emissions (IPCC AR4, 2007). Paragraph 1 (b) (iii) of the Bali Action Plan defines REDD+ as “policy approaches and positive incentives on issues relating to reducing emissions from deforestation and forest degradation in developing countries, and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries” (Bali Action Plan, 2007).

REDD+ uses “carbon” as a commodity through which developing countries can sell the carbon stored in their forests to developed countries that need to offset their emissions to meet agreed emission reduction targets. By attaching financial value to carbon stored in forests, the mechanism aims to generate incentives for developing countries to manage and protect their forests in a better way while simultaneously adding to the global fight against climate change.

The REDD+ mitigation activities are designed to provide multiple benefits such as alternative livelihoods, incomes, poverty mitigation, conservation of environment and biodiversity etc. It also aims to improve the asset base such as natural, human, cultural, financial, and physical assets of the forest dependent communities. Recent debates also brought “adaptation” into the REDD+ discussions to create synergies between potential areas of REDD+ and improving local adaptive capacities. The improved and enhanced adaptive capacities of the indigenous communities enable them to protect and conserve their natural resource base in a better and efficient way (Angelsen et al., 2009). It is now widely accepted that REDD+ is not just about carbon anymore but it should also provide other benefits such as conservation of biodiversity and recognition of the interdependence of the indigenous communities as well as the need for their sustainable livelihoods (Footnote to Annex 1, paragraph 2, of the Cancun Agreement 2010).

Since the evolution of the concept, the negotiation process on REDD+ was confronted by the out pouring of critiques and protests by indigenous forests and civil society groups who raised their serious concerns. The critiques pointed out that putting the financial value on forests can result in the disposition of politically and economically marginalized communities because of land grabbing due to insecure land tenure, corruption in government institutions and weak law enforcement. Different studies (CBD, 2010; UNDP, 2010; World Bank, 2012) also recognized the risks during implementation of REDD+. These studies have mentioned that REDD+ implementation could result in the conversion of forest land into plantations or other land uses having low biodiversity value and disposition and relocation of forest dependent communities without their informed consent. The loss of livelihoods such

as collection of firewood, fodder, timber, medicinal plants and grazing the animals was also identified as risk due to social and environmental limitations posed under a new REDD+ mechanism. Other risks identified were loss of indigenous knowledge, unequal benefit sharing due to elite capture, generation of conflicts, loss of rights and reduced access to forest resources, trading off the forest benefits for maximizing carbon benefits and creation of contradictory policies.

To create a mechanism that addresses the above mentioned problems, many unlike proposals have been presented to the UNFCCC to reduce emissions from deforestation and forest degradation. The need for survival of the native people with dignity and recognition and protection of their collective rights was realized by the United Nations. For this, the UN General Assembly in 2007 adopted the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP). The rights of native communities are also legally protected by other international legal instruments including the Covenant on Civil and Political Rights or the Covenant on Economic, Social and Cultural Rights, the Convention on the Elimination of all forms of Racial Discrimination and ILO Convention 169. The need to promote the active participation of forest dependent communities in REDD+ and to protect their rights has also been recognized by the UNFCCC (AIPP and IWGIA, 2011).

The UNFCCC adopted a decision on REDD+ known as Cancun Agreement (Annexure – I) in 2010 during COP 16 that addresses the developing countries to ensure the necessary safeguards during REDD+ implementation in order to prevent the adverse social consequences (appendix I of the Cancun Agreement, Decision 1.CP 16/10). It also requests the developing countries to address land tenure issues,

the drivers of deforestation, gender considerations, forest governance issues, and other safeguards. These safeguards include effective and transparent forest governance structure considering the national legislation, respect and consistency with the national and international laws, respect for the knowledge and rights of indigenous people and members of local communities, the full and effective participation of relevant stakeholders particularly the indigenous people and local communities (annex I, Paragraph 2 of Cancun Agreement, 2010). It is also suggested that the countries, when responding to climate change, should have to follow the principles of sustainable development and poverty reduction when implementing the REDD+ activities. These activities should be steady with the country's adaptation needs.

The safeguards application becomes complex and give rise to broad variety of interpretations due to the concurrent nature of potential risks and benefits during REDD+ implementation. Ensuring REDD+ safeguards not only protects against unwanted results but also increase the multiple benefits in terms of maintaining biodiversity and ecosystem services, improving human wellbeing, respect for human rights as well as promoting good governance. The assurance of safeguards also help to improve the efficiency, effectiveness, equity (3Es) and sustainability of the national REDD+ projects through improved governance and public participation as well as environmental integrity.

In response to the UN guidelines on safeguards, the major multilateral REDD+ programs, that is, the UN REDD program of UNDP and Forest Carbon Partnership Facility Program (FCPF) of the World Bank adopted different

approaches to ensure the inclusion of social and environmental issues while planning and implementing REDD+. Keeping in view the multi-sectoral and programmatic nature of REDD+ readiness, The FCPF has adapted the application of Strategic Environmental and Social Assessment (SESA) for REDD+ readiness phase. SESA ensures that it is consistent with World Bank's Policies, leads to develop Environment and Social Management Framework (ESMF) as an output, considers social and environmental concerns during REDD+ planning process, combines both analytical and participatory approaches and establishes inter-linkages with institutional, political and economic factors. On the other hand, the UN REDD developed and adopted Social and Environmental Principles and Criteria – SEPC (Annexure – II) to serve as safeguards against the risks which are likely to occur if REDD+ mechanism is not properly planned and implemented. The objectives of the SEPC are (1) assisting countries in formulating national REDD+ programs and initiatives for which they seek UN-REDD support, (2) reviewing national programs prior to submission for a UN-REDD Policy Board decision on funding and (3) assessing national program delivery (SEPC – UN REDD, 2012).

World Bank defines safeguards as “the needs to protect against social and environmental damage or harm” (World Bank, 2012). The UN meaning of environmental and social safeguards is the “adoption and integration of precautionary environmental and social principles and considerations into decision making process” (SEPC-UN REDD, 2012). In view of the above definitions safeguards mostly refer to the actions, policies and procedures intended to avoid unwanted impacts. The basic objective of the safeguards is to avoid and lessen the

unnecessary damage to the people and the environment at the initial planning process (World Bank, 2012).

The current research mainly focuses on the forest dependent mountain communities because the mountains have a special place in paragraph 210 to 212 of the outcome document of Rio+ 20 Conference (2012), that is, “The Future We Want”. It is recognized in the report that the ecosystem services provided by the mountain regions are crucial for sustainable development. It was also recognized that the mountains provide shelter to the majority (12%) of the world’s population, including native peoples and local communities and most of these communities are often marginalized. Therefore, continued efforts are required to tackle the issues of food insecurity, poverty, nutrition, social barring and environmental deprivation in these areas.

## **1.2 Problem Statement**

The mountain regions of Pakistan are comparatively poor in vegetation growth and the forests are mostly limited to its northern parts in the provinces of Khyber Pakhtunkhwah (KP), Gilgit Baltistan (GB) and Azad Jammu-o-Kashmir (AJK). These mountain regions have the natural limitations for its spread in forest cover due to large areas under snow cover peaks, glaciers, meadows, low rainfall, extreme climate and precipitous slopes. Most of these areas are short in timber and fuel wood requirements. Consequently, the local communities have century old traditions to plant forest trees on their farm lands to supplement their timber, firewood and forage requirements. Plantations on farm and barren lands have increased many folds since last three decades. The natural forests are generally found

on hill slopes ranging from 5000 feet to 13000 feet (IUCN, 2003). In some of the areas (District Diamer) of Gilgit Baltistan, local communities own almost all forests officially designated as “Private Forests” (Private Forest Regulation, 1975)

Pakistan has joined UN REDD program in 2010 to support the global efforts to protect and enhance the forestry resources for a better and low carbon future and to make sure the social, economic and ecological wellbeing of its people. Following this, Pakistan has initiated REDD+ activities in the country and potential REDD+ demonstration sites for the future have also been identified (MoE, 2012). The private forests of Gilgit Baltistan have also been identified for REDD+ demonstration (Kanwar, 2012). The Gilgit Baltistan government in collaboration with forestry wing of ministry of climate change has initiated readiness activities under the approved project of “REDD+ Readiness Phase in Gilgit Baltistan” of worth Pakistani Rupees (PKR) 30 million.

Different studies (WWF-P and ICIMOD, 2010) also reported that, during the last decade, the private forests of Gilgit Baltistan have been highly deforested at an average rate of 4% per year. The massive deforestation was mostly because of commercial harvesting followed by forest resource based livelihood needs of the local people. Other studies (IUCN, 2003; Ismail, 2009) also reported that 95% of the local communities are not involved in the commercial harvesting of these forests and the benefits from the harvesting of these forests are being pocketed by the power elites, forest lessees, middlemen and the government officials at the expense of the traditional rights of the indigenous communities. Poor planning and management by

the forest authorities due to inadequate data and lack of awareness and access to modern technologies in the area has also been reported by Burhan (2007).

The implementation of REDD+ seems to be a great challenge for law enforcement officials, policy makers and public at large as it requires new financial and administrative solutions as well as protection of social and environmental safeguards not only to address the above mention issues but to ensure the successful demonstration of REDD+ activities.

The current study, therefore, designed to identify the safeguards related to livelihoods, land tenure, access rights, local participation and governance issues aimed to helping the design and planning process of REDD+ in the region.

### **1.3 Objectives of the Study**

The main purpose of this study was to identify the potential REDD+ safeguards associated with livelihoods, forest land tenure and access rights and the local community participation in the private forests located in dry temperate mountain areas.” The sub objectives are:-

1. To assess the current forest based livelihoods and their relationship with the overall well being status of the mountain communities. .
2. To explore the current forest land tenure systems and access rights, participation and information of the dependent communities in order to examine the potentiality for REDD+ implementation.

3. To identify the potential REDD+ safeguards related to livelihoods, land tenure and access rights, participation and information of the mountain communities at local level in Darel and Tangir Valleys

#### **1.4 Research Questions**

- Q1. How do the forest resource based livelihoods of the mountain communities support their overall well being?
- Q2. What are the current forest land tenure systems and access rights, participation and information of the dependent communities that would be affected under transformation during the implementation of REDD+?
- Q.3 What are the potential safeguards related to livelihoods, land tenure and access rights, participation and information of the mountain communities that need to be addressed before the implementation of REDD+?

#### **1.5 Significance of the Study**

The study tries to provide empirical data to refine the planning process of REDD+ and prevent the indigenous people, who are depending on the forest, from being victimized by an ill-planned projects. The data gathered and subsequent analysis tries to help the scholars, researchers, academics and general public to create an in-depth understanding about the relationships between environment, society and economy within the mountain communities. It also tries to help the law enforcing officials and policy makers with the information relating to potential risks and benefits of REDD+ enabling them to understand how they may address or mitigate

factors that are contributing to the increasing deforestation, forest degradation and social marginalization. The findings provide evidence based suggestions for the ongoing REDD+ policies and program to address the social safeguards in a better and efficient way.

## **1.6 Organization of the Thesis**

This thesis consists of seven chapters including this chapter. Chapter one gives an introduction to the research study with some background knowledge on the subject matter. It also includes problem statement, objectives, research questions and the significance of the study.

Chapter two starts with the brief introduction to forest transition theory and theory of sustainable development and linking both the theories with REDD+. Subsequently, it reviews some related literature on the subject matter, that is, historical and most up to date information on REDD+. This chapter also highlights some other similar studies about the execution of REDD+ projects in some parts of the world and their impacts (either negative or positive) on the socio-ecological status of the communities. At the end, this chapter reveals some research gaps which are supporting the objectives of this study.

Chapter three is about the study area. It starts with some country specific information (as a context to the study area) regarding the forests statistics, related issues and REDD+ implementation status, so far, at national level. It is then followed by brief details about the study area, that is, Darel and Tangir Valleys of District

Diamer Gilgit Baltistan, including the general topography, population, situation of forests, and living standards of the communities.

Chapter four introduces research methodology. It gives information on the type of research used for this study, the research approach and tools and techniques that were used for collection of data sets and their analysis.

Chapter five is about the results of the study. The results are described with the support of tables and graphs. It starts with revealing the current livelihood status of the area and ends with describing the information and participation level of the local communities of Darel and Tangir valleys.

Chapter six starts with a detailed discussion on socio-economic analysis for REDD+ considerations and going through discussions on transformation of benefits and benefit sharing mechanism, drivers of deforestation and forest degradation in the local area, land tenure systems and access rights of the local people and ends with discussion on readiness level of the local communities for REDD+ as well as the necessary safeguards that need to be ensured before implementation of REDD+ in the area.

Chapter seven concludes the overall findings of the study in the light of results and detailed discussion. It also gives some recommendation based on research findings.

## **CHAPTER 2**

### **LITERATURE REVIEW**

Based on the detailed literature review, this chapter explains the forest transition theory and theory of sustainable development and linking both the theories with the sustainable management mechanisms in forestry sector, in particular the REDD+. The chapter then gives detailed review of the overall REDD+ mechanism, importance of forests, role of forest in climate change and issues related to forest definition under REDD+. The chapter also reveals the findings and lessons learned, of different similar research studies.

#### **2.1 The Forest Transition Theory**

According to forest transition theory by Rudel et al. (2005), “deforestation and forest degradation continues within the development process of a country until few forest resources remain and alternative economic development paths are to be taken” (Figure 2.1). After a period of recovery, forest land starts increasing again. A country has a high and comparatively stable part of land under forest cover, but when the deforestation starts, it accelerates the reduction of forest cover. After a certain period, the deforestation becomes slow and forest cover stabilizes and starts recovering again. The pattern is shown in the Figure 2.1 where five different stages are identified:

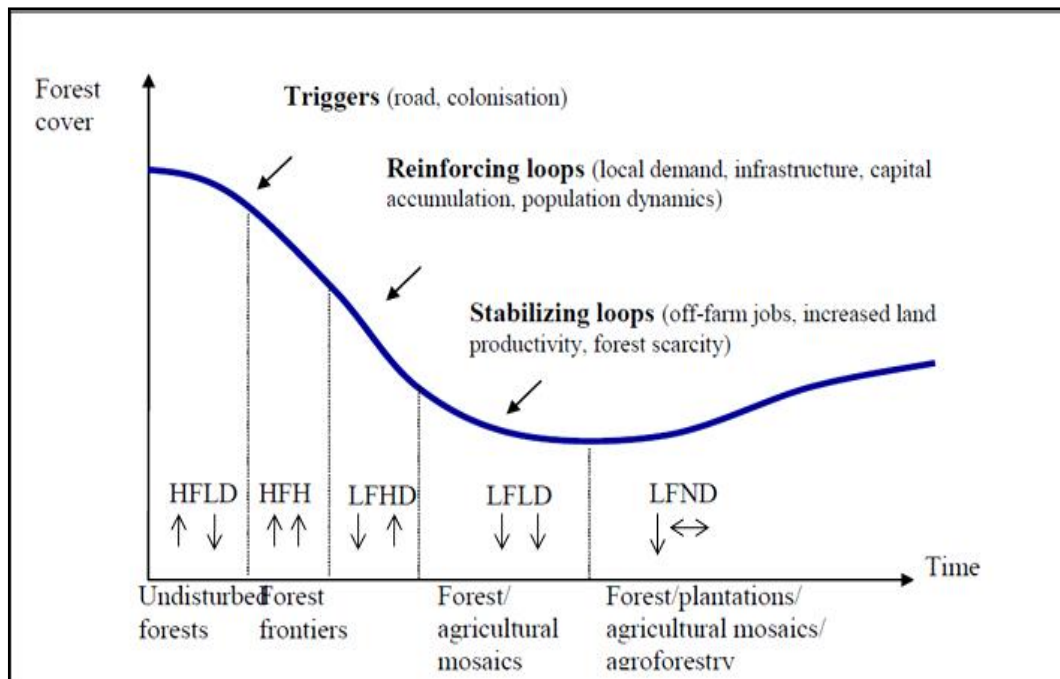


Figure 2.1. Forest transition path  
Source: Rudel et al. (2005)

- Stage 1: High Forest Cover, Low Deforestation rates (HFLD)
- Stage 2: High Forest Cover, High Deforestation rates (HFHD)
- Stage 3: Low Forest Cover, High Deforestation rates (LFHD)
- Stage 4: Low Forest Cover, Low Deforestation rates (LFLD)
- Stage 5: Low Forest Cover, Negative Deforestation rates (LFND)

The Forest Transition Theory can be applied both at national (country) and sub national (regions within the country) level. The triggers that result in forest transition are mostly new roads, which bring in markets for agriculture products and are often part of colonization programs (Chomitz et al., 2007; Angelsen, 2007). A number of reinforcing loops can accelerate deforestation such as further infrastructure developments that provide better access to markets, increasing population dynamics and higher incomes with enhancing demands as well as capital

accumulation (Rudel et al., 2005). The eventual stabilization of forests is mainly because of two factors such as (i) the economic development due to better paid off-farm employment resulting in reduced agriculture rents where forest products and ecosystem services becomes less valuable and (ii) when the scarcity of forests resources increase forest rents and gives low profits, it stops deforestation and forest conversion (Ibid, 2005). The forest transition is not a natural law and transitions are effected by country circumstances, policies at national level, and global economic drivers. The national forest cover may become very low before it stabilize or it might be controlled and keep intact by bridging the forest transitions with effective policies - a central aim of REDD+.

REDD+ is a mechanism of the UNFCCC that aims at providing incentives for maintaining forest resources and thus creating a bridge that changes the traditional forest transition path (Figure 2.2).

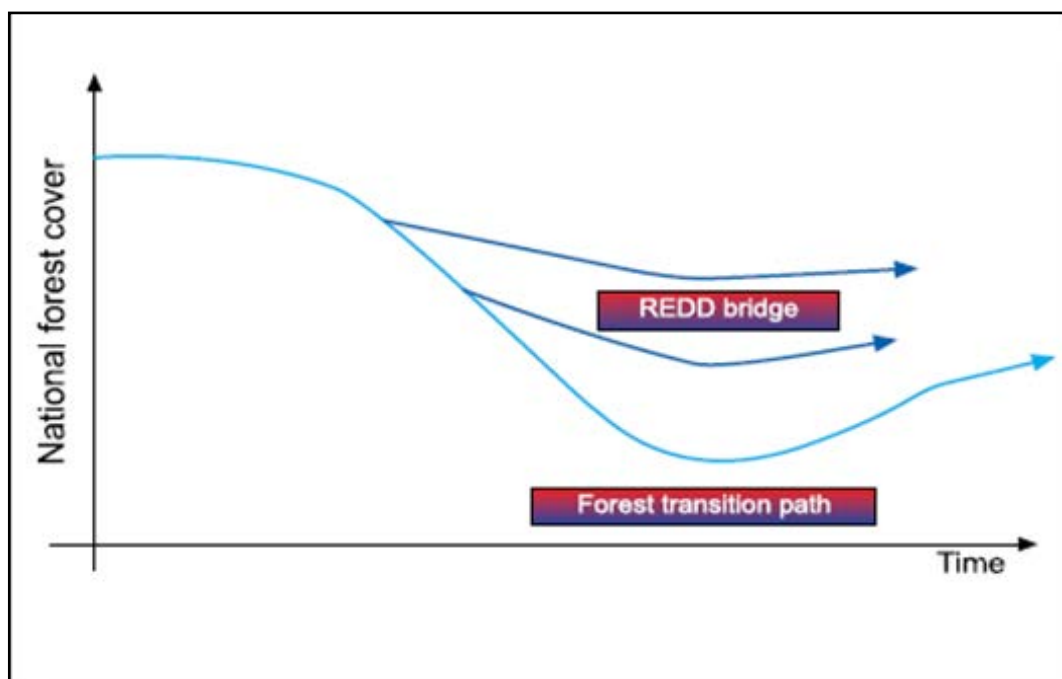


Figure 2.2 REDD+ creating a bridge to change the traditional forest transition path  
Source: Forest Carbon Partnership Facility, 2009

Figure 2.2 shows that if REDD+ scheme would be implemented at the time, when development process starts or where almost the forest transition has been made, it will prevent the natural forest resource from deforestation and forest degradation. It will also stop the transition and support the development process ultimately resulting in the socio-economic and ecological well being of the communities (Forest Carbon Partnership Facility [FCPF], 2009).

This study tries to investigate that how the current livelihoods, land tenure and access right and public participation can impact overall REDD+ development process either playing its role as a bridge in the development path. For this study, it is assumed that the construction of REDD+ bridge across forest transition path starts with assuring the Social and Environmental Safeguards, particularly, the stakeholder's participation, clear land tenure system, and introducing alternative sustainable livelihoods before implementing the REDD+ interventions.

## **2.2 The Theory of Sustainable Development (SD)**

The concept of SD was first originated in 1972 in Stockholm Conference called United Nations Conference on Human Environment, after the failure of conventional theories of capitalism and socialism which supported the development that was only meant for wealth accumulation and profit gain without considering the social benefits and environmental risks. It was first time when environment and development were linked together. It was realized that due to increase in population and development needs, pressure was built on the natural resource consumption resulting in pollution and degradation of natural resources. The conference introduced some new concepts to the world for the first time, that is, Natural

Resource Management (NRM) and Human Rights. The parties of the conference finally agreed to establish a proper program, United Nation's Environmental Program (UNEP), which is responsible to check the development progress at all levels and the potential environmental risks and to formulate policy guidelines accordingly. The theory of SD was explained for the first time in a Bruntland's commission report published in a book form in 1987 with a title "Our Common Future". According to the report, Sustainable Development is "the development that meets the needs of the present generation without comprising the ability of the future generations to meet their own needs" (Bruntland's Report, 1987). The report puts focus on two important things that is (i) to identify the basic needs of the present populations and their link to the natural resource consumption and (ii) to put the limitations on the environmental abilities through state of art technology and social organization. It means that the development process should be in a way (sustainable) that use natural resources efficiently by putting limitations on environmental abilities (forest ecosystem services) through state of art technology and social organizations (involving local institutions). The theory inter-relates three components to bring sustainability in a system, that is, society, environment and economy. It means that any development process should consider the potential negative consequences on both the society and the environment while maintaining balance between society, environment and economy.

Following the recommendations of the Bruntland's commission, the United Nation's Conference on Environment and Development (UNCED), also called Earth Summit was convened in 1992 at Rio Brazil. The Earth Summit resulted in the following documents and the legally binding agreements:

- (a) Rio Declaration on Environment and Development
- (b) Agenda 21
- (c) UNFCCC
- (d) UNCBD
- (e) Forest Principles (United Nation's Commission to Combat Desertification)

### **2.2.1 Agenda 21**

It is an action plan with a wide range of activities proposed to the governments, UN organizations, and to the major groups working in the areas where there is a direct anthropogenic impact on environment. It covers not only the social and economic dimensions but also focus on the conservation and management of resources for development. The social and economic dimensions include combating poverty, changing consumption patterns, promoting health, changing population and sustainable settlement in decision making. While the dimensions for conservation and management of resources include atmospheric protection, combating deforestation, protecting fragile environments, conservation of biological diversity, control of pollution and management of biotechnology and radioactive wastes. A special chapter (Chapter 11) is incorporated to combat desertification where conservation and sustainable management of forests is highlighted. Furthermore, the role of major group like youth, children, women, business, workers, indigenous peoples and farmers has also been recognized. Proper actions are suggested to strengthen the role of these groups in decision making besides the actions about means of implementation such as science, education, financial mechanisms, technology transfer and international institutions.

### **2.2.2 Forestry Principles 1992**

These are the non-legally binding and guiding principles adopted for the world wide agreement. The objectives of these principles were designed to contribute to the conservation, sustainable management and development of all types of forest resources and using their functions in a balanced way. It was first time the importance of forests were recognized at global level and linked to the overall environmental and social issues particularly to the rights of forest dependent communities for their socio-economic development. The primary role of forests for providing services and their management on sustained bases to support poverty alleviation, national development and ensuring food security have also been discussed and documented at the highest political level meetings. These meetings include the World Food Summit (1996), the United Nations Millennium Summit (2000), the World Food Summit (2002), the Johannesburg Plan of Implementation (JPOI) during World Summit on Sustainable Development (WSSD) in 2002.

### **2.2.3 Intergovernmental Panel on Forests (IPF) and Intergovernmental Forum on Forests (IFF)**

For the implementation of chapter 11 of agenda 21 and forestry principles, the UN established the Intergovernmental Panel on Forests (IPF) and its successor, the Intergovernmental Forum on Forests (IFF). From 1995 to 2000, the IPF and IFF worked on the identification of underlying causes of deforestation, indigenous knowledge related to forests, international windows for financial assistance, cooperation and technology transfer and better options for sustainable forest management. After going through extensive work, the IPF and IFF developed 270 proposals for the promotion of management, conservation and sustainable development of all types of forests.

#### **2.2.4 United Nations Framework Convention on Climate Change (UNFCCC)**

The climate convention, that is, United Nation's Framework Convention on Climate Change (UNFCCC) was an important agreement of the Earth Summit. It defined a skeleton for all the intergovernmental efforts to deal with the challenges posed by climate change. It recognizes that constancy of the climate system, a common resource, can be affected by the green house gases (specially the carbon dioxide) generated from different anthropogenic activities. The ultimate objective of the Convention is "to alleviate greenhouse gas concentrations at a level that would prevent dangerous anthropogenic (human induced) interference with the climate system." It states that "such a level should be achieved within a time-frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened, and to enable economic development to proceed in a sustainable manner."

#### **2.2.5 The Kyoto Protocol**

The UNFCCC led to the Kyoto Protocol (KP) which is a legally binding agreement framed on the principles of convention adopted in Kyoto Japan on 11 December 1997 and enforced on 16 February 2005. The KP realizes that the current high concentrations of GHGs in the atmosphere are result of the industrial activities of the developed countries for the last 150 years and these countries are responsible for the climate change. During its first commitment period from 2008 to 2012, it bounded 37 industrialized, also called as Annex I countries, and European Union with the emission reduction target, that is, to bring on average 5% emission reductions compared to 1990 levels over the first commitment period. Heavier burden was put on the developed countries under the core principle of "common but

differentiated responsibilities”. After the end of the first commitment period, the parties to the Kyoto Protocol, during COP 18, agreed for the 2nd commitment period (except New Zealand, Japan, Russia, Canada who withdrew from KP in 2011 and USA that never ratified KP) starting from 1st January 2013 to 31st December 2020 with emission reduction targets of 18 percent compared to the 1990 level as benchmark.

The parties to the UNFCCC meet on annual basis in Conference of the Parties (COP) to review the progress of the developed nations, meeting their emission reduction targets, under negotiations of the Kyoto Protocol. Since 2005, the Meeting of Parties (MOP) of the Kyoto Protocol is also organized in concurrence with the COP, however, the parties who are not the part of the KP but COP can participate as observers in MOPs. So far, 18 COP meetings and 8 MOPs have been organized.

#### **2.2.6 World Summit on Sustainable Development (WSSD)**

The World Summit on Sustainable Development (also named Rio+ 10) held in Johannesburg, South Africa in 2002 to review the 10 years progress of the UN member states after Earth Summit of 1992. No new agreements were made, rather two types of documents, that is, Type I (formally negotiated by UN member states in WSSD processes) and Type II (not formally negotiated by UN member states) came as an outcome documents of the summit. The type I documents includes the Implementation plan of WSSD and Johannesburg Declaration on Sustainable Development while Type II documents includes the voluntary commitments made by the individual governments, partnership of the governments or non-government actors to definite targets or objectives for the implementation of sustainable

development. Type II documents were also considered to be the key way to attain the Millennium Development Goals (MDGs).

WSSD recognized that maintaining the multiple functions of forests is only possible through sustainable management of forests – a key element of sustainable development. Managing forests on sustained bases is not only important for the reduction of poverty, deforestation, forest degradation and loss of forest biodiversity but, it is also critical to improve the food security, provision of clean drinking water and affordable energy as firewood. WSSD also requested the member states to take actions to speed up the implementation of proposals made by IPF and IFF, fight the illegal international trade, strong forest law enforcement at domestic level, support sustainable harvesting of timber, promote aboriginal and community-based forest management systems and their effective participation and implementation of CBD.

#### **2.2.7 COP 11 – RED**

In 2005, a new mechanism was presented by Papua New Guinea and Costa Rica to address the carbon emissions from forestry sector during 11th Conference of the parties in Montreal Canada. This mechanism only covered the reduction of emissions from deforestation (RED) and addressing only changes from forest to non-forest land cover and types in developing countries. This proposal got the interest of almost all the parties to the UNFCCC as they see it as an opportunity not only to reduce the carbon emissions but also generating financial resources for developing countries for protecting their forests. Keeping in view the interest of the parties, the Subsidiary Body for Scientific and Technological Advice (SBSTA), an advisory and

reporting body to the UNFCCC, was asked to consider the issue and continue further work on it.

### **2.2.8 COP 12 - REDD**

The concept of RED continues to advance and it became REDD in 2006 with the inclusion of emission reduction from forest degradation addressing not only changes from forest to non-forest land cover and types in developing countries but also shifts to lower carbon stocks within the forest areas.

### **2.2.9 COP 13 – REDD+ (Bali Action Plan)**

The REDD became REDD+ when a wider scope has been granted during 13th Conference of the Parties (COP 13) in Bali Indonesia in 2007 where negotiations on reducing emissions from deforestation and forest degradation (REDD) in developing countries got much importance. The negotiations resulted in the form of an outcome document known as Bali Action Plan which was adopted as a strategic framework and provided initial bases to start negotiations on REDD+. It also encouraged parties to adopt different approaches to stimulate action (Decision 2/CP.13) regarding capacity building, technical assistance and technology transfer besides exploring new actions to provide indicative guidance through demonstration activities. SBSTA was also asked to work on further methodological issues related to REDD+.

### **2.2.10 COP 15 and the Copenhagen Accord**

COP-15 in Copenhagen Denmark in 2009 could not reach to a final decision on REDD+ due to deadlock in negotiations. However, many issues in the draft text

of Bali Action Plan, such as guiding principles, scope, phased approach to REDD+ and safeguards, were focused and clarified by the parties. A decision (Decision 4/CP.15) was also adopted on the methodological guidance for REDD+, based on the work of SBSTA, which requested the developing country parties to identify the drivers of deforestation and forest degradation, indentify activities that could help in emission reductions and increased removals as well as stabilization of forest carbon stocks. The decision also recommended the developing country parties to use IPCC guidelines as basis to MRV systems and estimating emissions, develop guiding principles for the engagement of indigenous communities in MRV systems, capacity building and setting a benchmark based on historic data to be adjusted for national circumstances.

The Copenhagen Accord was a political agreement which was finalized outside the UNFCCC. It recognizes critical role of reducing emissions from deforestation and forest degradation and calls for increasing GHG removals through forests. It also urges need to establish a mechanism (including REDD plus) to rally financial resources from developed countries. It was also agreed that USD 30 billion will be invested in forestry sector by the developed countries through international institutions from 2010 through 2012 to support the REDD+ initiatives besides committing to mobilizing USD 100 billion till 2020. The parties also agreed to create a Green Climate Fund to support the activities for climate change mitigation. The negotiating group in Copenhagen also reached a consensus on “plus” with proper advice on methodological guidance for REDD+ and efficient participation of native people and local communities. This plus is based on the principles and safeguards provided in Bali (2007) to ensure that the developing countries meet their

commitments while taking care of their biodiversity and other benefits (Kanwar and Maqsood, 2011).

### **2.2.11 COP 16 - The Cancun Agreement**

During the 16th Conference of the Parties in Cancun Mexico in 2010, the parties adopted a decision on REDD+ (decision 1 C/ CP.16) and agreed on the text similar to the text of Copenhagen. The decision urged the developed countries to provide financial assistance in order to assist and encourage the developing countries to identify the drivers of deforestation (with a special focus on governance, land tenure and community participation and their rights) and develop a national REDD+ strategy, national reference emission levels (RELs) or national reference levels (RLs), national forest monitoring and reporting system as well as the system to provide information on the REDD+ safeguards (Paragraph 71 of Cancun Agreement). The scale of REDD+ activities was also decided (for details see section 2.5.1). It was decided that the implementation of REDD+ will follow a phased approach that will start with capacity building and strengthening of the institutions and communities for readiness followed by demonstration activities and end with result based actions which will be monitored, verified and reported.

The Ad hoc Working Group on Long term Cooperative Actions (AWG-LCA), a decision making body of UNFCCC, was also requested to identify the financial options for the result based REDD+ actions. The Subsidiary Body for Scientific and technical Advice (SBSTA), which is a reporting body to the COP, was also requested to identify the Land Use Land Use Change and Forestry (LULUCF) activities as well as methodological issues and modalities related to estimations of