

HARIYO BAN PROGRAM

Gender Assessment of Natural Resource Management: Dynamics of Power Relations and Indigenous Knowledge



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Table of Contents

Acronyms and abbreviations.....	vi
Chapter 1	1
1.1 Background	1
1.2 The need for translating good policy frameworks into action: Rationale of the study	2
1.3 Study goal and objectives.....	3
1.4 Research questions.....	3
1.5 Significance of the study.....	3
1.6 Gender in the NRM context: The study framework	4
1.7 A transformative approach to women’s participation and empowerment in NRM: An analytical framework	6
Women’s access to productive resources.....	7
Links between ecosystems and social power.....	7
Participation, power relations and women’s agency.....	7
Capacity and attitudes of forest actors for empowering women	8
Gender differential knowledge of biodiversity management	8
1.8 Study methodology	9
Study Approach.....	9
Data types and sources	9
Study period and areas	9
CBNRM institutions studied	10
Data sources and data collection methods.....	10
Respondents types by gender and caste/ethnicity	11
Interviews types	12
Data analysis	13
Study team	13
Study challenges and limitations.....	13

Chapter 2: An overview of study districts and gender situation	15
Mustang.....	15
Kaski.....	15
Chitwan.....	15
Kailali	15
Bardiya.....	16
Gender situation in the study districts	16
Chapter 3 Participation, leadership and power dynamics in CBNRM institutions	17
3.1 Membership in executive committee of NRM groups by gender and caste/ethnicity in the study areas	17
3.2 Leadership in CBNRM institutions by gender	18
3.3 Initiatives taken by women and men leaders.....	20
3.4 Trend of leadership change in CBNRM institutions.....	20
3.5 Gender differentiated perception of leadership quality	22
3.6 Leadership selection criteria in NRM groups.....	22
3.7 Backgrounds of leaders in the study CBNRM institutions	23
3.8 Gender power relations in Buffer Zone Management	23
3.9 Gender power relations in Conservation Area	25
3.10 Gender inclusiveness in CFUG structure	26
3.11 Gender differentiated perception of barriers for women’s leadership development in CBNRM	26
3.12 Why is women leadership in CBNRM institutions so difficult?	27
Institutional capacity and governance of CBNRM.....	27
Sociocultural norms, perceptions and practices affecting women leadership	32
External factors affecting women’s leadership	34
Chapter 4: Gender differentiated knowledge of biodiversity resource use and management ...	38
4.1 Plants women and men are aware of in their locality.....	38
4.2 Wild life women and men are aware of in their locality	39
Petronia xanthocolis	39

4.3	Gender differentiated use of plants	40
4.4	Gender differentiated preferences on forest resources	44
4.5	People’s perception of change in biodiversity	45
4.6	Women’s incredible roles in conservation and sustainable use of biodiversity	45
Chapter 5 Summary, conclusions and recommendations		45
5.1	Summary of analysis	45
	Relationships between forest resources and gender power relations	45
	Women’s exposure to gender based violence	46
	Neglected women’s incredible knowledge of biodiversity management	47
	Limited understanding, interests and capacity in dealing with gender issues.....	47
	Which women and men are still a question to explore	47
	Stakeholders’ views on what needs to be done for women leadership development	47
5.2	Conclusions and recommendations	48
	Situation of gendered participation and power dynamics in the CBNRM institutions	49
	Factors hindering/supporting women’s leadership and empowerment	49
	Recommendations for gender transformative change in the NRM sector	50
References		55
ANNEXES		60

Acronyms and abbreviations

ACAP	Annapurna Conservation Area Programme
BZMC	Buffer Zone Management Council
BZUC	Buffer Zone User Committee
BZUG	Buffer Zone User Group
CAMC	Conservation Area Management Committee
CAMU	Conservation Area Management Unit/Council
CAUG	Conservation Area User Group
CBNRM	Community-Based Natural Resource Management
CFUG	Community Forestry User Group
CFD	Community Forestry Guideline
CHAL	Chitwan-Annapurna Landscape
CPA	Comprehensive Peace Agreement
DFO	District Forest Office
DoF	Department of Forests
DNPWR	Department of National Park and Wildlife Reserve
DSWCO	District Soil and Water Conservation Office
FECOFUN	Federation of Community Forestry Users, Nepal
FGD	Focus Group Discussion
GAD	Gender and Development
GESI	Gender and Social Inclusion
HBP	Hariyo Ban Program
HH	Household
MDG	Millennium Development Goal
MFSC	Ministry of Forests and Soil Conservation
NGO	Non-Governmental Organization
NRM	Natural Resource Management
NTFP	Non-timber forest product
NTNC	National Trust for Nature Conservation
TAL	Terai Arc Landscape
USAID	United States Agency for International Development (USAID)

VDC	Village Development Committee
WID	Women in Development
WLCN	Women Leading for Change in Natural Resource Management, Nepal
WWF	World Wildlife Fund

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Chapter 1

1.1 Background

Managing and using natural resources in a particular society is gendered. Men and women participate in and use natural resources, including biodiversity differently with varying degree of power, needs, information, indigenous knowledge, and their livelihoods needs and concerns are different (Paudel 1999; Khadka 2000; Nightingale 2002; Rai-Paudyal 2008). Nepal's natural resources such as forests, water, wetlands, rangelands, wildlife and soils constitute the main resources on which around 83 per cent of rural women and men depend for meeting their socio-cultural, environmental and food security needs (CBS 2012). As an example, most rural women derive basic resources such as fuelwood, forage, fodder, leaves litter, and non-timber forest products with economic, social, cultural or religious significance from forest ecosystems for their households' livelihoods. Their indigenous knowledge, strategies and roles in conserving and using various plant and animal species found in different ecosystems are very crucial to sustain the environment, their households' livelihoods, and those of their communities (Khadka and Verma 2012).

While natural resources management (NRM) governance, policymaking and implementation practices in Nepal are yet to be gender sensitive and responsive (Khadka 2009; Khadka and Bhattarai 2012), renewed interests of the government, donors and development organizations towards social and environmental goals such as gender equality, poverty reduction, climate change adaptation and biodiversity conservation are the opportunities in the NRM sector to make development practices gender equitable. For example, the forest sector's "Gender Equity and Social Inclusion" (GESI) Strategy, 2008, the Community Forestry Development Guideline 2008, and the development partners funded forestry programs such as the Multi-Stakeholders Forestry Program, 2010-2020 and the Hariyo Ban Program tend to be supportive for making the sectoral policy, program and process gender inclusive. All of these policy frameworks emphasize the need for participation of women and men in decision-making and benefit sharing. The extent to which social and environmental goals oriented NRM policies and programs are implemented to benefit forest dependent social groups (women, indigenous peoples, traditionally excluded groups) and what socio-institutional and ecosystems factors support or hinder meaningful participation of the forest dependent social groups are the subject of inquiry.

Moreover, the magnitude and focus of international support in the Nepalese NRM sector has shifted to address environmental problems such as climate change, loss of biodiversity and deforestation and forest degradation. Women, in their multi-tasking roles as farmers, herders, herbalists, forest gatherers and conservationists (Momsen 2007), can play important roles in tackling these problems if NRM practices generate economic opportunities for women and enhance their leadership functions.

The Hariyo Ban Program— the USAID funded program in Nepal is an initiative designed to contribute to sustainability of different ecosystems and people's livelihoods in landscapes level in multiple drivers of change such as migration, climate change and enabling policy framework. It aims to reduce adverse impacts of climate change and threats to biodiversity, by restoring and conserving forests while improving livelihoods, and building resilience to climate change in both people and ecosystems. It works on three core interwoven components – biodiversity conservation, sustainable landscapes and climate adaptation – with livelihoods, gender and social inclusion being important crosscutting themes (www.wwfnepal.org). The program adopts the landscape management approach that focuses on holistic and participatory perspectives in conservation and development. The approach recognizes the need to consider human-environmental relations with a greater focus on consideration of gender differentiated indigenous knowledge in biodiversity management, creating both men and women livelihoods options and enhancing their capacity of NRM (Sharma et al. 2007).

The Hariyo Ban Program with its greater emphasis on biophysical and social elements in development policy and practices therefore intends to carry out a gender assessment in NRM practices with a special

focus on analysis of participation, power dynamics and indigenous knowledge in two landscapes, namely Terai Arc Landscape (TAL) and Chitwan-Annapurna Landscape (CHAL).

1.2 The need for translating good policy frameworks into action: Rationale of the study

Effective policies and processes determine the access to resources and opportunities by the poor and disadvantaged groups (Rikke Ingrid Jensen et al. 2001). The forest sector's policies such as community forestry has been regarded as one of the key strategic interventions for promoting engagement of women and other socially excluded groups in forest management and local development process. The Community Forestry Development Guideline, 2008 clearly recognizes the need for inclusion of women, Indigenous Peoples (IPs) and Dalits in the selection of executive committee of Community Forest User Groups (CFUGs), their proportionate representation in the committee and participation in income generation activities. Besides, the guideline states the need to include women in key positions (either chairperson or secretary) (DOF 2008: 11-12) and spend at least 35% of the total annual income of a CFUG for livelihoods improvement targeting poor women, Dalits, and IPs.

Likewise, conservation policy in Nepal tends to be supportive to include communities in resources use and management. For example, the Buffer Zone Management Regulation (BZMR), 1996 and Buffer Zone Management Guideline, 1999 recognize the importance of people's participation in conservation and conservation practices. The BZMR encourages the Department of National Parks and Wildlife Reserve (DNPWR) to invest 30-50 % of the royalty earned by the national parks or protected areas for community development activities in and around the protected areas (Gurung et al. 2008).

Besides sectoral policies, Nepal's development strategies and plans constantly recognize the need to mainstream gender. For example, following the declaration of Millennium Development Goals (MDGs) at a global level, the Nepal government attempted to include gender and social inclusion issues in the 10th five year periodic plan, 2002-2007. The third pillar of the plan focused on mainstreaming of excluded groups, with special emphasis on excluded caste/ethnic groups, including women (Gurung et al. 2008). Gender and social inclusion agenda gained momentum in national debates and discussions after the second 'people's war' in 2006. The Comprehensive Peace Accord (CPA), 2006 recognized gender inequality, social exclusion and discriminations, and poverty as driving forces to conflict (AWID Brief, ICIMOD 2013). The subsequent Interim Constitution 2007 strongly emphasized on addressing major development issues such as gender, governance and decentralized development. It mandates the state institutions to include at least 33% of women in any executive bodies and organisations at all levels (ibid).

Several studies reveal women's roles to be critical in conservation of genetic resources, species and ecologically critical areas in various ecosystems such as home gardens, forests and agro-forestry (Momsen 2007; Karki and Gurung 2012). As the research from Nepal and India (Agarwal 2010) reveals, enhanced women's participation in decision-making bodies in CFUGs contribute to improve forest governance, sustainable use of resources and increase women's self-confidence. At the same time, rural women find forest resources as the main source of household food security. A case study from Bhutan shows that women search for wild yams as food and conserve it when they are not confident with income earned by men would be spend on household food security (Dorji 2012). Despite women's greater involvement in collection and use of natural resources, they continue to be disadvantaged by insecure access and property rights to forests, trees and land resources (CIFOR 2013). Their exclusion from decision-making at different level is a serious forest governance issue that has an impact on people's livelihoods and forests (Gurung et al. 2011; Khadka 2009).

While much literature in NRM have discussed the importance of women's roles in natural resources management, including biodiversity conservation, little attention has been paid to understand gender dynamics of participation, power relations, and institutional and policy practices in advancing women's leadership and decision-making power. In addition, Nepal offers good examples of community-based conservation and development in which women's knowledge tends to be crucial in conservation of

biodiversity and its sustainable use. To what extent women's indigenous knowledge has an impact on promoting women's leadership is also poorly understood.

This assessment thus aims to analyse gender dimensions of NRM with a particular focus on participation dynamics and factors affecting women's leadership and decision-making roles, including gender differential indigenous knowledge of biodiversity use and management in community forestry, buffer zone forest management and conservation areas management regimes.

1.3 Study goal and objectives

The main goal of this assessment is to explore the dynamics of gender power relations and indigenous knowledge related to conservation, management and use of natural resources in two landscapes in Nepal, namely Terai Arc Landscape (TAL) and Chitwan-Annapurna Landscape (CHAL). The specific objectives include:

- Review and assess the level of gender participation in NRM and underlying causes affecting meaningful participation by women;
- Analyze power dynamics in NRM groups and underlying causes affecting women's decision-making roles and leadership; and
- Develop inventory of gender specific indigenous knowledge on biodiversity resources (identification, conservation, management and utilization) focusing on both flora and fauna.

1.4 Research questions

This assessment was guided by a broad research question such as *how can women's leadership and their meaningful participation in NRM be improved?*

The main question was furthered guided by the following specific questions:

- What is the status of membership and inclusion of women and men in the community-based natural resource management (CBNRM) institutions in CHAL and TAL?
- How have leadership roles in CBNRM institutions changed over the last two decades?
- Do social/gender norms, gender differentiated access to and control over resources, change in forest resources and use, and gender power relations influence women's leadership?
- Do men and women have different indigenous knowledge about identification, conservation, use and management of biodiversity resources in various ecosystems?
- To what extent do the NRM actors at district and national level are aware of and accountable to implement gender equity and social inclusion (GESI) policy of the government?

1.5 Significance of the study

This study adds value to policy and implementation aspects of the NRM sector in general and the forest sector particularly in two ways. First, it provides knowledge about how women's and men's different roles in household food security and natural resource use and management in Nepal results in gender differentiated indigenous knowledge of biodiversity identification and management. This information would be useful for biodiversity policy process and management of ecosystem services taking gender aspect into account, given the rapid socioeconomic and environmental changes. Second, the study identifies multiple factors hindering and/or supporting women's effective participation and leadership in the CBNRM institutions.

Importantly, study findings contribute to the effective implementation of Hario Ban Program in three ways. First, the study helps to sensitize and inform the program implementing actors and partners about deep rooted socio-institutional and cultural factors hindering or supporting the effective participation and leadership of women. Second, the study identifies critical gaps between official policy discourse and practice with regard to gender integration in the forest sector which would be useful for the government and development organizations to rethink their strategic focus on gender equality and women's empowerment. Third, the empirical evidences generated by this study will be useful for gender researchers and analysts to understand emerging and state-of-the-art knowledge about sociocultural and institutional aspect of NRM with focus on participation, gender and social power dynamics, and women's and men's indigenous knowledge of biodiversity identification, conservation, use and management. Although the study focuses on the forest sector, the study's findings will be relevant for other sector of NRM such as water, agriculture and environment.

1.6 Gender in the NRM context: The study framework

The word gender is different from the word sex. While the former is socially constructed differences between women and men, the later refers to universal biological characteristics that differentiate them. Gender thus refers to the economic, political and cultural attributes associated with being a man or a woman (Manfre and Rubin 2012, p 3-4). The attributes differ both across and within countries and communities and change over time.

Gender in NRM and development in a landscape is not about women only and their issues. It is about understanding multi-dimensional issues that constraint or facilitate women's participation in development processes and their access to and control over natural resources, opportunities and benefits. Conceptualizing gender in the NRM context is thus meant to understanding the differences between (and among) men and women in terms of roles, responsibilities, concerns, needs, knowledge, and power relations interplay between them with regard to conservation, development and use of natural resources; and addressing gender imbalances (Nightingale 2006; Meinzen-Dick et al 2011; Manfre and Rubin 2012). Unlike the Women, Environment Development (WED) policy approach that focuses on understanding women only and conceptualize women as a problem of and solution to environmental conservation, the Gender , Environment and Development (GED) policy approach attempts to understand socially constructed differences and power relations between women and men and its effects on women's advancement in natural resource management (Rocheleau and Edmunds 1997; Nightingale 2006; Brown 2011). The gender approach to development in the NRM sector thus focuses on transformation of unequal power relations between men and women and conceptualizes women's inclusion in NRM and development, and benefit sharing as their human rights (Krishna 2012). It also stresses equity issues within women or men on the basis class, caste, ethnicity, age, occupation and geographical location (Verma 2001).

Power relations, gender norms, social perceptions and men's roles and behavior influence the process of women's effective participation in forest decision-making, leadership and benefit sharing (Colfer and Minarchek 2012; Manfre and Rubin 2012; Lama and Buchy 2002; Nightingale 2003). In the past several years, development practices in the Nepalese NRM sector focused on women's roles in conservation and natural resources management. They were targeted as a means to attain the goal of environmental conservation. As a result, women's participation mostly focused on physical contribution to conserve and manage forest resources, which can be termed as "instrumental participation" (Nelson and Wright 1995: 1) and such participation practice however is unable to advance women's socioeconomic and decision-making power (Khadka 2009). Participation process tends to transformative when it focuses on process of empowerment and enables women and other traditionally excluded social groups to analyse problems that disadvantage them and capacitate them to challenges the problems. A number of NRM and gender scholars have argued for the need to shift in gender perspective that often focuses on women's instrumental participation, and pay more attention to address gender inequalities issues and women's

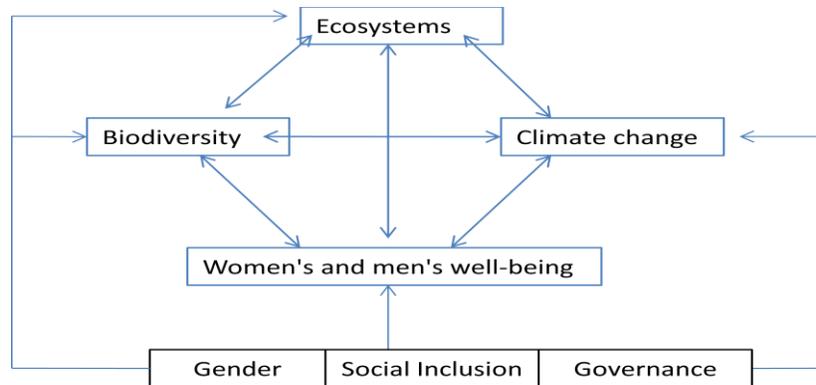
empowerment (see Meinzen-Dick et al. 1997; Lama and Buchy 2002; Nightingale 2003, 2006; Ahlborg and Nightingale 2012).

Gender in NRM is considered as a critical variable in shaping resource access, use and control. There are differences in access, control and rights over natural resources by gender which cross-cuts with other domains of social relations such as class, caste, ethnicity, age, culture, occupation and location (Rocheleau and Edmunds 1997; Verma 2001; Lama and Buchy 2002; Nightingale 2003, 2006; Elmhirst and Resurreccion 2008; Ahlborg and Nightingale 2012;). Social and power relations in South Asia, in particular India and Nepal generally advantage high-caste women when accessing certain resources. For instance, women from socially privileged caste have more influence in forestry activities in the studied CFUGs than socially discriminated Dalit women (Lama and Buchy 2002; Nightingale 2006; Buchy and Rai-Paudyal 2008). Therefore, examining differences among men or women is equally important as looking into the differences between women and men (ibid). This view is equally important in the context of Hariyo Ban program in Nepal which is being implemented in communities that are acutely unequal in term of access to resources and opportunities by gender, caste, ethnicity and class, but are rich in biological and socio-cultural diversity with great potential for enhancing ecosystem and community resilience. As discussed later, discrimination on the basis of gender, class, caste/ethnicity is also prevalent in both landscapes.

In addition to persistent gender inequality, climate change is seen as a major threat to women and men, and ecosystem and biodiversity in the Nepalese landscapes. Since women generally have fewer livelihood alternatives than men, they experience more food insecurity and vulnerability when impacted by climate change (Vincent et al. 2011; Skinner 2011; Nellemann et al. 2011). A study from Nepal shows that the poorest of the poor especially women headed households are more vulnerable due to climate change (Gautam et al. 2007). Gender inequalities, combined with gender power imbalance and norms, sociocultural, economic, political, and environmental factors, make women more vulnerable to the negative effects of climate change (Neumayer and Plümpner 2007; CARE 2009; Skinner 2011). At the same time, women are important actors to adapt to climate change. Women's specific knowledge of maintaining biodiversity, through the conservation and domestication of wild edible plants, food crop breeding, conservation of indigenous seeds, and forests and water springs, is key to adapting to climate change more effectively (Khadka and Verma 2012).

Therefore, understanding gender issues in the NRM context in the TAL and CHAL landscapes is essential to have positive impacts on ecosystem and biodiversity resources while enhancing men's and women's capacity to adapt to climate change and their well-being and livelihoods. The focus on a gender lens in the Hariyo Ban Program enables communities/targeted beneficiaries and program implementing actors to understand interconnected linkages among ecosystem, biodiversity, climate change and men and women's well-being and livelihoods (see Figure 1) and implement local resources management practices and innovation that address women's and men's specific gender needs and constraints (Leach 1991; Verma 2001).

Figure 1: Interconnected relationships between biophysical and social elements in a landscape



Source: Authors construction

1.7 A transformative approach to women's participation and empowerment in NRM: An analytical framework

The study is based on gender transformative approach to women's participation and empowerment in the NRM sector that recognizes the roles of power relations in participation and benefit sharing process. In development, the concepts of 'participation' and 'women's empowerment' have different meanings to different actors. For some, participation is seen as a means to accomplish the aims of a project more efficiently or cheaply and is termed as "instrumental" approach (emphasis Nelson and Wright 1995: 1), for other, it can be seen as an end where the community or group sets up a process to control its own development and is termed as "transformative" or "empowerment" approach to development (ibid). According to Guijt and Shah (1998: 9), an instrumental approach to participation considers it as a means to achieving better cost effectiveness of projects or programs while an empowerment approach values the process of increasing participation as an important end in itself. While the instrumental approach to participation tends to be alike to "techno-centric" or "productivity" view that sees participation as a process of delivering technology and materials to the targeted community or group, "empowerment" perspective to participation can be said as "process" perspective that focuses on overcoming unequal access to resources and services, and the marginality of people (Mosse 2005:33).

As Stiefel and Wolfe (1994:5) argue (cited in Cornwall and Brock 2005, p 17), everyone participates in society, whether as an effective actor or a passive victim. But, the real concern is to recognize the roles of power relations that cross cut across caste, ethnicity, age, occupation, and gender in shaping participation and benefit sharing process, and ensure people with limited power have access and control over resources and development practices. Since natural resources management is a political process and context driven (Mahanty 2002), the process of participation and women's empowerment has to consider transformative approach that challenges deep rooted gender disparities women are facing and recognizes them as active change agent rather than as vulnerable groups. Therefore, unlike the conventional ways of viewing women's participation that emphasizes 'number of women as indicators to their empowerment, this study considers 'women's empowerment' as process of recognizing women's agency and knowledge in sustainable NRM practices, and ensuring women's decision-making power, ownership and access to resources.

The study attempts to understand the factors and processes associated with the effectiveness of women's participation in decision-making and leadership in CBNRM institutions. The study analyzed the following dimensions.

Women's access to productive resources

Resources such as information, awareness, technical and social skills, financial incentives and cash income opportunity, labour saving technologies, and ecosystem services and goods can enable women and men forest users to lead CBNRM and play proactive roles in collective actions and decisions. However, access to these resources by women is an issue in the studied CBNRM institutions in TAL and CHAL landscapes which limit them to claim their rights to ecosystem services and goods and associated opportunities. As this study indicates, women have limited access to productive resources such as information about the forest sector's GESI policy, collective funds, technical and leadership development training, and social networking with line agencies and other policy implementing actors.

Links between ecosystems and social power

A variety of ecosystems exist in the CHAL and TAL that provide services and goods on which people's livelihoods depend on. Although men and women participate in conservation, development and use of natural resources in their community managed forests or conservation areas, their priority on and strategies for resources conservation, use and distribution could be different. Priority and strategic focus of women leaders could be different from men's leaders when it comes to ecosystems management. Importantly, resources management and use are influenced by power relations where people with greater social status play major roles on decisions excluding socially weaker groups (Lama and Buchy 2002; Malla et al. 2003). In case of CBNRM institutions, women leaders might have lost their position when the common property resources are in good condition and its use and management are changed due to increased economic, political and conservation values. The study thus explored cases about the dynamics relationships between stages of participation (passive, influential) and forest resource production and use and power relations interplay in the process of resource use.

Participation, power relations and women's agency

More than 50 per cent of the total women in the country are included in community forest management in Nepal. As of 31 August 2012, 1035 'women only' CFUGs are managing 2.72 % of the total community forests (1,664,917.81 ha). However, the community forests women received were very degraded and small in size (Buchy and Rai-Paudyal 2008). Besides, women are the general members of 17685 CFUGs, 504 Buffer zone CFUGs, 6712 Leasehold forest user groups, 14 collaborative forest user groups, and 6 conservation areas in the country (DOF 2012). Including women in formal and informal forest institutions does not mean that women are better empowered and their decision-making and control over forest and biodiversity resources use, management and benefits are ensured. Amongst women, Dalit women passively participate in community forestry (Lama and Buchy 2002). Although women have played critical roles in NRM and biodiversity conservation (Khadka and Verma 2012), they continue to be disadvantaged by insecure access and property rights to forests, trees and land resources (CIFOR 2013). Moreover, women are included in community-based NRM institutions, but their participation in decision-making remain less visible and less heard. Their exclusion from representation and decision-making tends to be higher when one moves up to district and national forestry governance structures (Giri 2012).

Fundamental issues of participation and empowerment are related to power and power relations. Power can be defined as the degree of control over human, material, knowledge and financial resources exercised by different social groups or individuals within a community or an organization. The control of these resources becomes a source of individual and social power (Veneklasen and Miller 2007, p 41). Power is unequally distributed in the sense that some individuals and groups have greater control over the resources and others having little or no control which is mostly shaped by social division such as gender, age, class, caste, ethnicity and so on (Veneklasen and Miller 2007). Power as strategic game is more related to human interaction found in the forms of ideological manipulation, rational argument, moral advices or economic exploitation. Institutional power is more or less systematic, regulated modes of power. On the other hand, structural power is stable, hierarchical and difficult to convert. These three forms of power are very much linked with each other and cannot be separated from each other (ibid: TOR/Gender Assessment Advert).

Power is relational and it is exercised and not possessed (Foucault 1978). The relational approach to power considers power as process rather than resources (Eyben 2008, p 36). Power is complex and manifested in different forms: visible (e.g. formal rules, structures, authorities, institutions), invisible (social norms, values, perception, and ideology), and hidden (social relationships and setting agenda) forms (Veneklasen and Miller 2007). Power relations between and (among) men and women influence the process and quality of women's participation in decision-making, use, management and benefits of natural resources (Lama and Buchy 2002). Ultimately, power relations are linked to the cause of poverty and exclusion.

This study will analyse some dimensions of interconnected relationship among participation, power relations and women's agency such as: (a) the composition of the executive bodies by caste, ethnicity, gender, (b) social norms and values associated with election and appointment of NRM leader, and (c) the process of agenda setting and decision-making with regard to access, use, management and benefit sharing of natural resources, including capacity development, and use of fund, and women's roles and influence the process.

Capacity and attitudes of forest actors for empowering women

Forestry actors (both individuals and institutions) who are involved in the design and implementation of forest policies and strategies have crucial roles for empowering women. Understanding, behaviour, interests, attitude and capacity of actors engaged in rural development influence development outcomes (Chambers 1997; Chambers and Pettit 2004). In this sense, ensuring women's meaningful participation in the forest sector depend on the way forest actors have understood gender, participation, and the extent to which their capacity on analysing cause and impact of gender and social exclusion is developed. In addition, translating policies into actions requires constant facilitation with secure resources and commitments from people in power. As Derbyshire (2012, p 405) argues, "gender integration is a long-term process which requires time, resources, skill, and persistence, but there is clear evidence of positive change". This view reminds us that having gender inclusive policy in the forest sector does not lead to gender positive change until financial resources, skills and attitudes of forestry actors are supportive to address issues of gender inequality and women empowerment. This study thus explores actors' behavior and attitudes with regards to implementation of gender inclusive forest policies and empowering women by analyzing (a) awareness and interests of forest actors on the forest sector's GESI policy, (b) their understanding on women's empowerment and gender, and (c) operational strategies and programs of the government, non-state actors and community institutions to implement GESI policy.

Gender differential knowledge of biodiversity management

Although both men and women involve in biodiversity conservation and use, women in their roles as farmers, herbalists, conservationists, forest gatherers, plant breeders, seed protectors, and forest users are involved more than men in biodiversity conservation and management (Momsen 2007). They have tremendous knowledge of the medicinal and nutritional value of diverse plant species (Khadka and Verma 2012). Their knowledge, needs, interests and problems associated with biodiversity conservation and management are often different from men's. Women have more varietal selection criteria than men because of the variety of ways they use plant materials (Momsen 2007). Women's knowledge of using plant materials and species has been very crucial to adapt to climate change (Khadka and Verma 2012). Despite women's contribution to biodiversity conservation, they women remain as 'invisible' actors both in policy and implementation levels and their contribution to biodiversity conservation is largely overlooked (Dhakal and Leduc 2010). Understanding women's gender-specific knowledge and choices, and the extent to which they access resources and make decisions related to biodiversity is not only relevant, but central, to achieving sustainable development and biodiversity conservation in Nepal.

Importantly, biodiversity everywhere is being impacted by land use practices, land cover change, economic growth, climate change and globalization (Zimmerer 2010; Chettri et al. 2012). Since men and women use the same biodiversity resources for different purpose, biodiversity loss would impact them differently (Khadka and Verma 2012). An analysis of gender differential knowledge about biodiversity

identification, conservation, use and management is essential for developing additional operational strategies to achieve the programmatic goal of reducing adverse impacts of climate change and threats to biodiversity by recognizing women's indigenous knowledge and capacity for sustainable management of natural resource. However, such information is lacking in the Nepal's forestry sector. Therefore, this study focused on preparing inventory of gender differential indigenous knowledge of biodiversity resources in different ecosystems such as forests, rangelands, grasslands and wetlands in the study areas.

1.8 Study methodology

Study Approach

The study followed a qualitative approach to data collection because it wants to explain the deep rooted socio-cultural and institutional factors, including actors' behaviours and attitudes affecting women's leadership and meaningful participation in the CBNRM practices. The qualitative data seek to identify reasons and process of participation and leadership in the study CBNRM institutions.

Data types and sources

Since the main interest of this study is to identify gender dynamics of participation and embedded power relations and indigenous knowledge of biodiversity resources in CBNRM institutions, it focused on collecting five sets of data according to the research questions/themes such as (i) gendered participation and power relations within CBNRM institutions; (ii) access to productive resources and incentive by women and men; (iii) links between forest ecosystems and gender power relations, (iv) behaviours and attitude of NRM actors; and (v) links between women's indigenous knowledge of biodiversity conservation and their leadership position (see Annex 1 for detail data types and sources).

Study period and areas

The study was conducted from May to August 2013 in five districts of two landscapes (2 in TAL and 3 in CHAL) which are the working areas of Hario Ban Program. The districts are selected in a way they represent ecological zone, development region, socio-economic marginality, ecosystem diversity and people's diversified livelihoods strategies of the Hario Ban Program districts. As shown in table 1, five identified district include Mustang, Kaski and Chitwan districts in CHAL and Bardiya and Kailali districts in TAL.

Table 1: Matrix for identifying study districts

Landscapes	Districts	Development region	Socioeconomic marginality	Ethnicity/caste diversity	Ecological zone	Ecosystems diversity	Livelihoods strategies
TAL	Bardiya	Mid west	x	IPs, migrants, Dalits, Ex-Kamaiyas, BCNT	Terai/Inner terai	Forests, grasslands, agro-forestry	Agriculture, tourism, NTFPs, migration, wage labour
	Kailali	Far west	xxx	IPs, BCNT, Dalits	Terai/Inner terai	Forests, agro-forestry	Agriculture, wage labour, timber & NTFP
CHAL	Chitwan	Central	x	IPs, migrants, BCNT, Dalits	Terai/Inner terai	Forests, wetlands, grasslands, agro-forestry	Agriculture, wage labour, tourism, migration, timber & NTFP
	Kaski	Western	xx	Dalits, IPs, BCNT	Mid hill	Forests, agro-forestry, wetlands	Agriculture, job, tourism, migration, NTFP, wage labour
	Mustang	Western	xxx	IPs	High	Rangelands	Pastoralism, tourism,

					mountain		migration
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x-xxx=low to high

CBNRM institutions studied

This study was carried out in The CBNRM institutions (Community Forest User Groups, Buffer zone Community Forest Management Groups, User Group in Buffer Zone area of National Park, and Conservation Group in the Conservation Area) in the selected TAL and CHAL districts were the main unit of study. In each of five selected districts, at least four CBNRM institutions were selected purposively based on the following criteria. The CBNRM institutions:

- Very close to and far away from the district Headquarters (HQs);
- With representation of caste/ethnic groups, including disadvantaged groups (e.g. ex. Kamaiyas, ethnic minority, Dalits);
- Lead by women and men (current and past);
- With representation of mixed CFUG, women only CFUG, BZFM group and UG in buffer zone of PA, and Conservation User Groups in case of Conservation Area;
- Resourceful in terms of forests area managed and forest and conservation revenues; and
- With experiences of CBNRM for more than 10 years (including period that CBNRM founded and started forest protection before handover).

Data sources and data collection methods

The study used both primary and secondary source of data. In-depth interviews, key informant interviews, focus group discussion (FGD) and participant's observation in the community, district and national level were the primary source of data. A total of 22 FGDs, 25 in-depth interviews and 4 key informant interviews were conducted in the community level (Table 2). While 25 people were interviewed in district level, 11 respondents were interviewed in central level. The types of organization consulted in district and national level is given in Annex 2 & 3.

The open ended questionnaires and/or interview checklists were developed in English and translated into Nepali in order to use them in field. Since different types of data were collected by using different methods, the interviews checklists were different in each method (see annex 4, 5, 6, 7, 8, 9).

Table 2: Interviews types at different levels, 2013

Interview types	Community level		District stakeholders	National stakeholders	Total No.
	NRM executive members	NRM ordinary users			
In-depth interviews	20	5	3	0	28
Key informant interviews	2	2	22	11	37
Focus group interviews**	-	-	-	-	22
Total No.	22	7	25	11	87

Source: Field study 2013

** FGDs in community level

In community level, seven different types of CBNRM institutions were studied. As shown in table 3, thirty five institutions were interviewed in the community level representing community forestry, buffer zone area management and conservation area management in the TAL and CHAL districts.

Table 3: No. of CBNRM institutions consulted during the study period, May-August 2013

Types of groups studied	Abbreviation	CHAL districts		TAL districts			Total No.
		Bardiya	Kailali	Chitwan	Kaski	Mustang	
Community Forestry User Group	CFUG	3	5	4	7	NA	19
Conservation Area Management Committee	CAMC	NA	NA	NA	2	2	4
Buffer Zone Community Forestry User Group	BZCFUG	1	NA	2	NA	0	3
Buffer Zone User Committee	BZUC	1	NA	1	NA	0	2
Buffer Zone User Group	BZUG	1	NA	0	NA	0	1
Conservation Area User Group	CAUG	NA	NA	0	NA	5	5
Buffer Zone Management Committee	BZMC	0	NA	1	NA	0	1
Total NRM groups (No)		6	5	8	9	7	35

Source: Field study 2013

NA= Not applicable

Respondents types by gender and caste/ethnicity

Sixty four respondents were consulted while doing in-depths and key informant interviews in field as well as in district and central level. The composition of the respondents by gender and caste/ethnicity is presented in Table 4.

Table 4: In-depth and key informant interviews respondents by gender and caste/ethnicity, May-August 2013

Respondents by gender	Dalits	Janajatis	Advantaged caste/ethnic groups	Muslim	Total No.
Men	7	11	17	1	36
Women	3	12	14	0	29
Total No.	10	23	31	1	65
% of total	15	35	48	2	100

Source: Field study 2013

In addition, 222 respondents were consulted while conducting 23 grassroots focus groups discussions and more women than men attended the discussions (Table 5). By caste/ethnicity, 9% of the total respondents of the FGDs were Dalits. Janajatis (excluding Newar) and advantaged caste/ethnic groups (Brahmin, Chhetri and Newar) comprise 46% and 45% respectively.

Table 5: FGDs respondents by gender, May-August 2013

Focus Group Discussions (FGDs) types	No. of FGD	Respondents by gender		Total No.
		Women	Men	
Women only	9	75	0	75
Men only	7	0	52	52
Mixed	7	44	51	95
Total No.	23	119	103	222
% of total		54	46	100

Source: Field study 2013

Interviews types

- In-depth interviews:** Twenty five in-depths interviews were conducted with women and men chairpersons (immediate and former) and ordinary users of the selected CBNRM institutions. The focus of the interview was to explore the experiences and agency of the grassroots leaders with regard to leading CBNRM institutions characterized by diverse sociocultural, environmental and development trajectories. In addition, 3 in-depth interviews took place with district level stakeholders, especially with women and men leaders working in conservation and community forestry. The objective was to identify what hinder and support for women and men users to be a leader and interplay of power between (within) men and women within an institutions.
- Focus group interviews:** Twenty three focus group interviews (alternatively the Focus Groups Discussions—FGDs) were conducted with men and women members of CBNRM institutions, separately and jointly, in order to explore issues of women leadership development from institutional and sociocultural perspectives. In addition, FGDs played important roles to identify gender differential knowledge about use and conservation of biodiversity resources.
- Key informants interviews:** Key informants interviews took place mostly with district and central level NRM stakeholders, including 4 interviews with community people. In community level, interview with key resource persons (women health leader, former chair of CFUGs) took place to verify the data generated from in-depth interviews and FGDs. In district level, the focus of the key informants' interviews was to identify perspective and level of awareness of forest/conservation stakeholders on GESI policy and their interests and capacity to address gender issues as well as promote women's leadership in the NRM sector. A total of 22 respondents from 11 the state and non-state actors were consulted. Whole the state actors included forest and conservation related institutions of the forest sector, non-state actors comprise non-governmental organization and civil societies working in the sector (see Annex 2). In national level, key informant interviews were held with senior technical and social experts, policy makers and decision-makers of the Ministry of Forest and Soil Conservation, HB consortium partners, NGO/CSOs, and development organizations of the forest sector. Eleven institutions were consulted in order to identify policy and implementation opportunities and gaps in terms of promotion of the GESI approach and women's leadership in the forest sector.

Participant observations & maintenance of field notes

To capture indigenous knowledge of women and men on the use and management of biodiversity resources in a particular ecosystem and understand gender differential roles and responsibility in an informal way, the study focused on participant observations in the community level. Moreover, researchers maintained field notes of important issues and observations after each meeting/interview. Field note is a powerful source of data (Kvale and Brinkmann 2009). It is

needed to record feelings, insights, and inspiration experienced over the field work period. Researchers wrote her/his own reflection after each interview and observation made. The focus of the field note was on recording the researchers' self-awareness such as what did they know, how did they know, how did they perceive interviewees, how did respondents perceived them after each interview, direct quotations of people, and the descriptions of events observed (Patton 2002).

Literature reviews

A number of literature related to gender, women's leadership, biodiversity conservation and management, gender based violence, climate change, participation, and GESI studies in the NRM sector were reviewed to develop a conceptual and methodological framework for this study. In addition, the GESI policies of the government, project evaluation and impacts studies of development organizations were reviewed in order to indentify the extent of importance given to integration of gender approach and issues and develop women leadership in Nepal's NRM sector, including forestry.

Data analysis

The narratives of respondents collected from the field work were documented first in hard copy. The narratives then were categorized into different themes in order to draw patterns of responses on issues around participation quality, access to resources and barriers of women's leadership development in CBNRM institutions. Some qualitative data were categorized and analysed by using SPSS (Statistical Package for Social Science) software in order to draw pattern of responses on critical issues. Data related to the roles of power and power relations in CBNRM institutions and gender differentiated knowledge of biodiversity conservation, use and management were analysed qualitatively. The results are presented in the form of descriptions, diagrams, matrixes and flow chart. Field notes were used while analysing primary data.

Study team

The study team consists of foresters (4), biologist (1), sociologist (1), and gender/NRM expert (2) with extensive expertise and experiences in social, institutional, policy and development issues of forestry and climate change and conservation in Nepal. While 5 members (2 man; 3 women) were the core research team, other three members (all women) guided and assisted the team on voluntary basis on behalf of W-LCN. Dr. Manohara Khadka, the chairperson, WLCN provided technical guidance throughout the study processes, including analysis, review and finalization of the research report.

The study spent 33 days in the field, 15 days for interviews and documents search in Kathmandu, and 25 days for data management, verification, literature review, data analysis and report preparation. The study team began data collection from Kaski district followed by Mustang, Chitwan, Kailali and Bardiya (see Annex 10 travel plan).

Study challenges and limitations

Getting engaged in gender study with greater focus on understanding representation, power dynamics and leadership functions in CBNRM institutions by gender was an interesting part of the study. However, it experienced several challenges and limitations. The study team had to adjust the selection of CBNRM institutions according to harsh situations experienced in the field. The following were the key challenges to mention.

- **Study duration:** The study duration became too short to cover 4 in-depth interviews, 4 FGDs and 2 key informants' interviews per CBNRM per district over 5 days including travel as originally planned. Because of remoteness of the one study district (e.g. Mustang), the study team had to

spend over 11 days for data collection. Taking time limitation into account, the study team had to hire private vehicle in all districts to capture research information from a wide range of respondents.

- **Study season:** The study was carried out during hot and rainy seasons that limited researchers to go to remote communities, especially in Bardiya and Kailali. Excessive flooding in Bardiya and Kailali during study period affected the selection of CBNRM. The study team was unable to go to Rajapur and Daulatpur VDCs of Bardiya due to risks associated with water hazard. The team in consultation with the HB field staff had to select CFUGs which don't fall in the TAL corridor.
- **Capacity and interest of study team:** Finding field researchers who have great interests in gender issues of NRM, and adequate conceptual and methodological understanding and skills for qualitative research was a major challenge encountered by this study. WLCN had to spend its energy to mentor to and follow up with researchers for ensuring research ethics and data. Local resource persons had to hire to support researchers in the field. Therefore, a lesson is that Nepal's forestry sector is in the need to develop and mobilize women and men researchers with great sensitivity, compassion, expertise and interests on gender and social equity issues of NRM and have enough sensitivity of 'development processes and exclusion' in Nepal.
- **Representativeness of CBNRM institutions:** The CBNRM institutions this study studied may not necessarily represent the institutions in the country in general and the HB program particularly. However, quality and rigorousness of data analysis presented in this study report provide good overview of opportunity and issues with regard to recognizing women's agency and engaging them in leadership and decision-making position in CBNRM institutions and its implication for sustainable management of natural resources, climate change adaptation and poverty reduction.

Chapter 2: An overview of study districts and gender situation

Mustang

Mustang is one of the sparsely populated high-mountain districts of the north-central region of Nepal. More than 98 per cent of the total land in the district is rangelands (Verma and Khadka forthcoming). The district consists of 7 Village Development Committees (VDCs) with 31 settlements, of which 2 VDCs: Chusang and Jhong were included in the case study. The district is generally divided broadly into two regions: Lower and Upper Mustang and the case study VDCs represent both. Places with archaeological significance, Tibetan cultural practices, sacredness and indigenous governance practices such as mukhiya (village leader) and local monarchy who governs local development and resolve local conflicts (such as property issues and physical abuse) are some characteristics that make Mustang unique from other parts of Nepal. In addition, Mustang lies in the rain shadow area of the towering Himalayas and extremely dry with annual rainfall around 250 mm (Lama 2011). Crop cultivation in the area is very limited due to scarcity of water, lack of irrigation, low temperatures for long periods and low or no rainfall (Lama 2011). Thus, animal husbandry combined with mountain agriculture, financial remittances and tourism are the main sources of livelihoods of women and men in the study areas.

Kaski

Kaski district is rich in biodiversity and has landscapes and natural resources with tourism values. It has diverse vegetation types ranging from sub-tropical, temperate, sub-alpine to alpine. According to land use practices, land in this district can be divided into forests (43.81%), agriculture (20.29%), rangelands (14.48%), shrub land (1.11%), settlements (0.53%), and mineral and other (19.78%) (DFO, Kaski 2012). As of 2012, around 30% of total forests are managed by 468 CFUGs. While chilaune, katus, utis, oak, gurans, bhojpatra, dhupi are key timber species, bamboo, nigalo, lokta, chiraito and dalchini are main non-timber forest products. Monitoring of 350 CFUGs shows that only 36% of the total CFUGs tend to active in terms of holding regular meetings, forest and organizational management according to their operational plan and constitution, auditing and annual report submission to District Forest Office (ibid). Agriculture, animal husbandry, labour migration and tourism are the main source of people's livelihoods.

Chitwan

Chitwan district lies between 141 to 1945 meter above sea level. It has an area around 2238.39 sq kilometre; 40.60% of which is covered by national park. While low land area occupies around 39% of the total land, around 21% of the land is covered by hills. It has 33 VDCs and 2 municipalities. According to land use categorization, 62.92% of the total land is covered by forests including national park, 26% agriculture, 6% shrub and grass lands, 4.92% by sand and gravel and 0.15% settlements (DDC, Chitwan 2002). Over 42% of the total forests consist of sal forest. The majority of population in this district comprises of immigrants coming from hill districts and wage labourers from Bihar and Uttarpradesh, India. By caste/ethnicity, Brahmin, Chhetri and Newar constitute the major social groups followed by Dalits and other indigenous peoples (e.g. Chepang, Tharu, Tamang, Magar, Danuwar, Limbu, Rai, Gurung, Sunuwar, Sherpa, Kumal). Agricultural production, animal husbandry, forest products marketing and tourism constitute the main sources of livelihoods.

Kailali

Kailali district locates in the far-western development region of Nepal. It has 42 VDCs and 2 municipalities. The altitude ranges from 109 m to 1950 m above msl. Over 79 per cent of population relies on agriculture as main source of livelihoods. Ethnic groups such as Tharus constitute the dominant population (43.7%) followed by Brahmin and Chhetri (28%) and Dalits (9%). Raji and Shonaha are ethnic minorities. Sixty four of two hundred sixty four CFUGs are 'women only' CFUGs. Around 57.4% of the total land is

occupied by forest and shrub lands (ISRC 2012). The forests consist of sal, khair, sisoo, asna, haroo, baroo, and chirpine species. Cane and sabai grasses are the major non-timber forest products

Bardiya

Located in the mid-western development region of Nepal, Bardiya district consists of 32 VDCs and 1 municipality. The district is very rich in terms of biodiversity and culture. Indigenous ethnic groups such as Tharus and caste groups such as Brahmin, Chhetri and Thakuri are the main social groups. Thirty five of two hundred seventy eight CFUGs are 'women only' CFUGs. About 55 per cent of CFUGs in the district have their own community and/or office buildings (Luintel et al. 2009). The district has 52.9 per cent of total land as forests and shrubs (ISRC 2012). The district lies at an altitude between 138 and 1279 (above msl) and has tropical and temperate climate. Sal forest is the dominant forest types covering 82% of the total forest area (DFO, Bardiya 2012). Cane, kurilo and sabai grasses are the major non-timber forest products.

Gender situation in the study districts

In all five districts, women constitute the main workforce for agricultural production and household activities, including collection and use of natural resources; men tend to be dominant in public services, wage labour in urban and foreign countries, trading, agribusiness (e.g. production of apples in Mustang), and tourism. There is an unequal gender division of labour in land-based livelihoods activities. For example, women work longer hours than men (16 hours for women and 13 hours for men in Mustang (Khadka 2011). Deep-rooted social perceptions and norms on gender roles (home is women's domain and market and public spheres are men's domain) limit women's participation in economic activities.

There is also a gender gap in education. As shown in table 6, literacy rates for boys (aged 5 and above) are higher than girls' in all districts. Women in Mustang, Bardiya and Kailali live on with lower literacy rates and education status compared with men. Girls from marginalized ethnic groups for example in Kailali and Bardiya have low literacy rate as they drop out school in order to assist mother in household activities (A focus group discussion with a women group in Kailali and Bardiya).

Gender gap is lower in Chitwan and Kaski in terms of graduate level education. Similarly, gender inequality is also marked in land ownership, only 3.6% of households in Mustang, 5.7% in Kaillai, and 8.6% in Bardiya have women's ownership of land, which is very low compared to the national average of 10% (CBS 2012).

Table 6 : Socio-economic situation by gender, study areas, 2013

Landscapes	Districts	Literacy rate%		Graduate & equivalent (% of total literate population)		Households (% of total) with land in women's name
		Women	Men	Women	Men	
CHAL	Mustang	55.8	75.4	0.5	2.7	3.6
	Kaski	75.4	90.1	2.4	4.5	10.1
	Chitwan	70.7	83.9	1.6	3	11.6
TAL	Bardiya	57.9	73.5	0.3	1	8.6
	Kailali	57.1	76.2	0.6	1.6	5.7

Source: CBS 2012

There is also a gender gap in education. As shown in table 6, literacy rates for boys (aged 5 and above) are higher than girls' in all districts. Among districts, Mustang, Bardiya and Kailali women live on with lower literacy rates and education status compared with men. Gender gap is lower in Chitwan and Kaski in terms of graduate level education. Similarly, gender inequality is also marked in land ownership, only

3.6% of households in Mustang, 5.7% in Kaillai, and 8.6% in Bardiya have women's ownership of land, which is very low compared to the national average of 10% (CBS 2012).

Table 7: Population dynamics, study districts, 2013

Study districts	Total HHs	Absent HHs	Total population		Absent population (% of total)	
			Women	Men	Women	Men
Chitwan	132345	38423 (29%)	300897	279087	2.2	15.7
Kaski	125459	40531 (32.3%)	255713	236385	3.5	20.4
Mustang	3305	871 (26.4%)	6359	7093	6.9	13.9
Bardiya	83147	17966 (21.6)	221496	205080	3.0	10.6
Kailali	142413	34562 (24.3)	397292	378417	3.1	13.3

Source: CBS 2012

Note: figure in parenthesis is in % of total

Out-migration of men is another driver of socioeconomic changes in the study areas. Over 20% of the total households in the study districts have at least one members of their households is absent or living out of country (CBS 2012). While Kaski has more absentee households, Bardiya has relatively low number of absentee households compared with other districts (see Table 7). By gender, more men than women migrate to foreign countries and urban areas. Women's migration is less in Chitwan district compared with other districts. Existing literature (Adhikari and Hobley 2011; Sherpa 2010) in Nepal highlight the negative consequences of out-migration of men on gender roles exacerbating women's workload in agriculture production and natural resource management. How has men's out-migration impacted on women's access to income, community leaderships, and adaptive capacity to cope with the negative effects of climate change are emerging issues to assess in the future research.

Chapter 3 Participation, leadership and power dynamics in CBNRM institutions

3.1 Membership in executive committee of NRM groups by gender and caste/ethnicity in the study areas

The NRM groups in the study districts tend to include men, women and different social groups in its executive committees. However, their representation varies within NRM groups. While more men than women represent in Conservation Area Management Committees and Buffer Zone User Committees, there is no women in the Buffer Zone Management Council (BZMC) - the key decision-making body at landscape level (see Table 8). In contrast, except in Kaski district, women make up over 30% of the total membership in the CFUGs executive committee. While women's membership in the CFUGs committee is lower (20%) than the national average (30%) in Kaski, they represent more than 50% in Kailali and Bardiya.

By caste/ethnicity, Janajatis outnumber Dalits and other castes in the conservation area management committee and council. However, Janajatis under represent in CFUGs and Buffer zone management structures compared with advantaged caste/ethnic groups such as Brahmin, Chhetris

Table 8 : Composition of executive committees (average %) by gender and caste/ethnicity in the study areas, 2013

District	Type of NRM groups	Total Executive Committee (No)	By gender (% of total membership)		By caste/ethnicity (% of total membership)		
			Women	Men	Dalits	Ethnic groups	Advantaged castes
Kaski	CFUG	468	37	63	7	14	79
	CAMC	17	20	80	3	73	23
	CAM Group	NA	NA	NA	NA	NA	NA
	CAM Unit/council	3	13	87	7	66	27
Mustang	CAM Group	NA	NA	NA	NA	NA	NA
	CAMC	16	13	87	3	80	17
	CAM Unit/council	2	13	87	0	80	20
Chitwan	BZUG*	1779	NA	NA	NA	NA	NA
	BZUC	13	31	69	9	18	73
	BZCFUG (handover)	NA	NA	NA	NA	NA	NA
	BZMC	1	0	100	4	13	83
	CFUG	64	30	70	5	25	70
Bardiya	BZUG**	262	NA	NA	NA	NA	NA
	BZUC	15	20	80	0	40	60
	BZCFUG (handover)	59	NA	NA	NA	NA	NA
	CFUG	278	51	49	11	35	54
	BZMC	1	0	100	0	21	79
Kailali	CFUG	257	55	45	4	47	49

**include BZUGs from whole national park

NA= record not available

Source: DFO, Kaski report, 2068/69; ACAP database, 2013; Field study 2013

Despite women to some extent represent in the executive bodies of various CBNRM institutions at the village, VDC, regional and transboundary level, they disproportionately represent in the leadership positions in these institutions as discussed later.

3.2 Leadership in CBNRM institutions by gender

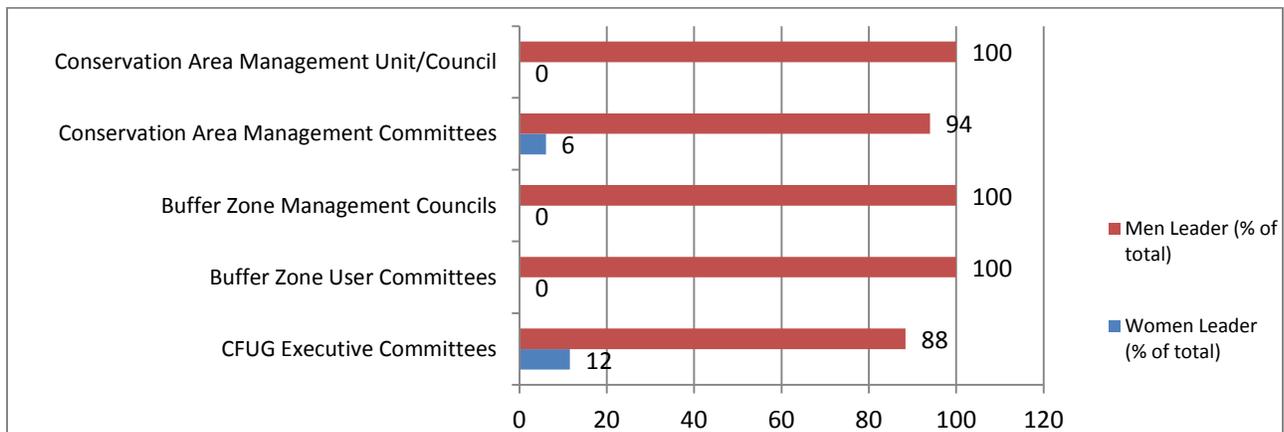
More men than women hold leadership position across NRM groups in the study area. As Figure 1 reveals, women make up only 12%¹ and 6% of the total leadership in CFUGs and Conservation Area

¹ The figure include women in the women only CFUGs. Of 951 mixed CFUGs, only 67 CFUGs (Kaski 28, Bardiya 24, Kailali 15, Chitwan 0) have women leaders. It means that around 7% of the total leadership in the mixed groups are women.

Management Committees (CAMCs)² respectively in the study districts. The BZMCs and BZUCs that have roles and responsibilities to plan and implement conservation and development programmes through financial supports from national park revenues are lead by men since the implementation of the BZ management policies in the mid 1990s.

Two of 16 CAMCs in Mustang have women chairperson while only one CAMC in Kaski (e.g. in Machapuchree VDC) has recently selected a woman secretary over more than 2 decades of conservation practices in the VDC.

Figure 1: Composition of executive committees (%) by gender and caste/ethnicity in the study districts, 2013



Source: Field study 2013

² Total no. of CAM Committees in Kaski and Mustang district is 33. Only 2 of 33 CAMCs have women in leadership position (both are from Mustang).

3.3 Initiatives taken by women and men leaders

It is interesting to note that the types of activities and/or innovations in CFUGs initiated by women and men leaders are different. While women chairpersons have been more interested in supporting the poor and women forest users, the interest of men leaders tend to be on social development in general and not specific to promotion of gender and social equity. As case studies from Kaski show, women leaders have invested CFUG fund for income generation from cash crops (Broom grass) within community forests for Dalit households and nursery for single women (Thotnekhola CFUG, Sarangkot). Similarly, a woman chair in Patlekhokla CFUG, Hansapur took initiative to allocate Rs 0.1 million out of 2 million budget of a village road scheme in order to connect her village to main village road. Women's efforts to seek resources for the benefit of women as well as community are evident in TAL areas. In Janajagriti CFUG, Bardiya, a Dalit woman chair decided to invest Rs. 7000/- for a poor woman student to study Junior Technician in Agriculture (JTA) course. She has been able to mobilize CFUG fund for providing low-interest loan (Rs.2/- per year) to people who decide to migrate foreign countries for work. Her CFUG provides loan Rs. 40000/- to Rs. 80000/- per person. Similarly, she has coordinated with a Bel squash factory to provide employment opportunities for women, especially single women.

Likewise, a woman chairperson of Shiva Parbati women CFUG, Kailali has been able to run income generation activities (exchange of baby goats among poor women) and offer interest free loan for poor households. District stakeholders, especially District Forest Office staff acknowledge the important roles played by women in the grassroots forest governance as well as forest protection. Women's sincerity and hardworking nature of working styles are apparent in the women CFUGs. A District Forest Officer in TAL area expressed,

"Financial transparency is very effective in the women only CFUG. Community forest conditions are better in those CFUG compared to mixed CFUG (Field note, 21 June 2013).

When asked what new activities and processes they initiated during their leadership tenure, most men chairperson reported the activities such as provided CFUG fund to road construction, fire line construction, school teacher and community building as important achievements made during the period.

3.4 Trend of leadership change in CBNRM institutions

Men forest users are taking the leadership roles in most of the CBNRM institutions studied. As table 9 shows, six of eighteen CFUGs have lead by women currently in the study areas. Thotnekhola and Patlekhola CFUGs in Kaski have selected women chair to manage conflicts emerged among men members of executive committee. Leadership has changed from women to men in two CFUGs—Sankhoriya in Kaski and Gauri Mahila, Bardiya. Time constraint for women to engage in community roles is one of the main driving forces to such change in the leadership roles.

Table 9: Leadership in CFUGs by gender in the study areas, 2013

Districts	CFUGs	Leadership phases**					Remarks
		Phase I	Phase II	Phase III	Phase IV	Phase V	
		Until 1993	1994-98	1999-04	2005-09	2010 to date	
Kaski	Thotnekhola	Man	Man	Man	Man	Woman	
	Thulodhunga	Man	Man	Man	Man	Man	
	Pragatishil	Man	Man	Man	Woman	Woman	
	Patlekhola	Man	Man	Man	Man	Woman	
	Lohoshepakha	Man	Man	Man	Man	Man	

	Sankhoriya	Man	Woman	Woman	Woman	Man	
	Ghosteghat	Woman	Woman	Woman	Woman	Woman	Women only CFUG
Chitwan	Rani Khola	Man	Man	Man	Man	Man	
	Bhimbali	Man	Man	Man	Man	Man	
	Kalika pipaltar	Man	Man	Man	Man	Man	
Bardiya	Janakarelia	Man	Man	Man	Man	Man	
	Janajagriti	Man	Man	Man	Man	Man	
	Gauri Mahila	Woman	Woman	Woman	Woman	Man	Women only CFUG
Kailali	Janashakti	Man	Man	Man	Man	Man	
	Khotena Bhura	Man	Man	Man	Man	Man	
	Janakalyan	Man	Man	Man	Man	Man	
	Rannitappa	Woman	Woman	Woman	Woman	Woman	Women only CFUG
	Shivaparbati	Woman	Woman	Woman	Woman	Woman	Women only CFUG

Source: Field study 2013

** Leadership phases include period that women and men lead their CFUG before and after CF handover (i.e. leadership during forest protection committee also included)

In case of conservation areas it is mostly men who have been leading the grassroots conservation institutions (Table 10). Jhong CAMC in Mustang has a woman chairperson. ACAP's facilitation to make CAMC gender inclusive and increased out-migration of men and youth has lead to nominate the woman chairperson who comes from highly advantaged social class. As discussed later, empowering disadvantaged women for community leadership is another development issue in conservation area management sector.

Table 10: Leadership in conservation areas by gender in the study areas, 2013

Districts	Conservation institutions	Leadership by gender				
		Phase I	Phase II	Phase III	Phase IV	Phase V
		Until 1993	1994-98	1999-04	2005-09	2010 to date
Mustang	Jhong CAMC**	Man	Man	Man	Man	Woman
	Chusang CAMC	Man	Man	Man	Man	Man
Kaski	Sardikhola CAMC	Man	Man	Man	Man	Man
	Lwang, CAMC	Man	Man	Man	Man	Man
Chitwan	BZ Management Council	Man	Man	Man	Man	Man
	Barandabhar BZ User Committee	Man	Man	Man	Man	Man
Bardiya	BZ Management Council	Man	Man	Man	Man	Man
	Shreeram Nagar BZ User Committee	Man	Man	Man	Man	Man

Source: Field study 2013

** Conservation Area Management Committee

3.5 Gender differentiated perception of leadership quality

When asked what a leader looks like in CBNRM, women and men respondents mentioned a number of dimensions but with different magnitudes. As table 11 shows majority of women and men considered those with experience of social worker in their community and ability to afford time for performing community roles as leaders of their institution. While men consider person's ability to control timber smuggling as another important trait of leadership, women view those forest users who are sincere, fair, and transparent in institutional activities and processes deserve to be a leader. Unlike women, education, awareness of community forests and/or conservation areas and ability to coordinate with district line agencies and service providers were also found important qualities needed to become a CBNRM leader in the view of men.

Table 11: Perception of leadership qualities in CBNRM by gender, 2013

Women (No)	What does a leader look like in your institution?	Men (No)
33	Social worker in community	41
25	Able to give time for community activities	26
17	Educated	24
11	Sincere and fair	1
11	Aware of community forests and/or conservation areas	15
10	Able to coordinate with district line agencies and service providers	15
10	Transparent in organizational activities	1
9	Economically strong, as leading community institution is costly	6
0	Able to control timber smuggling	25

Source: Field study 2013

3.6 Leadership selection criteria in NRM groups

Who to select or elect for CBNRM leadership depend on the criteria and processes that CBNRM institutions set for the position. In the study area, the institutions give importance to a variety of criteria. Nonetheless, none of the institutions such as mixed CFUGs, CAMC, BZCFUG, BZUC and BZMC have affirmative action to bring women in leadership position. As shown in table 12, all the CBNRM institutions interviewed tend to give greater weightage to candidate's ability to give time for community activities, her/his experiences of working as social workers with good networks with forest and conservation stakeholders at local and district level and education status. None of the respondents from these institutions mentioned men's or women's roles in and knowledge of biodiversity conservation as important criteria that their institutions had considered while selecting chairperson.

Table 12: Leadership criteria, NRM groups in the study area, 2013

Criteria for selecting leadership	% response within groups				
	CFUGs	CAMCs	BZCFUGs	BZUCs	BZMCs
Able to give time	100	100	100	100	100

Educated	90	75	100	100	100
Able to coordinate with other agencies	78	50	67	67	100
Social worker with good social capital	83	100	100	100	100
Role in and knowledge of biodiversity conservation	0	0	0	0	0
Political intervention	11	0	67	67	100
Previous roles in executive committees	56	50	100	67	100
Ability to participate in forest patrolling	61	0	0	0	0
Able to manage conflict within group	11	0	0	0	0

Source: Field study 2013

The criteria vary among the CBNRM types. For example, political intervention and distribution of seats as per political representation was strong criteria to select members as well as chairperson in the BZMC, BZUC and CFUG executive committees. Unlike Kaski district, political influence is being a strong criterion in the selection of leadership in CFUGs in Chitwan, Bardiya and Kailali district. In addition, the buffer zone structures and CFUG favour individuals who have had worked as members of executive committee in the past. The criteria such as ability to participate in forest patrolling received high priority among CFUGs in these districts. As discussed later the criterion is discouraging women to claim leadership position.

3.7 Backgrounds of leaders in the study CBNRM institutions

The study also explored why did CBNRM institutions in the study areas have selected the former and current leaders and their socioeconomic and political background. It is very clear that the criteria forest users mentioned earlier confirmed the responses we gather from individual in-depth interviews. Forest users who were village leaders (VDC or ward chair), social workers (e.g. youth club chairperson or women health worker), the government employees (retired army or teacher or health workers), relatives of the then chairperson, people with linkages with political sphere and people who come from economically better off households and high social power have been elected or selected as chairperson. Dalit men and non-Dalit women who are working as chairperson come from family backgrounds with relatively better social status. It means that those people who are in position of influence and have better access to information, social networks, and economic resources have more chance to be elected or selected as leader in the CBNRM institutions.

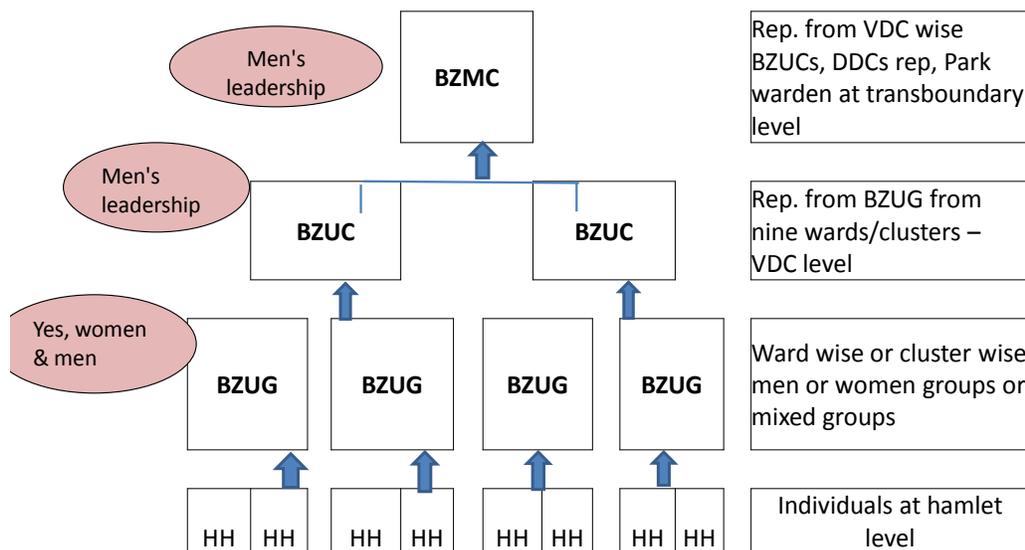
3.8 Gender power relations in Buffer Zone Management

The process of inclusion and participation in decision-making by gender in Buffer Zone Management structures are somehow different from the community forestry processes.

As shown in Figure 2, the institutional structure of the Buffer Zone is gender exclusive once it moves to higher level decision-making bodies, although both women and men are organized into the User Groups (UGs) —the community organization ward or hamlet level. Male and female members of households living in and around national park form UGs at the settlement or ward level. They are encouraged to form UGs of either men or women or mixed genders. Representatives from these settlements-based community organizations form User Committee (UC) at Ilaka/VDC level. According to the BZ Management Guideline, 1999, each UG has to nominate male and female member for the formation of UC at VDC or Ilaka level. In practice, men's nomination tends to be higher and they earn majority during the selection/formation of UCs. Since only few women are represented during selection of UC, they have low chance to gain vote or support for the UC chairperson position unless men want to give power to women. Most importantly, the traditional criteria such as educated, capable to coordinate with line

agencies and able to give time set by users filter out women to be elected as UC chairperson in VDC level.

Figure 2: Gender inclusion in the BZ management structures, Chitwan and Bardiya, 2013



Source: Authors' construction

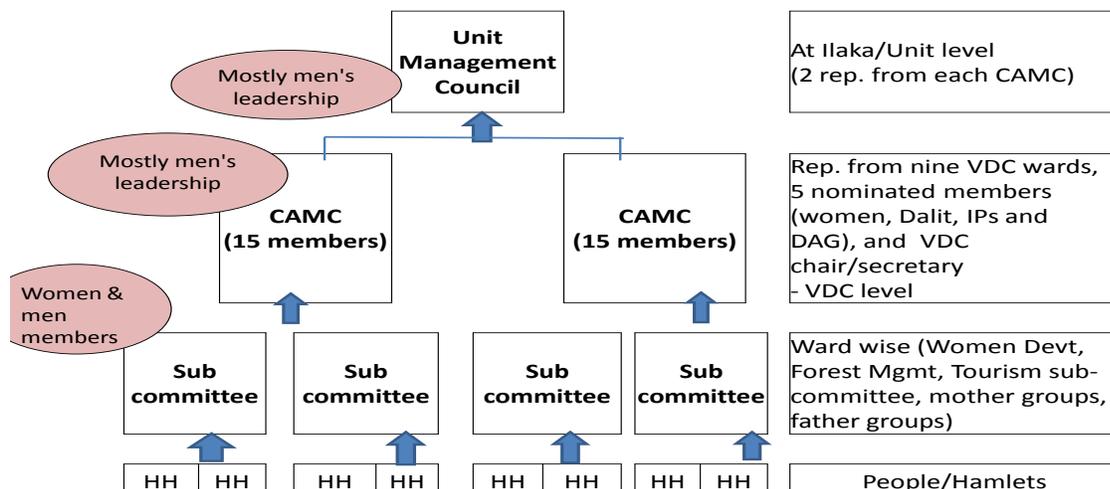
As provisioned in the BZ Management Guideline, 1999, there could be 21 UC in each buffer zone area. While Chitwan National Park has 21 UC, there are 19 UCs in Bardiya National Park. The chairpersons of these UCs form Buffer Zone Management Council (BZMC) at the park level in which the chief of the park (park warden) becomes a member secretary. Since almost all chairpersons of the UCs are men and all men have voting rights to elect/select the BZMC and its leadership, the chance of inclusion of women in the BZMC formation is almost non-existent. The BZMC- the apex body, is entrusted to mobilize share of the park revenue for conservation and development activities in the Buffer Zone. It has influential roles in the allocation and decision of park revenue for conservation and development activities that UCs and UGs implement on the ground. However, BZMC has been running gender exclusively since the implementation of the BZM Regulation 1996 and the BZM Guideline 1999. Since women are excluded from the leadership and other key positions of UCs and BZMCs, it is not surprising to say that the decision-making power and decision-making process of the BZ Management remain exclusively to men. The conservation and development programme designed and implemented at VDC and transboundary level may not necessarily address women's needs and concerns of conservation.

3.9 Gender power relations in Conservation Area

Gender exclusion is also apparent in the Conservation Area (CA) Management structure and function. The existing structure of the Annapurna CA Management Program (ACAP) is shown in Figure 3. Although women are included in the ward level sub-committees and groups (such as mother groups), their representation is very low in the VDC level Conservation Area Management Committee (CAMC). As of April 2013, there are 17 CAMC in Kaski and 16 CAMC in Mustang district. Only two CAMCs in Mustang has women chair. Similarly, there are 2 Unit Management Council (UMC) in Mustang and 3 UMC in Kaski; none of the councils have women chair. The CAMC consists of 9 ward level representatives (one each of 9 wards), 5 nominees representing Dalit, women and disadvantaged groups and 1 from VDC chairperson (alternatively VDC secretary in the absence of elected VDC). According to interviews with CAMC chairpersons, their CAMC has only one woman as member who was nominated as women's representative. The highest position women occupy in the CA structure is the secretary in the CAMC after 2 decades of conservation and development efforts in the ACAP area.

The recently established CAMC in Machapuchre VDC in Kaski has a woman secretary Even if women are included in the CAMC as members, their inclusion in the Ilaka/unit level management council (UMC) —the highest management structure in the community based conservation area management approach is very nominal. It seems that only one UMC in Kaski (Lwang) has recently elected two women members out of 57 CAMC in the five districts of ACAP. Women's inclusion in leadership position in CAMC and UMC is a long way to develop. As discussed later, there are several reasons why women's inclusion in decision-making position is difficult in the conservation area.

Figure 3: Gender inclusion in the Conservation Area Management structures, Kaski and Mustang



Source: Authors' construction

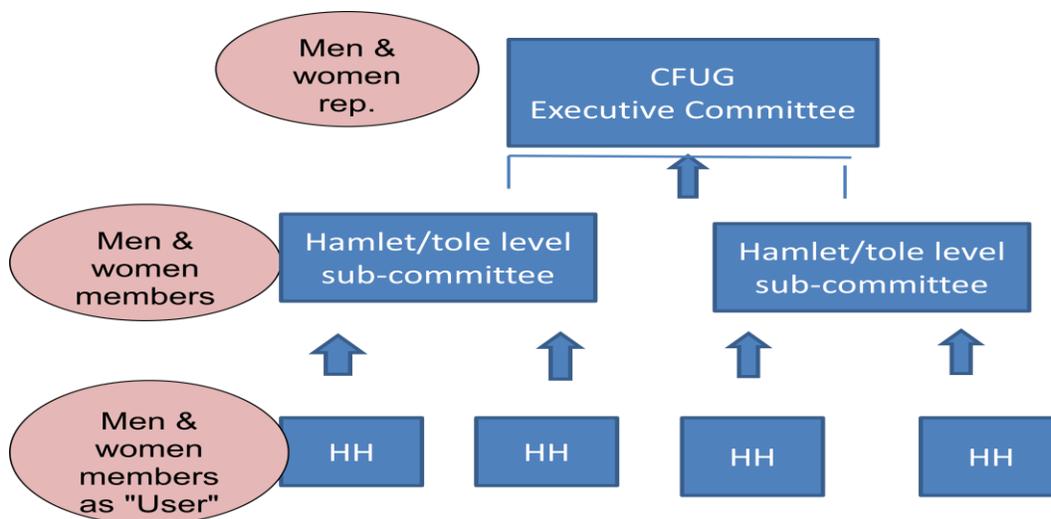
Likewise, BZUC and BZMC in Chitwan and Bardiya National Park, CAMC and UMC in the ACAP area have decision-making power over the use, management and development of conservation resources,

including financial resources. However, none of the women respondents we interviewed expressed their awareness about the sources and situation of financial resources in these institutions.

3.10 Gender inclusiveness in CFUG structure

Unlike CAMC, BZMC, the institutional structure of CFUGs tend to relatively inclusive, as the structure has provision of women membership both in executive committee and tole/hamlet level committees. Women can be elected or selected as members of the executive committee. In addition, according to the CF Development Guideline, 2008 (2065 BS), women are also recognized as forest users while defining users in the sense that each user household should provide name of man and woman member of the households during CFUG formation.

Figure 4: Gender inclusion in the CFUGs



Source: Authors' construction

3.11 Gender differentiated perception of barriers for women's leadership development in CBNRM

During in-depth interviews with men and women members of executive committees of CBNRM institutions, they viewed several barriers that hinder women to be a leader in CBNRM with different degree of importance. However, both genders view time constraint for women to be responsible for community leadership due to their increased workloads in household level activities, including farming and collection and use of natural resources for subsistence livelihoods as in important issue (see Table 13). While men find inadequate capacity of women as other most important issues for resulting in low involvement of women in leadership position, women respondents see lack of family supports and traditional social perception on gender roles as most crucial issues hindering them to take part in leadership roles. A few women, especially from low land areas (Chitwan, Bardiya and Kailali) also mentioned that women's lack of physical assets such as motorbike limit them to travel to district headquarters and villages with road accessibility for conservation and development related work. The use of motorbike in low land area seems to be very common means of transportation saving great amount of time while using public transport. Since men often have access to motorbike, they save a lot of time while visiting the district headquarters and establishing network and coordination with forest stakeholders.

Table 13: Gender differential perception (% within gender) of barriers for women’s leadership development in CBNRM

Women (%)	Barriers	Men (%)
100	Workload for women	93
89	Lack of family support for women’s empowerment	31
78	Tradition social perception on gender roles	39
61	Lack of education among women	62
57	Lack of information to women	15
50	Women's suppression at home	23
50	Lack of trust from men	23
50	No organizational priority on women's leadership development	47
44	Lack of financial resource	8
33	Lack of physical assets (e.g. motorbike)	15
30	Threat to legal trap and gender based violence	2
11	Inadequate capacity of women	85

Source: Field study 2013

The way women and men have perceived the problems of women leadership development in CBNRM are confirmed by the further analysis of their narratives. The following sections discuss these in details.

3.12 Why is women leadership in CBNRM institutions so difficult?

The factorings hindering or supporting for women’s leadership the CBNRM institutions in the study areas are many folds. The factors can be divided into two broad categories: (i) institutional capacity and governance of CBNRM institutions, (ii) socio-cultural norms, perceptions and practices, and (iii) external factors linking with interests, capacity and resources available in programme/policy implementing actors.

Institutional capacity and governance of CBNRM

Gender insensitive process and criteria for selecting chairperson

The process and criteria practiced in selecting CBNRM leaders are guided by techno-economic and political perspectives in the sense that men or women selected as chairperson has to be enough competent to deal with NRM stakeholders at all levels and should be able to spare time for community work. Neither community elites nor program implementing actors on the ground have been able to convince themselves on the need to transform traditional gender roles and give women users a space to develop their leadership skills which have implications for good NRM governance.

The CBNRM users follow either voting or consensus approach while selecting their leaders. The voting approach tends to be prominent in selecting leadership in BZMC, BZUC and CFUGs with high financial resources. Since women have weak social networks and are in low position in political parties, it is not surprising for them to lose the opportunity for being selected as leaders in these institutional structures. None of the committee members consider positive discrimination or affirmative action as important strategy to bring women in leadership position.

Unequal power relations in advisory, finance and monitoring sub-committees

While women lose the position of power in the executive committees of conservation, buffer zone and community forestry user groups, gender exclusive sub-committees or advisory committees in these groups, especially in CFUGs are supporting to reinforce the unequal power relations. Formation and operation of sub-committees within CFUGs is a common practice in Bardiya, Kailali and Chitwan. Unlike CFUGs in Kaski, the CFUGs in these districts tend to have relatively large community forest areas with good sources of forest revenue. They have been practicing the formation and operation of an advisory committee and sub-committees such as finance and monitoring committees where men constitute the main members and coordinator position. Former chairpersons, literate, former chairperson and representatives of VDC, and people with high social networks and linkages with district forest and conservation stakeholders are selected for these committees. None of the committees however have included women as important actors.

Although women are chairperson in some CFUGs, men play the leadership roles with a rationale that women have limited literacy and are unable to deal with forest offices and other stakeholders. Men counterpart then start blaming women chair for not able to perform the leadership roles. In one hand, men don't be feel happy supporting to women counterpart. Women leaders feel that not able to lead an institution with limited awareness, knowledge and leadership and negotiation skills is a shameful on the other hand. Women's limited access to information about funds, policies and other operational issues compared to men (as discussed later) would be barriers for effective leadership by women.

Men's power and roles in women leadership promotion

In principle, men's roles and interests tend to be crucial in terms of empowering women, especially bringing women in leadership position. However, in practice it is very hard to do so. In the CBNRM institutions studied, men tend to be less interested in to share power with women for political reasons. It is clear from interviews with executive members in the BZ and CA management areas that men hardly relegate power to women for chairperson position with an understanding that being a leader is meant he/she should be competent, educated and able to give time. Men hardly challenge the traditional gender roles that limit women to be proactive in household and community level political-economically. For example, increased workload for women in household activities is one of the crucial factors that almost all respondents interviewed mentioned as a problem for not having women in leadership position in CBNRM institutions. Men's interest however seems not to share the household roles with women. Even in educated family, women are compelled to do all household chores before participating in training and community meetings. As mentioned later, men interviewed opined that women themselves should be responsible to secure leadership position when asked what needs to be done to increase women's leadership and meaningful participation in their organization. In focus group discussions, women respondents were very sacred in telling their experiences and stories of inclusion/exclusion in their CFUGs in front of men chairperson.

No attention to invest in women's and their leadership development

The majority of CBNRM institutions studied have given little attention to invest in women's capacity strengthening and gender sensitive programming and implementation. The institutions generate incomes through a number of sources such as sale of forest products, users' membership fee, fines/penalties, grant from park and conservation area revenue and loan repayment. However, forest products selling constitute the major source of income in which more than 60% of the total annual income in the study CFUGs comes from sale of timber and non-forest products. The CFUGs of CHAL in Chitwan district generate on average Rs. 3100260/- annually from the sale of sal and sisoo timber and fuelwood (Auditing report 2068/69, Ranikhola and Bhimbali CFUGs, Chitwan). In conservation area CAMCs generate income mostly from sale of non-timber forest products such as nigalo, yartshagumba and tourism. In contrast, CBNRM institutions in buffer zone area receive 30 to 50% of the total annual park revenue as grants according to the BZM guideline 1999. The total annual income of CBNRM institutions especially varies by geographical regions. For example, CFUGs in terai have more annual incomes than the institutions in the mid-hills and high mountain region (CECI 2000). The average annual income of CFUGs in terai, hills and mountain districts in the study areas is Rs. 81301/-, Rs. 12200/- and Rs. 8201/- respectively (ibid: 29).

The incomes of the CBNRM institutions tend to be spent on multiple activities such forest management, community development, capacity building, administration and income generation activities, although the expenditure patterns vary among districts. According to CFUGs audit reports, the large parts of incomes are spent on community development and forest management activities (see Table 14). While the focus of community development is on physical infrastructures (school, electricity, drinking water, construction of community house and foot trails, temple), the expenditures on forest management include operational plan revision, fire protection, salary to forest watchers, cleaning/thinning and plantation. The CFUGs in terai also spend their income for meetings and coordination allowances to members of executive committees. In Chitwan, allowances provided to chairpersons and members of CFUGs are Rs. 700/- and Rs. 300/- per meeting.

The CFUGs also have mobilized their annual incomes in micro-credit schemes with a focus on assisting forest users in general in generating incomes. Ten of eighteen CFUGs studied have provisions in operational plans with regard to mobilization of community funds in low interest credit scheme as well as grants to the poorest households. However, none of the CFUGs have specific provisions in the plans that facilitate women's access to community funds for their socioeconomic and political empowerment. As Table 14 reveals, none of the CFUGs in four districts have been able to allocate and spend income for women's leadership capacity building and enterprises that promote women's incomes. It was found that CFUGs in Chitwan districts have spend money on welfare related activities such as donation for religious activities, allowances for elderly and disabled people, committee meetings, pregnant women, and other institutions. None of the expenses include investment in women and their capacity building considering their disadvantaged situation in terms of economy and social power.

Among the CFUGs studied, 'women only' CFUGs to some extent have focused on pro-poor and gender focused programme. One out of four women-only CFUG has been practicing equitable access to community resources and investment in girl's education as explained earlier.

The CFUGs lack gender disaggregated data on mico-credit schemes. A study done in five districts of Nepal (Makawanpur, Dhading, Kaski, Tanahun and Myagdi) shows that women receive low amount of loan compared with men from the CFUG funds, although micro-credit schemes practiced in the studied CFUGs have increased women's access to financial resources (Pokharel et al. 2011).

Table 14: Average annual expenditure of CFUGs in the study areas, 2013

District	Community Development	Forest Management	Income Generation Activity	Administration	Capacity strengthening	Other
Kaski	42	32	22	2	2	0
Bardiya	33	18	26	4	9	12
Kailali	10.8	20.8	2.3	40.8	0	25.4
Chitwan	14	15	0.5	0.5	0	62.5*

Source: DFO, Kaski; DFO, Kailali, CFUGs audit reports, Bardiya and Chitwan

* expenses such as royalties to the government against harvesting and selling of forest products is included

In case of Buffer Zone area, a large amount of financial resources (30-50% of annual park revenue³) are allocated to BZUCs and BZUGs through BZMCs. The resources have been used for a range of

³ The annual income of the Chitwan National Park for example is 99,896,147/- (USD 998961/-) for the Fiscal Year 2011/12 (2068/69). Thirty to fifty percent of this income has to go to the Buffer Zone Management Programme as per the BZ management guideline, 1999.

conservation and development activities. Nonetheless, the resource mobilization strategy at the BZMC level lacks institutional policy/mechanism that ensures women’s access to the financial resources. According to the Buffer Zone Management Regulation 1996, local conservation institutions such as BZUCs have to utilize park grants both for conservation and development programmes in which 30% of the total budget has to spend on conservation, 30% on community development, 20% on income generation and skill development, 10% for conservation education programme and 10% for administration activities. Focus group discussions with BZUCs and BZMCs reveal that these institutions should follow this guideline and are spending the grant accordingly. When asked the types of activities these institutions implement and whether they have programme specific to gender and women’s empowerment, these institutions informed that some of the community development interventions such as biogas instalment, conservation awareness and training for local communities are directly and indirectly helping women. Despite huge amount of park revenues reach to the grassroots institutions, the institutions have inadequate capacity to mobilize the revenues that would support to have positive impacts on gender and women’s empowerment. Moreover, women users interviewed rarely know how the park revenue is utilized. In addition, neither park authority nor civil society organizations of NRM have strategy that guides the use of park revenue for addressing existing gender inequality and strengthening women’s leadership capacity and their inclusion in buffer zone management governance.

The development practices in buffer zone management areas in the past tend to include some of the activities related to women’s empowerment such as providing women members of BZUGs or BZCFUGs “women leadership” training through external supports (see BNPBZDP 2003; EFEA 2001). However, the effects of training tend to be little in terms of changing gender unequal power relations because men are holding key positions in the BZ governance structures and their roles are influential in BZ planning processes. As Buchy and Rai-Poudyal (2008), focusing women alone in capacity building activities can’t help for women’s empowerment unless men are sensitized on power relations issues and men internalize the need for gender consideration in decision-making and resource distribution. At the same time, organizing the women leadership training on project mode would have little impacts unless it is owned by the state and non-state actors and institutionalized at the state level as one of the gender strategies to promote women’s presence in decision-making positions.

Women’s limited access to and control over resources

Women in the study groups have limited access to resources such as technical training, information about CF/BZ policies and the use of community funds, and financial resources. The awareness level of men and women varies and men. While more than 40% of women interviewed have not seen the CF Development Guideline, 2009, only 22 % of men interviewed reported of their ignorance about the guideline (Table 15).

Table 15: Awareness level of CBNRM members on CF policy by gender, 2013

Awareness of CFDP Guideline, 2009	% of total respondents	
	Women	Men
Seen it, but not read it	5	22
Seen it and read it	15	33
Seen it, read it and implemented it	5	11
Not seen it	45	22
Don't know and/or no response	30	11
Total %	100	100

Source: Field study 2013

Similarly, none of the women interviewed reported their familiarities with the BZ Management Guideline 1999, although some men interviewed were found aware of the guideline, but only few of them is trying to implement it especially focusing on including women biogas installation programme and conservation trainings (Table 16).

Table 16: Awareness level of CBNRM members on BZ policy by gender, 2013

Awareness of BZ Management Guideline, 1999	% of total respondents	
	Women	Men
Seen it, but not read it	0	14
Seen it and read it	0	14
Seen it, read it and implemented it	0	7
Not seen it	24	14
Don't know and/or no response	76	50
Total %	100	100

Source: Field study 2013

When asked whether women do know about the amount of fund available in their groups and how it has been spent, most of the women interviewed tend to be found ignorant about it. Only those women who are acting as treasurer were able to mention the sources of incomes of their institutions and tentative amount of group fund.

Interestingly, none of the women and men interviewed in the CBNRM institutions mentioned that they have seen or are aware of the GESI strategy, 2008 of the Ministry of Forests and Soil Conservation (MFSC) (Table 17). A huge information gap exists with regard to information about progressive policy at the grassroots. Limited awareness of women, the poor and socially marginalized about the government policies is also found by other recent studies (see MFSC 2013).

Table 17: Awareness level of CBNRM members on GESI strategy by gender, 2013

Awareness of MFSC's GESI Strategy, 2008	% of total respondents	
	Women	Men
Seen it, but not read it	0	0
Seen it and read it	0	0
Seen it, read it and implemented it	0	0
Not seen it	14	0
Don't know and/or no response	86	100
Total %	100	100

Source: Field study 2013

During in-depth interviews with members of executive committees of CBNRM institutions, it was clear that men have prominent roles in deciding on key issues such as utilization of community funds, lending the funds, forest resource distributions, sending participants to training, and coordination with line agencies and other stakeholders. As shown in table 18, around 10 per cent of the respondents mentioned women's roles in decision-making in these issues. Over 25 per cent of respondents view that both men and women take part in decision-making. Most women leaders (with exception of women leaders in 'women only

CFUGs') interviewed opined that both genders participate in decision-making. This means that even if women hold leadership position in some CBNRM institutions, their ability to influence on decision-making processes tends to be yet strengthened.

Table 18: Participation in decision-making by gender, TAL and CHAL, 2013

Who decides on the following issues?	Responses (% of total in-depth interviews)				
	Women	Men	Both genders	Don't know	% total
Utilization of community funds within group	11	39	32	18	100
Lending the fund to users	11	39	32	18	100
Forest resource use and distribution	11	32	39	18	100
Sending participants to trainings and workshops	10	43	29	18	100
Coordination with line agencies and other stakeholders	12	42	25	21	100

Source: Field study 2013

The roles of political power

Party politics tend to be a strong factor for membership in executive committee and selection of chairperson in the executive committee of CBNRM institutions in the study area. Consideration of political representation receives high priority in the BZ and CFUGs in Chitwan, Bardiya and Kailali than CAMC in Mustang and Kaski. Since women are not in position of power in the political parties in the study area, it is often men who get sit in the NRM groups. Similarly, CFUG members give low priority on GESI policy implementation because of political pressure (i.e. CFUG is influenced by party politics rather than the politics of people's empowerment). When stating the barriers for women leadership development in CF, a woman chair of an NGO expressed,

“Political pressure is high in CFUGs. Sadly, influential people are doing smuggling while real forest protectors have faced “forest punishment” (Field note, Kailali 21 June 2013).

Social norms and perception on gender roles are another dimension affecting women leadership development and their participation in decision-making process as discussed later.

Sociocultural norms, perceptions and practices affecting women leadership

Social norms and perceptions on gender roles

Deep rooted social norm and perception on gender roles prevailing in the study areas constraint women to take the lead in CBNRM institutions. Traditional norms such as mukhiyas (village leaders) and priests should be men and women should take care of households exist in ethnic groups in Mustang and Bardiya. This has been supporting to exclude women from community based natural resource management governance. For example, only men can be elected as village leaders, or mukhiyas in Mustang. The mukhiyas decided on natural resource use and management, resolve conflicts, and plan development activities. Since men are working as mukhiyas for time immemorial (Lama 2012), shifting the village headship from men to women is not possible unless men are supportive of social changes and family members in households socially and morally support women members in order to take part in

village leaderships (Verma and Khadka forthcoming). When asked whether women can be a mukhiya, a woman member of Jambachamba mother group, Chusang, ward no. 3, Mustang expressed,

“Women would become mukhiyas like men. However, women can’t be mukhiya because mukhiyas have to be priests in Buddhist Monastery and women are not accepted as priests” (A member, mother group, Chusang VDC-3, 6 June 2013).

According to respondents, only sons can attend village meeting in most part of Mustang. Households in which sons are absent from villages have to pay fine against his absent from village meetings. Daughters or daughter-in-laws rarely attend and participate in community meetings.

Lack of social security and acceptance

During interviews with women chairpersons and users, especially in Chitwan, Bardiya and Kailali, the respondents constantly expressed their concerns of lack of social security and acceptance as critical barriers for women’s leadership development. According to them, a number of situations of violence against women exist in the study groups. Women experience physical, psychological and sexual violence which keep them powerless position within the house and beyond. In Bardiya, a woman member of a CFUG was attacked by timber smugglers and she has to lose a hand. In Kailali, women groups reported the cases where woman chairpersons of CFUGs encountered legal cases in District Forest Office when their men colleagues get involved in misuse of community fund by using false signature of women chairpersons who hold bank account of their groups. Women experience abuse and physical attack by their husbands once the former were victim of forest case files. A group of men forest users in Janakalyan CFUG, Kailali mentioned,

“Women have lost their motivation of being CF leaders in Kailali when men members of executive committee of CFUGs took advantages of sincerity of women chairpersons and misused their signature in order to draw money from CFUG bank account. A woman chairperson in our neighbouring CFUG was jailed. Once she came out of jail her husband beat her because of her involvement in community activities which he did not think appropriate for women (A focus group discussion with a men’s group, Janakalyan CFUG, Kailali).

Society in general and men particularly rarely accept women as important resources for social development. They understand women as incapable persons and believe that women can’t do work other than household chores. At the same time, women have a fear of creating conflict in household when participating in community leadership (A focus group discussion with men members, Janakalyan CFUG, Kailali). As case study from Mustang shows, accepting women as mukhiyas is a long way to achieve. In case of CFUGs, men don’t acceptance easily women’s leadership. A women group collectively expressed,

“In addition to lack of family support for women leadership development, men forest users in our society don’t accept women as leaders” (A focus group discussion with a women’s group, Janashakti CFUG, Kailali).

A group of women in Janajalyan CFUG, Kailali also reported a case in which a woman chairperson in a CFUG with huge amount of forest resources was morally harassed by men members of her executive committee. Men colleagues undermine women’s capacity by saying women can’t maintain official records; women are loyal and hence can’t run CFUG. Although a woman was chair during CF handover, she left the position after influence of men forest users. In a national workshop organized for women leaders of district chapter FECOFUN in Kathmandu, most women participants especially who come from the terai region shared how women are experiencing gender based violence and coping with it in the resourceful CFUGs (Field note, 9 March 2013). They mentioned the cases such as threaten from smugglers, harassment from men because of women’s illiteracy, and exercise of informal network or hidden power (Veneklasen and Miller 2007) by men colleagues to get leadership position in resourceful CFUGs.

External factors affecting women's leadership

It is not only capacity and resources of CBNRM institutions that affect development of women leadership in the institutions, the roles, interests, attitudes and understanding of forest development implementing actors such as the government and non-state actors (NGOs, civil society, development practitioners) and political influence are crucial. As discussed later, state and non-state actors are trying to implement state's gender and social inclusion policy, but with different degree of interests and ownerships. Actors' understanding and their attitudes towards gender and social equity determine which issues receive priority in development agenda of community-based forestry or conservation.

The following section discusses these dimensions.

Stakeholders' attempt to implement GESI policies

Influenced by state's restructuring processes as well as inclusive policy environments, various conservation and forest stakeholders at national and district level have been trying to put the state's policy agenda such as "Gender and Social Inclusion" (GESI) into practice. However, the magnitude of interests and actions among stakeholders differs among them. Interestingly efforts of District Forest Offices tend to be very encouraging, although gender disaggregated data management and analysis is lagging at institutional level. The DFOs in the study area are sensitizing forest users in the implementation of CFD guideline 2008. According to interviews with DFO staff, District Forest Officer does not approve CFUG's constitution and operational plan unless women are included in two of four key positions (chairperson, vice-chairperson, secretary and treasurer). DFOs have enforced CFUGs to include a woman while operating its bank account.

However, DFOs don't have gender focused programme and organizational strategy. They view that some of the interventions such as distribution of Improved Cooking Stove (ICS) and biogas implemented through external assistance are gender related activities with an understanding that the activities reduce women's drudgery. Thus, DFOs tend to be concern of tackling some of practical needs of women indirectly rather than challenging skewed gender power relations issues described earlier.

Similarly, conservation institutions such as ACAP, NTNC, WWF and IUCN consider gender as cross-cutting issues and focus on women's participation in conservation and development interface. None of the organizations have organizational gender equity policy and/or strategy. For example, ACAP focuses on women groups to engage in conservation awareness and sanitation programme, but it does not have policy/strategy that supports for gender equality in decision-making, benefit sharing and women's empowerment in conservation field. NTNC and WWF are planning to follow the CFD guideline for gender inclusion in conservation groups, but they also lack organizational gender policy/strategy.

CARE-Nepal has gender budgeting and gender sensitive working modality. Its two main pillars of development are Natural Resources Management and Women's Empowerment. It has hence over 50% of budget for women's empowerment programme. In addition, CARE has been extensively implementing the CFD guideline 2008. For example, how to ensure benefits to women have been the focus of training and other development programme. In addition, CARE has supported to establish and operate women's forum at national and district level in order to provide women staff (who make 50% of the total staffing in the institution) an opportunity to exchange and learn about gender issues and address them.

Other non-state actors affiliated with empowerment of Indigenous Peoples, women, Dalits and forest users in their organizational vision and focus however lack organizational gender strategy. Since the types of programmes they implement depend on the external assistance, making gender issue and approach as an organizational priority is yet to internalize within these organization. As discussed later, attitude and behaviour of NRM non-state actors are political in nature in the sense that they do often criticize donors once they don't get funding. Non-state actors lack organizational practices that focus on critical analysis of development in the forest sector towards gender equality. Their interests are more on to getting a seat in training and workshops and policy table on behalf of the women, the Dalits or the

Indigenous Peoples. Their capacity for understanding gender issues and influencing policy processes for gender transformative change is very limited.

Awareness of actors on the forest sector's GESI policies

As mentioned in the introductory chapter, awareness and interests of forest and conservation actors influence gender positive change on the ground. With this view in mind, this study attempted to explore the level of awareness of national and district NRM actors on gender policies of the forest sector.

As table 19 shows, the majority of respondents both in central and district level either have not seen or don't know about the CFD guideline, 2008. District stakeholders, especially DFOs tend to be active in putting some of the gender strategy manifested in the CFD guideline. There are also some stakeholders at central level who have seen the CFD guideline, but not read it.

Table 19: Awareness of CFD guideline among stakeholders, 2013

Awareness of CFD guideline, 2008	% of respondents	
	District stakeholders	National stakeholders
Seen it, but not read it	8	0
Seen it and read it	24	18
Seen it, read it and implemented it	32	28
Not seen it	16	0
Don't know and/or no response	20	54
Total %	100	100

Source: Field study 2013

With regard to awareness of the BZ policy that gives emphasis on representation and participation of women in conservation and development, over 50% of the stakeholders at national and district level tend to be unaware of the policy and the status of stakeholders implementing the policy effectively is very low (see Table 20). The implementation of policy to bring more women in BZ management structure and leaderships is yet to institutionalize, given the very low representation and capacity of women in the BZMC and BZUC to influence decisions that benefit them.

Table 20: Awareness of BZ guideline among stakeholders, 2013

Awareness of BZ guideline, 1999	% of respondents	
	District stakeholders	National stakeholders
Seen it, but not read it	8	0
Seen it and read it	20	19
Seen it, read it and implemented it	8	27
Not seen it	44	0
Don't know and/or no response	20	54
Total %	100	100

Source: Field study 2013

Interestingly, the information about the GESI strategy, 2008 of the MFSC has not reached on the ground and hence its implementation is another concern. Only few national stakeholders seem to trying to implement the strategy (Table 21).

Table 21: Awareness of GESI strategy among stakeholders, 2013

Awareness of GESI strategy, 2008	% of respondents	
	District stakeholders	National stakeholders
Seen it, but not read it	8	0
Seen it and read it	0	0
Seen it, read it and implemented it	0	27
Not seen it	20	18
Don't know and/or no response	72	55
Total %	100	100

Source: Field study 2013

Inadequate understanding and capacity of stakeholders on gender

Interviews with forest and conservation stakeholders, including staff and executive committee members of HB consortium reveal that there is an inadequate understanding of what does gender meant in the context of natural resource management. In their views, gender is easily equated to women and women's issues. When requesting a time for an interview, a field staff of an INGO declined to do so by referring a woman staff for the interview. In his understanding, the woman staff is better known of gender issues and can give more information to the research team. Similarly, when exploring stakeholders' view on problems for not having more women in decision-making positions in the CBNRM institutions, a staff member in one of the Hariyo Ban Consortia mentioned women's inadequate capacity and lack of assertiveness to take the leadership position. She undermined the whole issue of patriarchy and structural gender inequalities that constraints women to be in leadership position. She expressed,

"Women have problems. Men are supportive to women's leadership, but women are not assertive. Talking about leadership is about talking about "right" and promoting leadership may not always be the priority at the grassroots NRM institutions. Because, people expect livelihoods related benefits first rather than empowerment" (Field note, 9 June 2013).

While some respondents consider lack of initiative or responsibility from women as a reason leading to their low representation in leadership position, others view increased workload for women in care economy activities, lack of family support and comprehensive programme and policy for bringing women in leadership position are the key reasons. Men and women respondents in the district and national stakeholders have had distinct views in terms of problems and solution of women's leadership development in the NRM sector. While men mostly see the women's weak capacity and society as problems of gender equality, women respondents reported the issues such as lack of ownership and interests in the decision-making level within their organization and lack of human and financial resources to do gender focused activities.

Inadequate gender analytical skills and lack of gender resource persons in district and national level actors working in NRM and social identities issues is another issue that hinders the implementation of gender strategy. Moreover, technical training such as biodiversity conservation, forest management and

nurseries management organized for the grassroots institutions and field staff lack integration of gender sessions.

Gender agenda not receiving priority in organizational processes

None of the stakeholders in district level and majority stakeholders in central level mentioned an example where their regular meetings had an agenda related to gender issues of NRM and development. It is clear from the stakeholder interviews that development agenda of the stakeholders focus on administrative, technical, policy issues of forest resource utilization, community fund utilization, awareness raising, training, coordination and social inclusion rather than reflecting critically on how their activities or programmes have impacted on gender equality outcomes. In other words, change in organizational processes and practices from a gender perspective have not come as a development agenda of NRM actors at district and national level.

With some exceptions, majority of respondents mentioned the limited interests on gender topic at decision-making level within their organization. A member of the executive committee of a forest civil society expressed,

“Neither our organization has gender policy nor do the members of executive board take the responsibility to take gender issue into account during our regular meetings. Men outnumber women in the meeting and the agenda of the former dominate in the meeting’s discussions and decision. Gender issue hardly appears as an important agenda in the meeting” (A member, non-state actor, 8 June 2013).

While NRM actors give little attention to organizational culture and capacity building processes for gender transformative change, there is an issue of ownership of gender policy in the government level.

Lack of ownership of gender policy agenda

How to create and maintain ownership of gender policy and actions in government institutions is a critical issue. Policy and GESI experts in national level reported examples that indicate lack of ownership of gender policy and its implementation in institutional level. Donors invested a lot of efforts to develop the GESI strategy of the MFSC. However, an institutional mechanism that supports the implementation of the strategy is lacking in the forest ministry. The ministry has gender focal person who does not have clear terms of references, authority, expertise and financial resources in order to take the lead in facilitating the process of gender integration and gender focused work in the forest sector.

Class and caste/ethnicity perspectives are yet to integrate in gender approach

Even if women are working as leader in some of the CBNRM institutions, they tend to come from highly advantaged socioeconomic and political backgrounds. Most of the women leaders belong to advantaged castes (Brahmin and Chhetri) in case of Kaski, Kailali and Bardiya and advantaged ethnic group in case of Mustang. Even if leadership position was selected from disadvantaged ethnic/caste disadvantaged groups such as Dalits and Tharu (in case of Bardiya and Kaski), they come from relatively stronger economic class and have strong social networks with political bodies, NGOs, and line agencies. However, class and caste/ethnicity perspectives are undermined in gender approach and concept promoted locally and nationally. For example, there is no database of community leaderships and access to income generation opportunity by class and ethnicity in the government and NGOs which are advocating for women’s empowerment and gender equality.

Chapter 4: Gender differentiated knowledge of biodiversity resource use and management

4.1 Plants women and men are aware of in their locality

In focus group discussions with women and men separately in Sardikhola CAMC, Kaski, they listed a number of plants they are protecting and using for their livelihoods. While both men and women reported same kind of plants, women's list of these resources tends to be higher than men's (Table 22). This indicates that women get involved more in use and conservation of plants than men.

Table 22: Name of plants reported by gender, Sardikhola CAMC, Kaski

Plants		Reported by gender	Plants		Reported by gender
Local name	Scientific name		Local name	Scientific name	
Ainselu	<i>Rubus ellipticus</i>	Women & men	Kaulo	<i>Cinnamon spp</i>	Women & men
Allo (Nettle)	<i>Girardinia diversifolia</i>	Women	Koirala	<i>Bauhinia variegata</i>	Women
Amala	<i>Phyllanthus emblica</i>	Women	Kurilo	<i>Asparagus racemosa</i>	Women
Angeri	<i>Lyonia ovalifolia</i>	Women	Lokta	<i>Daphne bhoolua</i>	Women & men
Amriso	<i>Thysanolaena maxima</i>	Women & men	Machhaino	<i>Gaultheria fragmentissima</i>	Women
Bantarul	<i>Dioscorea bulbifera</i>	Women	Maledo	-	Women & men
Banmara	<i>Lantana camara</i>	Women	Mahuwa	<i>Madhuka indica</i>	Women & men
Banso	<i>Brachiaria species</i>	Women	Malato	<i>Macaranga indica</i>	Men
Bedulo	<i>Ficus subincisa</i>	Women & men	Masure katus	<i>Castanopsis tribuloides</i>	Women & men
Bilaune	<i>Maesa chisia</i>	Men	Neuro	<i>Poa polyneuron</i>	Women & men
Champ	<i>Michelia champaca</i>	Women & men	Nimaro	<i>Ficus roxburghii</i>	Women & men
Chilaune	<i>Schima wallichii</i>	Men	Nigalo	<i>Arundinaria spp</i>	Women & men
Coffee	<i>Coffea arabica</i>	Women	Painyu	<i>Prunus cerasoides</i>	Women & men
Chuletro	<i>Brassica spp</i>	Women	Pakhuri	<i>Ficus glabderrima</i>	Women & men
Chutro	<i>Berberis aristata</i>	Women	Raktachandan	<i>Pterocarpus santalium</i>	Women & men
Dudhilo	<i>Ficus nemoralis</i>	Women & men	Siltimur	<i>Litsea cubea</i>	Women & men
Dhale katus	<i>Castanopsis indica</i>	Women & men	Siru	<i>Imperata cylindrica</i>	Women
Hadchur	<i>Viscum album</i>	Women	Sisnoo	<i>Urtica dioica</i>	Women
Jhinganey	<i>Eurya auminata</i>	Women	Tanki	<i>Bauhinia purpuria</i>	Women

Indryeni	<i>Cittulus colocynthis</i>	Men	Timur	<i>Zanthoxylum alatum</i>	Women & men
Kavro	<i>Ficus lacor</i>	Women	Titepati	<i>Artimisia vulgaris</i>	Women
Kafal	<i>Myrica spp</i>	Men	Uttis	<i>Alnus nepalensis</i>	Women & men
Kharu		Women	Vyakur	<i>Dioscorea deltoides</i>	Women & men
Khanyu	<i>Ficus semicordata</i>	Women & men			

Source: Field study 2013

4.2 Wild life women and men are aware of in their locality

Women and men forest users are aware of wildlife available in their community forests and protected areas. As an example, they in Bhimbali CFUG in Chitwan who used to reside in the Chitwan National Park in the past and now are relocated in Padampur VDC-6 reported various types of wild life (animal, reptiles and birds) (Table 23). While both men and women forest users are aware of same kind of wildlife, their level of awareness is different. While women tend to be more aware of birds, men's awareness is high on reporting wild animals which are affected by poaching (e.g. wild boar, dolphin, langur, wild cat). Women's more awareness on birds and snakes could be due to their frequent visits to forests for collecting forage, fodder and fuelwood.

Table 23: Name of wildlife reported by gender, Bhimbali CFUG, Chitwan

Wild life	Scientific name*	Reported by gender	Wild life	Scientific name	Reported by gender
Local name			Local name		
Wild boar/bandel	<i>Sus species</i>	Men	Bhangera	<i>Petronia xanthocollis</i>	Women & men
Deer/chital	<i>Axis axis</i>	Women & men	Chibe/Battai	<i>Coturnix coturnix</i>	Women
Dolphin	<i>Platanistagangetica</i>	Men	Crows	<i>Corvus macrorhynchus</i>	Women & men
Fyauro	<i>Pteropus spp.</i>	Women & men	Dangre/ Sarau	<i>Athene brama</i>	Men
Gaur	<i>Bos gaurus</i>	Women & men	Dhukur	<i>Streptopelia decaocto</i>	Women & men
Jackal	<i>Canis aureus</i>	Women & men	Duck/Mallard	<i>Anas platyrhynchos</i>	Women & men
Langur	<i>Presbytis entellus</i>	Men	Fista		Women & men
Monkey	<i>Primates spp.</i>	Women & men	Gangato		Women
Rhino	<i>Rhinoceros unicornis</i>	Women & men	Jureli	<i>Pycnonotus leucogenys</i>	Women
Sloth bear	<i>Melursus ursinus</i>	Women & men	Kalij	<i>Lophura leucomelana</i>	Women & men
Tiger	<i>Panthera tigris</i>	Women & men	Kalo dhanesh	<i>Antracoceros albirostris</i>	Men
Wild cat	<i>Felis chaus</i>	Men	Koili		Women
Wild elephant	<i>Elephas maximus</i>	Women & men	Luiche	<i>Gallus gallus</i>	Men
Fish/Katla	<i>Catla catla</i>	Women & men	Maina	<i>Acridotheres tristis</i>	Women
Ajingar	<i>Python molurus</i>	Women	Owl	<i>Bubo bubo</i>	Women
Goman	<i>Naja naja</i>	Men	Parrot	<i>Pavo cristatus</i>	Men
Frogs/Assam	<i>Rana assamensis</i>	Women & men	Peacock	<i>Pavo cristatus</i>	Women & men
Gharial crocodile	<i>Gavialis gangeticus</i>	Women & men	Saras	<i>Grus grus</i>	Women & men
Hareu/ Green pit viper	<i>Cryptelytrops albolabris</i>	Women	Seto Bakulla	<i>Casmerodius albus</i>	Women
Lizard	<i>Calotes versicolor</i>	Women	Theuwa		Women

Rat	<i>Bandicota bengalensis</i>	Women & men	Titra	<i>Francolinus gularis</i>	Women & men
Common snake	<i>Lycodon aulicus</i>	Women & men	Wood packer	<i>Scolopax rusticola</i>	Women

Source: Field study 2013

4.3 Gender differentiated use of plants

Clearly, women and men forest users use plants in various ways. They use different parts of a plant for meeting multiple needs of livelihoods such as food, fuel wood, forage/fodder, leaves litter, bedding materials, religious, cultural and medicinal purposes. As table 24 reveals, men and women use same plant differently. Like Kaski, women and men forest users in Chitwan have reported different types of plants and presented in Annex 13 as an example.

Table 24: Gender differentiated use of plants, Sardikhola CAMC, Kaski

Plants	Category (trees/shrub s/herbs)	Uses by men		Uses by women	
		Parts being used	Uses	Parts being used	Uses
Ainselu	Shrub	Fruit	Food	Fruit, root, branch	Food, fuel wood, living hedge, medicine
Allo (Nettle)	Herb	Leaves, stem	Fibre, medicine	Leaves, stem	Fibre, medicine
Amala	Tree	Fruit, stem, branch	Food, pole, medicine	Fruit, stem, branch	Food, pickle, fuel wood, medicine
Amriso	Grass	Stem, flower	Swiping material, soil conservation	Stem, flower	Swiping material, fodder, soil conservation
Angeri	Tree	Stem, branch	Pole	Stem, branch, leaves	Pole, fuel wood, leaf litter
Badahar	Tree	Leaves, stem	Fodder, timber	Leaves, branch	Fodder and fuel wood
Banmara	Shrub	Leaves, stem	Bedding material, leaf litter	Leaves, stem	Leaf litter, fuel wood, medicine
Banso	Grass	Leaves	Forage	Leaves	Forage
Bantarul	Climber	-	-	Root	Food, vegetable
Bedulo	Tree	Leaves	Fodder	Leaves, branch, fruit	Fodder, fuel wood, food
Bilaune	Shrub	Root's bark	Medicine, pole	Root's bark, stem	Medicine, leaf litter, pole
Champ	Tree	Leaves, stem	Fodder, timber	Leaves, stem	Fodder, fuel wood
Chilaune	Tree	Stem	Timber	Leaves, branch	Leaf litter, bedding material, fuel wood
Chuletro	Tree	Leaves	Fodder	Leaves, branch	Fodder, fuel wood
Chutro	Shrub	Fruit, bark, root	Food, medicine, dye	Fruit, bark, stem, root	Food, medicine, dye, fuel wood
Dhale katus	Tree	Fruit, stem,	Food, pole, timber,	Fruit, stem, leaves, branch	Food, pole, bedding material, fuel wood
Dudhilo	Tree	Leaves	Fodder	Leaves, branch	Fodder, fuel wood
Gurans	Tree	Flower, stem	Medicine, aesthetic, timber, medicine	Flower, stem	Medicine, aesthetic, fuel wood,
Hadchur	Herb	Whole part	Medicine (bone fracture)	Whole part	Medicine (bone fracture)
Indryeni	Climber	Leaves, climber	Fodder, rope	Leaves, climber, bark	Fodder, rope, medicine
Jhinganey	Shrub	Leaves, branches	Bedding material, fuel wood	Branch, leaves	Fuel wood, bedding material
Kafal	Tree	Fruit, branch, leaves, bark	Food, dye, bedding material	Fruit, branch, leaves, bark	Food, fuel wood, dye, bedding material, leaf litter
Kaulo	Tree	Leaves, stem	Fodder, fuel wood	Leaves, stem	Fodder, fuel wood

Kavro	Tree	Leaves, bark, flower	Pickle, fodder, fibre	Leaves, bark, flower	Pickle, fodder, fibre
Khanyu	Tree	Leaves, stem	Fodder, fuel wood	Leaves, stem	Fodder, fuel wood
Kharu	Grass/ shrub	Leaves	Forage	Leaves	Forage
Koirala	Tree	Flower, leaves,	Vegetable, fodder	Flower, leaves, branch	Pickle, fodder, fuel wood
Kurilo	Herb	Root, shoot	Vegetable, medicine	Root, shoot	Vegetable, medicine (against infertility)
Lokta	Shrub	Bark	Paper	Bark, stem	Paper, fuel wood
Machhino	Shrub	Leaves	Essential oil, medicine	Leaves, branch, foliage, fruit	Essential oil, medicine, fuel wood, bedding material,
Mahuwa	Tree	Stem	Timber, fuel wood	Stem, leaves, branch	Timber, fuel wood, leaves plate, fruit, leaf litter
Malato	Tree	stem	Timber	Stem, leaves	Fuel wood, religious ceremony
Maledo	Tree	Leaves	Fodder	Leaves	Fuel wood
Musure katus	Tree	Fruit, stem,	Food, pole, timber	Fruit, stem, leaves, branch	Pole, bedding material, fuel wood
Neuro	Fern/herb	leaves	Vegetable, pickle	leaves	Vegetable, pickle
Nigalo	Shrub	Stem, shoot,	Fence, vegetable, handicrafts	Stem, shoot, leaves	Fence, vegetable, fodder, handicrafts
Nimaro	Tree	Leaves, branch	Fodder, fuel wood	Leaves, branch	Fodder, fuel wood
Painyu	Tree	Stem, bark	Religious ceremony, medicine, timber	Stem, leaves	Fuel wood, religious ceremony, bedding material, fence pole
Pakhuri	Tree	Leaves	Fodder	Leaves, branch	Fodder, fuel wood
Raktachandan	Tree	Branch, leaves	Fuel wood, bedding material, timber	Branch, leaves	Fuel wood, bedding material
Siltimur	Tree	Root, bark, fruit	Medicine, food	Root, bark, fruit	Medicine, food
Siru	Grass	Leaves	Forage	Leaves	Forage
Sisno	Shrub	-	-	Leaves	Vegetable, medicine
Tanki	Tree	Leaves	Fodder	Leaves, branch, flower	Fodder, fuel wood, pickle, vegetable
Timur	Tree	Fruit	Spice, medicine	Fruit, branch	Spice, medicine, fuel wood
Titepati	Shrub	Stem, root, leaves	Medicine, essential oil	Stem, root, leaves	Medicine, essential oil, fodder, bedding
Uttis	Tree	Stem,	Pole, timber	Stem, leaves, bark	Fuelwood, leaves plate, medicine
Vyakur	Herb	-	-	Root, fruit	Vegetable, food

Source: Field study 2013

Likewise, women and men forest users in Ranikhola CFUG, Chitwan explained a number of ways they are using plants. While men's involvement tends to be higher in use of a tree for timber and furniture, women use the plant for fuel wood. Similar to Kaski, both men and women forest users interviewed in Chitwan district have been using different parts of a tree/shrub/herb for different purposes (Table 25).

Table 25: Gender differentiated use of plants, Ranikhola CFUG, Chitwan

Category	Uses by men	Uses by women
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Plants	(trees/shrubs/herbs)	Parts being used	Uses	Parts being used	Uses
Amala	Tree	Fruit, branch	Food, medicine, fence	Fruit, stem, branch	Food, pickle, fuel wood, medicine
Asuro	Shrub	Leaves, flower	Mulching, manure, religious work	Leaves, flower, flower, root	Mulching, green manure, medicine, bedding material
Badahar	Tree	Leaves, stem, fruit	Fodder, timber, food	Leaves, branch, fruit	Fodder, fuel wood, food
Bakino	Tree	Stem	Timber, furniture	Leaves, branch	Fodder, fuel wood, bedding material, leaves litter
Bamboo	Shrub	Leaves, stem,	Fodder, furniture, basket, mats	Leaves,	Fodder, doko, mats, sieving plate,
Banmara	Shrub	Leaves, stem	Bedding material, leaf litter	Leaves, stem	Leaf litter, fuel wood, medicine
Banso	Grass	Leaves	Forage	Leaves	Forage
Bantarul	Climber	-	-	Root	Food, vegetable
Barro	Tree	Leaves, stem, seed	Fodder, medicine (cough), dye, tannin, oil	Leaves, seed, stem	Fodder, fuel wood, medicine (cough), dye, tannin
Bayer	Shrub	Fruit, branch	Food, fence	Fruit, branch	Food, fence
Bedulo	Tree	Leaves	Fodder	Leaves, branch, fruit	Fodder, fuel wood, food
Bel	Tree	Leaves, fruit, stem	Religious work, juice, timber, medicine (diarrhea, dysentery)	Leaves, fruit	Religious work, juice, medicine (diarrhea, dysentery)
Bhalayo	Tree	Leaves, fruit	Sun shedding cap, food, religious work	Leaves, fruit	food, religious work
Bhorla	Tree	Leaves, branch	Fodder, fuel wood	Leaves, branch, fruit	Fodder, fuel wood, food
Bhuiamala	Herbs	Root's fruit	Medicine	Root's fruit, whole part	Medicine, mulching
Bilaune	Shrub	Root's bark	Medicine, pole	Root's bark, stem	Medicine, leaf litter, pole
Boddhagero	Tree	Branch, stem	Fuel wood, furniture	Branch	Fuel wood
Chhatiwan	Tree	Leaves, stem, bark	Bedding material, timber, medicine	Leaves, stem, bark	Bedding material, fuel wood, medicine
Chilaune	Tree	Stem	Timber	Leaves, branch	Leaf litter, bedding material, fuel wood
Dabdabe	Tree	Leaves, stem, branch	Fodder, timber, fuel wood	Leaves, stem, branch, bark	Fodder, timber, fuel wood, medicine (fever, diarrhea)
Datiwan	Shrub	Twig	Medicine	Twigs, leaves	Fuel wood, medicine (dent cleaning), religious
Debre lahara	Climber	Leaves	Fodder	Leaves, bark	Fodder, medicine (fever)
Gandhe jhar	Herb	Whole part	Fodder, mulching	Whole part	Fodder, mulching
Gaujo	Shrub	Leaves	Fodder	Leaves, branch	Fodder, fuel wood
Gayo	Tree	Leaves, branch, stem	Fodder, timber, pole	Leaves, branch, stem	Fodder, pole, fuel wood
Ghodtapre	Herbs	Whole part	Medicine	Whole part	Medicine
Gindari	Tree	Leaves, branch	Fuel wood, fodder	Leaves, bark, branch	Fodder, fuel wood, medicine (worm, hot resistance)
Gurjo	Climber	climber	Medicine (fever), tea	climber	Medicine (fever), tea
Harro	Tree	Stem, leaves	Furniture, fodder	Leaves, stem, seed	Fodder, fuel wood, medicine (cough)
Haldu	Tree	Leaves, stem	Ornamental platter, combs, furniture	Leaves, branch	Fodder, fuel wood, medicine (cough)
Jaluki	Herbs	Leaves	Vegetables	Leaves	Vegetables
Jamun	Tree	Leaves, stem, bark	Fodder, furniture, dye, tannin	Leaves, stem, bark, fruit	Fodder, furniture, dye, tannin, medicine, fuel wood
Kadam	Tree	Stem	Timber	Leaves, stem	Fodder, religious

Kans/khar	Shrub	Leaves	Rope, forage, bedding material, thatching material	Leaves	Rope, forage, bedding material, mulching
Khamari	Tree	Stem	Plough, timber	Branch, foliage, bark	Bedding material, fuel wood, medicine (stomach)
Khair	Tree	Stem, bark,	Tannin, dye, timber, medicine	Stem, bark,	Tannin, dye, fuel wood, medicine
Kukur daino	Climber	Leaves, root,	Religious ceremony, medicine	Leaves, stem, root	Fodder, fuel wood, mulching, medicine
Kurilo	Herb	Root, shoot	Vegetable, medicine	Root, shoot	Vegetable, medicine (tonsil), milk increases when used by cattle
Kush	Grass	Leaves	Religious ceremony, forage	Leaves	Forage, mats
Kutmiro	Tree	Leaves, stem	Fodder, fuel wood	Leaves, stem	Fodder, fuel wood
Kyamun	Tree	Stem, fruit	Furniture, berries	Stem, fruit , leaves	Furniture, berries , fodder
Neem	Tree	Stem, bark, leaves	Medicinal (Snake bite, scorpion sting) and religious work	Stem, bark, leaves	Medicinal (Snake bite, scorpion sting) and religious work
Palans	Tree	Leaves, stem, gum, seed	Rope, medicine, fodder	Leaves, stem, gum, seed	Rope, bedding material, fodder, medicine
Rajbrikchhya	Tree	Stem, bark, pods	Furniture, building, agriculture tools, charcoal, tannin, dye, medicine	Stem, bark, pods	Agriculture tools, tannin, dye, medicine, fuel wood
Saj/Asna	Tree	Leaves, powder from bark	Fodder, medicine (wound)	Leaves, powder from bark	Fodder, medicine (wound)
Sal	Tree	Stem, branch, bark	Timber, fuel wood	Stem, branch, leaves	Fuel wood, leaves plates, fodder, medicine (diarrhea cattle), bedding material
Sandan	Tree	Stem, branch	Plough, yoghurt pot (theke)	Leaves, branch	Fodder, fuel wood
Siris (Kalo)	Tree	Stem, leaves	Furniture, fodder, mulching	Stem, leaves	Fuel wood, fodder, bedding material, mulching
Siris (Seto)	Tree	Stem, leaves, bark	Furniture, fodder, mulching, charcoal, tanning	Stem, leaves	Fuel wood, fodder, bedding material, mulching
Satisal	Tree	Stem	Furniture	Stem, leaves	Fuel wood, bedding material
Simal	Tree	Stem, pods,	Furniture (packing cases, planks), matches, cotton	Stem, flower, pods,	Vegetables, cotton, medicine, sacredness value
Simali	Shrub	Stem, leaves	Fence	Stem, leaves	Fence
Sindure	Tree	Leaves	Fodder	Bark, leaves, root, branch, fruit	Fodder, medicine, fuel wood
Siru	Grass	Leaves	Forage, bedding material	Leaves	Forage, bedding material, mulching
Sisoo	Tree	stem , leave	timber , fodder	Branch, leaves	Fuel wood, fodder
Tanki	Tree	Stem, leaves	Timber, fodder	branch, leaves, flower	Fuel wood, fodder, pickle
Titepati	Shrub	Stem, root, leaves	Medicine, essential oil	Stem, root, leaves	Medicine, essential oil, fodder, bedding material
Tuni	Tree	Bark, flower, branch	Handicraft, medicine	Leaves, bark, flower	Medicine, fodder, fuel wood,

Source: Field study 2013

Clearly, women and men have different preferences while using plants for fuel wood and timber purposes.

4.4 Gender differentiated preferences on forest resources

Women and men in the study areas have different preferences on the use of plants for timber and fuel wood (Table 26). While men used criteria such as durability, market value and easy access as main criteria for choosing most preferred timber species, women considered easy access and availability of the trees as important factors while defining their preferences.

Table 26: Gender differentiated use of plants for timber in study areas

District	NRM Group Name	Men's preference on timber species					Women's preference on timber species				
		I	II	III	IV	V	I	II	III	IV	V
Kailali	Janakalyan CFUG, Pathariya 8	Sal	Saj	Jamun	Karma	Kadam	Sal	Saj	Jamun	Karma	-
Bardia	Janjagriti CFUG, Suryapatuwa-7	Khair	Sisoo	Jamun	Karma	Kadam	Sisoo	Jamun	Kadam	Khair	Karma
Chitwan	Kalika Pipaltar CFUG, Dahakhani-7	Sal	Simal	Saj	Sadan	Khamari	Sal	Asna	Karma	Sadan	Khamari
Kaski	Thulodhunga CFUG, Puranchaur-6	Champ	Chilaune	Katus	Uttis	-	Champ	Chilaune	Katus	Uttis	Mallato
Mustang	Pangling Farmer Group, Kagbeni 1	Bhote pipla	Salix	Dhupi	Blue pine	Walnut	Salix	Blue pine	Paiyu	Bhote pipal	Walnut

Source: Field study 2013

Note: preference high to low (I-V)

Likewise, women's preference to fuel wood species is similar to men's in Kailali district, but different in other study districts (Table 27). Men considered accessibility and less labour intensive in chopping fuel wood as most important criteria to define most preferred fuel wood species. Women in contrast considered easy access, durability of fire in oven, stronger heat and less labour intensive in chopping and lighter in carrying fuel wood as determinants of their species preferences. For example, in Sardikhola CAMC meeting, women preferred Chilaune as most preferred species for fuel wood due to the fact that it is good heating power, burns well and fire remains for long hours. For them Uttis is less preferred fuel wood species because it has poor heating capacity and does not produce good charcoal.

Table 27: Gender differentiated use of plants for fuel wood

District	CBNRM	Men's preference on fuel wood					Women's preference on fuel wood				
		I	II	III	IV	V	I	II	III	IV	V
Kailali	Janakalyan CFUG, Pathariya 8	Saj	Sal	Jamun	Karma	-	Saj	Sal	Jamun	Karma	-
Bardia	Janjagriti CFUG, Suryapatuwa-7	Khair	Asare	Sisoo	Jamun	Karma	Saj	Sal	Botdhagero	Dhageri	Padke
Chitwan	Kalika Pipaltar CFUG, Dahakhani-7	Botd hagero	Dhageri	Padke	Saj	Karma	Sal	Saj	Karma	Bhalukath	Sindhure
Kaski	Thulodhunga CFUG, Puranchour-6	Jhiganey	Mouwa	Bilauni	Bhorla	-	Chilaune	Katus	Jhiganey	Uttis	Maledo
Mustang	Pangling Farmer Group, Kagbeni 1	Dhupi	Bhote pipal	Salix	Bhojpatra	-	Dhupi	Salix	Bhotepipal	Walnut	-

Source: Field study 2013

4.5 People's perception of change in biodiversity

Both men and women respondents perceived change in biodiversity resources over the past two decades. As respondents in Sardikhola CAMC reported, a number of plants and birds tend to be lost, although a few of them have increased over the past decades. They noted that some wild animals such as porcupine, monkey, deer and leopard have been increased due to improvement in forest cover. In contrast, jackal is disappearing because of illegal poaching especially poachers who used to trap langur in forests in Sardikhola.

While plants such as champ and amriso are increasing due to plantation of these species in private and conservation forests. In contrast, plants such as chuletro, nigalo, neuro, kurilo, timur and allo are decreasing in their conservation forests. Women respondents mentioned that strict protection of forests rather than focusing on active forest management rather diminishes the growth of neuro and nigalo. According to them, neuro and nigalo can't grow in dense forests with limited sun light. Similarly, women who were the custodian of indigenous knowledge of processing and weaving allo don't have labour in household to continue such activity. Out-migration of youth has impacted on the continuation of traditional occupation such as making cloths out of allo and protection of indigenous knowledge. Allo needs regular harvesting to maintain good growth, but it is being challenged by shortage of workforce in village. People reported that while bakulla and dhukur are increasing, a number of birds are in the stage of extinction. They mentioned birds such as piura, luiche, titra, monal, bhanger, parrots and rajarani chara are decreasing in their forests. Availability of vulture has not changed (see Annex 15).

4.6 Women's incredible roles in conservation and sustainable use of biodiversity

During interviews with women members of CFUGs, CAMCs, BZUCs and BZCFUGs, they mentioned ways they are conserving plants and animals in their community and protected areas. For example, women don't collect fodder from a very high value tree such as champ (*Michelia champaca*) and protect it from grazing and harvesting. Women respondents from CFUGs in Puranchour and Sarangkot mentioned that they have planted improved forage in their terrace raiser and along canals. They don't collect forage, fuelwood and fodder from the areas which are ecologically sensitive and conserve plants around water springs. This finding supports research by Karki and Gurung (2012) from a case study from Dolakha district. In Ranikhola CFUG, Chitwan, women have planted and protected broom grasses and nigalo in a small patch (8 hectare) of community forests. While men's involvement in timber smuggling and wildlife poaching was frequently mentioned during focus group discussions, none of respondents reported the cases where women were involved in such illegal activities. The warden in one of the national parks mentioned an exceptional case where a couple was involved in Rhino poaching. Women's sincerity and ability to maintain transparency in the operation of CBNRM institutions were frequently reported by men and women respondents while recognizing women's roles in conservation and local development.

Chapter 5

Summary, conclusions and recommendations

5.1 Summary of analysis

Relationships between forest resources and gender power relations

As this study shows, only 10% of the total CFUGs in the study area are lead by women. Women's exclusion strongly appeared in the leadership position of Buffer Zone area management and conservation

area management structure at landscape and VDC level, although a few women hold the position in hamlet level structure with limited capacity to influence decisions on conservation and development that benefit them. As shown in case studies from Chitwan, Kailali and Bardiya, those CBRNM institutions that have large productive forests, generate cash income from the sale of forest products, including other provisioning services (e.g. fee against collection of sand and boulder from streams nearby community forests) and aesthetic services (e.g. ecotourism in Chitwan, Bardiya and ACAP) have been led by men from the beginning of protection phase (i.e. before handover of forests and conservation areas to the community).

Because of higher social status defined by patriarchy cultures, practices, and customary governance (e.g. mukhiya in Mustang and Bardia) of natural resource management, men in all the CBNRM groups studied are in good position to negotiate with outsiders including contractors, deal with smugglers and have good networks with line agencies and other service providers. This situation supports men to exercise power both in households and community level while marginalizing women from the process.

In contrast, women tend to be a leader in those community forests which are small, degraded, have plantation and don't have high value forest crops (e.g. sal). Men lead CFUGs with large area of productive forests such as sal forests in Chitwan, Kailali and Bardiya districts. Men in these forests are not ready to share power with women and the former rather humiliate and harass the later by attempting some forms of violence (e.g. misuse of signature of women's chairperson, verbal threat, abuse). Even in women only CFUGs (in Kailali, Bardiya, Kaski), "power over" situation exists in the sense that men take over leadership position that women used to hold when the conditions of forests are improved and the forest have sal trees.

Women's exposure to gender based violence

While women forest users are contributing to forest restoration and conservation significantly, they experience gender based violence when taking part in leadership roles. A women group in Kalilali explained a number of cases where women are insecure when taking leadership roles. Two women chairperson in Kailali were threatened to be killed and were attacked physically. Women respondents also reported that women are more likely to encounter physical violence even if they lead the CFUGs with high-value forest crops. They live in with insecure situation and become panic when unidentified smugglers threatened her. "A woman chair in Samaichi CFUG, Dhangadi Municipality, ward no. 5 becomes panic and attempts to find safe place to live when threatened by timber smugglers" said a women group, Janakalyan CFUG, Kailali. As mentioned in preceding chapter, women forest users who are working as Chairperson for the District chapter of FECOFUN Bardiya and other districts of terai mentioned that constant threatings from timber smugglers is an example of women living with unsecure life while working on community forestry (Field note 9 March 2013).

Besides threats from outsiders, women leaders also suffer from misconduct of men colleagues in their CFUG. Men give psychological stress to women chairpersons in order to capture the leadership position. Men harass women by saying 'you can't keep record of expenditures and incomes, and you are very honest and can't deal with timber smuggling etc'. Similarly, a woman chairperson in Thotnekhola CFUG, Kaski explained a case where men forest users with high social power embarrassed her after a few day of her leadership in the CFUG. She mentioned that a man forest user has challenged her leadership's position by saying,

"I [man] will support for forest encroachment during your [woman leader] leadership tenure and put you in jail" (Field note, 20 April 2013).

These information indicate that members of executive committee of need to sensitize about the concept of leadership which is not patrolling forests, but guiding the forest users on measures of forest patrolling and directing CBNRM institutions for ensuring inclusiveness and fairness in benefit sharing and decision making.

Neglected women's incredible knowledge of biodiversity management

Women's knowledge of biodiversity management and skills of forest conservation has been neglected while defining criteria for leadership selection in CBNRM institutions. At the same time, NRM practitioners have not realized the importance of gender differential indigenous knowledge with regard to biodiversity conservation and linking it with capacity of CBNRM institutions for sustainable development.

Limited understanding, interests and capacity in dealing with gender issues

Interestingly, the concept of gender is equated to women and the strategy promoted for increasing women's participation in CBNRM focuses on 'instrumental approach' rather than transformative approach to social change. District stakeholders interviewed mentioned activities such as formation of mother groups, inclusion of women in conservation awareness programme, sanitation, executive committees of CFUGs, training and non-formal education as examples of gender oriented programme. None of the stakeholders have strategically focused on gender transformative approach to change in the NRM sector in the sense that 'gender' agenda receives low priority in their organizational and programmatic agendas. This study was unable to identify stakeholders that have its organizational gender policy/strategy and have programmes that target both women and men to be gender sensitive and supportive of women's leadership development. A lack of capacity on gender analysis and poor understanding of gender concept were clearly reflected in the attitude and behaviors of staff and members of executive committees of the NRM stakeholders. For example, men staff pointed out women staff to talk on gender issues; members of NRM civil society and NGOs viewed the lack of financial resources and interests on gender issues as the key factors for poor performance of their organization in terms of gender work.

At national level, NRM stakeholders have interests in integrating gender concerns and approaches, but their interests and capacity widely vary. Donors, INGOs and the forest ministry and its departments expressed their interests to integrate gender in the NRM sectoral programs, but they pointed out inadequate capacity development, financial resources, institutional ownership, and attitude and perspectives of individual staff as barriers to implement NRM programs and policies gender sensitively. In addition, NGOs tend to be negatively critical to donors, development partners and the government when the political interests of the formal are unmet. Lack of critical perspectives and analytical capacity of NGOs working on gender issues of NRM and limited networking and synergy among the NGOs for collective voices and influence are also institutional problems hindering for making policy and practices in the NRM sector gender responsive and sensitive.

Which women and men are still a question to explore

This study focused on participation and relationships between women and men. The analysis of gender dynamics of participation and power relations are yet to consider by the future study. As this study reveals, women and men coming from high socio-economic backgrounds hold leadership position and have strong social networks. Even if some CBNRM institutions have women/men chairpersons from disadvantaged caste/ethnic groups, they come from high economic class. What has (not) worked in conservation and development with regard to livelihoods improvement of poor women and men belonging to disadvantaged caste/ethnic groups and what approaches ensure them development opportunities are the emerging subject of discussions and debates.

Stakeholders' views on what needs to be done for women leadership development

NRM stakeholders at community, district and national level opined several ideas on how to strengthen women's leadership in the NRM sector. When asked what can be done to strengthen women's leadership in the NRM institutions including CBNRM institutions on the ground, the stakeholders provided some

important solutions. Views of men and women respondents vary (Table 28). Women respondents found that family support, economic opportunities, secure incentive rights through NRM legislation, GESI policy implementation, gender budget and allocation of budget for investment in women are important measures for development of women’s leadership in the NRM sector. Men respondents on the other hand view income generation opportunity for women, family support, GESI policy implementation and women asserting themselves as most important measures for bringing more women in leadership position.

Table 28: Gender differentiated views on solution to strengthen women leadership in the NRM sector

Women %	Measures needed for women’s leadership development	Men %
79	Family support	43
58	Income generation opportunities for women	49
58	Ensure access to forest and conservation incentives and incomes for women through NRM legislation	15
55	GESI policy implementation	46
49	Training (technical and social) for women	44
49	Allocate budget for investment in women’s capacity development	22
39	Gender sensitivity training for both women and men	32
30	Provision of gender budgeting in organizational level	12
27	Gender sensitization for staff	17
24	Gender sensitization for men	29
21	Education opportunity for women	27
19	Women should take initiative and assertive	44

Source: Field study 2013

Since men and women experience problems differently and have different needs in terms of development and conservation, it is not surprising to get their different perspectives about the measures for women’s leadership development.

5.2 Conclusions and recommendations

This study assesses the level of participation of men and women in CBNRM structures, decision-making process, the dynamics of power relations in the CBNRM institutional architecture, and factors hindering and supporting women’s leadership in NRM practices in general and forestry and conservation management practices particularly. In addition, the study documented gender differentiated knowledge of identification, use and management of biodiversity resources in forests/conservation areas of TAL and CHAL. The key findings of the study can be summarized as follow.

Situation of gendered participation and power dynamics in the CBNRM institutions

- Women and men participate in the CBNRM institutions with different degrees of decision-making power, access to resources/information, social recognition, and experience challenge differently.
- While women and men in their identity as 'ordinary users' have access to membership in the CBNRM institutions, the membership in the executive committees and key positions such as chairperson and vice-chairperson is skewed.
- With exception of CFUGs, women disproportionately represent in the executive committee of other CBNRM institutions such as CAM Committee and BZM Committees, investigated. For example, women make up around 39% of the total members in the committee in case of CFUGs, which tends to be higher than the national average (25%). Their representation is lower in the VDC level CAMCs and settlement level BZMCs. However, only 7% of the total leadership in CFUGs (excluding leadership in the women only CFUGs) is occupied by women. While men lead all the BZM council and BZM committees, only 2 of the 33 CAM councils are lead by women. The CAM and BZM structures run with gender exclusive way in the sense that there are no women in the higher level decision making bodies such as BZU Committees at hamlet level and BZM Council at landscape level, although they are included in the hamlet level BZ User Groups. Similarly, women are absent from inclusion in the CAM council at Ilaka/Unit level.
- Unlike institutional processes of mixed CFUGs, BZM and CAM, the women only CFUGs offer women an opportunity to claim their rights to leadership position and demonstrate their ability as change agents. The women leaders in the women only CFUGs have been focusing on mobilization of community resources for the benefits of poor households and women forest users, although the community forests they manage is small and generate little forest incomes. Women however have limited opportunity to demonstrate such competency in other CBNRM institutions, in which women are minority in terms of leadership roles and participation in decision-making.
- There is however high likelihood to shift leadership from women to men even in the women CFUGs with high economic value community forests. As shown in the CFUGs in Kailali and Bardiya, men's interests to hold leadership position tend to be high in those women only CFUGs that have sal forests. Since identifying the extent of men's influence in all the women only CFUGs in study districts was beyond the scope of this study, a further study is needed to explore this situation, especially in CFUGs in terai districts.
- Men's roles tend to be supportive to bring women in leadership position mostly in the situations CBNRM institutions encounter conflict between men members of executive committees (as shown in CFUGs in Kaski), find shortage of men in village due to out-migration (e.g. Mustang), have limited potential to generate cash income from ecosystem goods and services, and have women with high sociopolitical and economic status. In contrast, men tend to decline to select or elect women leadership in resourceful CBNRM institutions.
- The criteria and the processes of electing and/or selecting leadership vary among the CBNRM institutions. However, none of the criteria and processes are sensitive to unequal gender power relations and the need to recognize women's incredible contributions to and roles in biodiversity conservation and management. The criteria such as CBNRM members who are able to give time, have worked as social workers in the past and are educated do little justice to those women who don't meet these criteria. None of the CBNRM institutions investigated however have practiced 'affirmative actions' or 'positive discrimination' to bring women in leadership position.

Factors hindering/supporting women's leadership and empowerment

- A number of factors affect the inclusion/exclusion of women's leadership and their meaningful engagement in NRM practices. Traditional social perceptions on gender roles and women's agency, limited access to information and resources by women (e.g. lack of awareness of community funds, policy among women members, and financial resource), and inadequate capacity of the community forestry institutions, conservation area management committees and councils, and buffer zone management committees and councils, and limited interests and focus of NRM programme/policy implementing actors such as the government, non-governmental organizations, including association of Indigenous Peoples and Dalits institutions on the ground in dealing with gender issues are the key factors.
- **Focusing on women rather than on gender:** The efforts of NRM policy implementing actors, including CBNRM institutions tend to focus on including women in training, awareness programme, and executive committees with little attention to understanding relationships between (among) men and women and how this is socio-culturally and politically constructed.
- **Poor understanding of 'leadership':** The idea of leadership in CBNRM institutions is equated to physical ability of men or women rather than recognizing their potential for gender transformative change in larger societal level. Community people and district stakeholders viewed leadership roles as burdens rather than opportunities that recognize knowledge and experience of traditionally excluded groups in sustainable management and use of natural resources for positive development impacts. Neither NRM programme nor programme implementation approach of CBNRM institutions and service providers have focused on leadership development of women as an approach to sustainable NRM and socially equitable development practices. In addition, the issues of leadership development are not linked to resource use, access and power relations within an institution.
- **Unchallenged gendered roles and power relations: Despite greater awareness of NRM development practitioners, members of CBNRM institutions, the government institutions and non-state actor on unequal division of labour and power relations between men and women in household sphere, these actors/institutions are not able challenge the gendered situation.** Men's attitudes are not supportive to help women in reproductive (e.g. child care, cooking, cleaning) and productive duties (e.g. collection of forage/fodder, fetching water), which lead women working longer hours and being involved in more activities than men. These duties limit women to think of and act upon their rights to participation in and benefit from forest and other natural resources management. In addition, women not finding time for community level activities means that there is less likelihood for women to claim their memberships in the executive committee of CBNRM institutions and lead such institutions. At the same time, men members are not ready to share power with women and attempts to tackle gender issues in a systematic way.
- **Lack of linkages between leadership and indigenous knowledge of biodiversity management:** Despite incredible knowledge and experiences of women in identification, use and management of biodiversity resources, the process and criteria of leadership selection within CBNRM institutions don't consider this dimension.

Recommendations for gender transformative change in the NRM sector

This study provides several insights on how are men and women participating in community-based NRM practices, leadership roles, and gender differential knowledge on identification and use of forest biodiversity, and factors affecting women's leadership in the CBNRM institutions. It suggests some strategic and operational measures both in the Hariyo Ban Programme level and the forest sector in terms of recognizing and promoting women's effective participation and leadership roles in the CBNRM institutions.

Therefore, recommendations are divided into two parts: (I) the HB program and (II) the forest sector

(I) **Hariyo Ban Program**

The Hariyo Ban Program has taken several initiative in terms of consideration of gender and social equity issues into its programmatic work such as biodiversity conservation, climate change and ecosystem management at a landscale level. However, the following actions would be the remit of the HB to sensitize and capacitate its consortium partners and targeted communities in terms of empowering women and achieving gender equitable development outcomes.

- **Engaging men:** To sensitize a large numbers of NRM stakeholders at households, community, and state levels about complex gender issues of NRM practices in the highly unequal Nepalese society, the roles of men are crucial. Engaging and sensitizing men within NRM institutions (the government, civil society, private sector, development projects, NGOs), including CBNRM institutions in understanding and addressing gender issues is essential. Gender sensitivity training for men and women staff and leaders in the NRM institutions would help to increase women in leadership and decision making roles.
- **Recognize women’s leadership and associated gender issues** as one of the critical development agendas to keep in mind during programme planning and review processes.
- **Capacity building for partners and beneficiaries:**
 - **Include a session on** “leadership status, opportunities, and factors hindering women’s leadership in CBNRM institutions” in any technical training (e.g. community adaptation action plan preparation, forest management, REDD+, PES, biodiversity conservation and management) organized for local communities, project staff, partners and other stakeholders.
 - **Include a session on** “gender differential knowledge in biodiversity conservation and management” training designed and implemented for for local communities, project staff, partners and other stakeholders.
- **Studies and analysis: Assess gender responsive budgeting and expenditure** status (Gender Auditing) of CFUGs, BZM institutions and CAM institutions in the project areas and capacitate these institutions on gender and social equity sensitive planning and auditing with an aim to ensure budget and programme for empowering women in economic activities and community leadership.
- **Create more economic opportunities for women:** Support for women groups within CBNRM institutions in order to secure their access to and control over income from forest management and conservation areas management activities.
- **Database on leadership within the CBNRM institutions:** Generation of data on leadership status (by gender, caste/ethnicity, age and wellbeing) in different CBNRM institutions in the TAL and CHAL is needed as baseline information for measuring change in women’s status in the grassroots forestry.
- **Policy awareness:** Produce a policy brief on gender considerations in the NRM sector using findings from gender studies, including this study carried out by the HB. In collaboration with civil society, non-state actors and gender experts/researchers’ networks, share the study findings at national, district and local level and sensitize NRM multi-stakeholders about emerging gender issues and opportunities in the forest sector.
- **Policy advocacy:** Support and facilitate the forest ministry and department in order to integrate gender and social issues and priority actions actions for empowering women and excluded groups in the on-going forest sector strategy design process and outcomes. Likewise, support the ministry and national park and wildlife department to integrate

community-based conservation and gender perspective while revising the conservation acts, policies and strategies.

- To address a challenge of not availability of dedeicated and competent local gender researchers in the forest sector, **partnerships** with a national non-state actor that has vision, mission and objective of gender focused research, capacity building and policy advocacy may support to identify and the capacity of gender task leaders/specialists at district and national level and strengthen their networking for providing services in policy and practice levels.

(II) Forest Sector

Policy level recommendation

Since the management/governance structure of the CBNRM institutions studied, the issues of leadership and power relations varies across the CF, Protected Areas and Conservation Area , the policy level recommendations thus are divided into two category: CF and Conservation field where the roles of policy/programme implementing agencies and donors are critical.

(a) CF related policy recommendations

- **Ensure** women's access to forest incomes and other financial benefits by incorporating gender specific provisions in the forest legislation, policies, strategies, and CF Development guidelines. For example, making a provision for allocation of at least 10% of the total annual forest incomes of CFUG for women, especially poor women.
- **Focus on measures** that ensure leadership position by women and disadvantaged social groups and necessary activities to strengthen leadership capacity of women while supporting the forest department in revising the existing CFDP Guideline 2009.
- **Support for and raise awareness on** establishing and maintaining gender disaggregated data on CFUG leadership, fund access, use and other benefit sharing both at CFUGs and DFO level.
- **Revive and support** the effective operation of national 'Gender Working Group' (GWG) in the Ministry of Forest and Soil Conservation that was founded during the design of the GESI strategy. The GWG can support to review what has (not) worked in terms of GESI policy/strategy implementation in the forest sector and find out measures for better implementation of the policy. The HB in collaboration with the MFSC, donors and other NRM practitioners would facilitate the process with regard to re-vitalization of the GWG in national level.
- **Consider women's** leadership development and their access to NRM-based income earning opportunity as important development agendas in the forest sector and ensure the state and non-state actors in the sector have budget for these activities. In other words, the forest stakeholders at all levels commit to invest in women (e.g leadership development, income opportunity, technical training, and scholarships for poor women for technical education) for better livelihoods improvement and natural resource management.
- Inclusion of **gender experts and women natural resource managers** in policy making process would support to identify women's gender issues and needs and findings solutions to addressing the issues. Make sure representation of women or Dalits may not be sufficient until their interests, attitudes, perspectives and capacities are adequate to understand gender issues from policy and practice point of view.

(b) Protected area /conservation area management

- **Advocate for and ensure** integrating gender and development perspectives while revising the Protected Areas management laws, policies, strategies and guidelines in order to promote people oriented conservation linked development as well as support women's inclusion in the conservation management structures and decision making bodies from local to district and national level.
- **Ensure** women's access to park revenue and other financial benefits by incorporating gender specific provisions in the protected area legislation. For example, making a provision for allocation of at least 10% of the total park revenue that goes to local communities under the BZ management programme.
- **Raise awareness of and sensitize conservationists** on the importance of people centered conservation for improving livelihoods of NRM dependent households and biodiversity conservation in different ecosystems. Policy level dialogues and capacity building on participatory conservation management planning with a focus on gender/social integration both in process and contents of plan is needed to support changes in the conservation institutions and practices.
- **Capacity building** of the grassroots conservation institutions on gender responsive planning, gender budgeting and auditing, and gender integration in conservation area management planning is needed to integrate gender perspective and strengthen women's inclusion in the conservation sector.

The role of NRM policy/programme implementing agencies

Promoting women's leadership, economic opportunities for the most disadvantaged women and men, and effective implementation of GESI policies of the forest sector requires some behavioural changes within NRM policy/programme implementing agencies (the government, non-state actors and development project). Some suggested recommendations are:

- **Pay attention** to capacity building on gender focused research/analysis, policy awareness, and gender integration methodology in the NRM stakeholders (the conservation and forest offices) at the district and national level. Collaboration and strategic partnerships of the forest and conservation departments with organizations (NGOs, private sector, research institute) working on gender and social issues of NRM would be the entry point for this capacity building activity.
- **Ensure** budget for gender focused programme, gender integration in NRM planning, monitoring and impact evaluation, and studies.
- **Support** the forest and protected area management government authorities in establishing gender disaggregated database and use of data while reporting annual progresses, issues and opportunities.
- **Include** gender perspectives while reviewing and analysing development programme related to forestry and conservation. Ensure progresses are presented in the form of gender sensitive outcomes such as change in leadership position, skills, incomes, education opportunities and participation in training/workshops by women and poor households.
- **Identify** Gender Task Leaders (alternatively gender resource team which consists of both men and women interested in and have worked on gender issues) in district level and foster their networking and partnership with the district level government and NGOs/CSOs and mobilize them in gender focused activities on the ground.
- **Sensitize** NRM stakeholders at all levels about the concept of leadership, barriers of and measures for women leadership development in the NRM sector.

- **Establish** partnership with non-state actors which have organizational interests, commitments and capacities in facilitating gender issues of NRM at policy, science and implementation level. Engage them in assessing impacts of development support in the NRM sector, reviewing and designing national NRM and gender policies/strategies in the NRM sector, and gender sensitization, integration and analysis trainings.

The roles of CBNRM institutions (Right holders/beneficiaries level)

- **Capacitate** CBNRM institutions on gender and governance issues of NRM. Make sure Operational Plans and Constitutions of CBNRM institutions explicitly have provisions to bring women in leadership positions and create them income generation opportunities.
- **Strengthen** leadership capacity and skills of women leaders of ward citizen forums, community learning and action centres, CFUGs, BZUC, CAMC and support for their networking.
- **Provide** income generation opportunity through promotion of agroforestry, cash crops (e.g. cardamom, broom grass, medicinal plants, and other NTFPs nurseries and marketing) plantation within community forests for women forest users. Also include women in the processes of Payment for Ecosystem Service (PES) mechanism, Reduced Emission from Deforestation and Forest Degradation (REDD)+ and value chains of high value NTFPs.
- **Ensure** community adaption plans related to climate change and biodiversity conservation are gender sensitive.

Research and knowledge development

- **Support** on gender focused case studies, impact studies, and institutional analysis (capacity, decision-making process, information/awareness, organizational gender policy and its practices) of CBNRM institutions and services providers from a gender lens.
- **A case study** on the impacts of day care centre that CARE Nepal, ACAP, and WWF Nepal in the Kangchenjunga Conservation Areas have introduced in order to increase women's participation in conservation and development is essential to understand the roles of NRM intervening institutions in addressing some of the practical gender needs of women as well as identifying gaps with regard to tackling their strategic gender needs at organizational level.
- **Focus on study of gender** differentiated impacts of NRM and climate change adaptation policies on gender roles, power relations and women's empowerment, and sharing of findings both in policy and implementation level.
- **Balance** gender studies across different participatory models/regimes of NRM, climate change adaptation and biodiversity management. In other word, focusing on gender analysis of community forestry practices would not provide complete picture on how people focused programme/policies have been addressing gender issues unless participation and power relations dynamics in participatory conservation area management, buffer zone management and collaborative forest management are assessed. For this, in-depth studies on different types of community-based NRM practices are essential.
- Given the increased out-migration of men and improved forest situations in the women CFUGs, it would be important to **analyse** the extent of women's empowerment and change in gender roles and power relations in the households and community level.
- To fulfil the gap of local gender researchers in the forest sector, **partnerships** with a national non-state actor that has vision, mission and objective of gender focused research, capacity building and policy advocacy may support to identify and develop the capacity of gender task leaders/specialists at district and national level.

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ANNEXES

Annex 1: Summary of data types and sources implemented during the study period, 2013

Theme	Data type	Data sources
Women's agency & power relations	<ul style="list-style-type: none"> - Representation, voice and influence in NRM committees - Control over agenda, ideas, and decision on financial & other resources use and mobilization - Role of informal power (violence against women; gender differential perception on leadership in NRM group, and societal perception on men and women) - Criteria for selection/election of NRM leaders - Decision-making process within CBNRM groups 	In-depth interviews, FGDs, official documents and meeting minutes of NRM groups, observations
Access to productive resources & incentives	<ul style="list-style-type: none"> - Awareness about GESI policy of the forest sector - Technical and social skills development training opportunity for women - Trend of investment in women's leadership and empowerment - Women's access to forest resources - Women's access to fund and financial incentives generated by forest ecosystem - Labour and time reducing technologies offered by forestry program - Trend of diversified income generating activities in NRM groups and access to annual income by women 	In-depth interviews, FGDs, official documents, financial records and meeting minutes of NRM groups, annual plans and strategies of forest stakeholders (DFO, NPWR, DSWCO, HB partners)
Links between forest ecosystem management and gender power	<ul style="list-style-type: none"> - Change in forest management and conservation practices (what biodiversity resources are emerging; disappearing, how they are used⁴, who access, who are in leadership position, and who decides on resource use) over the last two decades - Institutional and social barriers for women leaders with regard to accessing technical services from the government and non-state actors - Gender differential knowledge about conservation, use and management of biodiversity in different ecosystems (forests, wetlands, rangelands, grasslands) 	Key informant interviews, FGDs, observations
Behaviours and attitudes of NRM actors	<ul style="list-style-type: none"> - Actors' awareness and sensitivity of GESI policy & accountability to gender issues of NRM - Actors perception on 'women's leadership' in the NRM sector (opportunities, barriers and solutions) - Actors' interests and resource commitments for promoting gender equality (organizational GESI strategy, gender budget and programme) 	Policy documents, annual plans and GESI strategies of implementing actors, expert interviews & HB stakeholders interviews
Women's leadership and knowledge relationships	<ul style="list-style-type: none"> - Type of women's knowledge that received weight in NRM groups - Whether the knowledge is considered as one of the criteria for selecting leader in NRM groups 	Key informant interviews (both men and women)

Annex 2: NRM stakeholders interviewed at district level, May-August 2013

Study districts	DFO	DSWCO	National Park	NTNC	WWF	TAL	CA	Dalit NGOs	NEFIN/NIWF	FECOFUN	Women NGOs
Mustang	-	√	-	-	-	-	ACAP	-	-	-	-

⁴ subsistence, commercial, ecotourism, cultural value

Kaski	√	√	-	-	-	-	ACAP	-	√	√	-
Chitwan	√	-	√	√	√	-	-	√	√	√	-
Kailali	√	-	-	-	-	-	-	√	-	√	√
Bardiya	√	-	√	√	√	√	-	-	-	√	√
	4	2	2	2	2	1	2	2	2	4	2

Annex 3: NRM stakeholders interviewed at national level, May-August 2013

Category of stakeholders	Organization consulted
Government	DOF, DNPWR, MFSC
NGOs/civil society	HIMAWANTI, NIWF, FECOFUN, DANAR
INGOs	CARE, IUCN, WWF
Donors	SDC

Annex 4: In-depth interview checklists while interviewing members of CBNRM

Date: District: Village name:

Type of interview (please tick mark)

Chairperson/leader	Ex-chairperson	Ordinary users
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1. Profile of respondent

Full name: Address:

Age group:

<30	30-40	40-50	>50
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 Gender:

Literacy:

Literate	Illiterate	Below SLC	Above SLC
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Current Marital status:

Married	Single	Divorced	Widowed
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Name of NRM group: Address:

Group formally register (Year): Forest area (ha):

2. Leadership tenure (skip it if you interview non-leader)

2.1 Do you know which year you were selected as chairperson of your group? If yes, which year you become the chairperson? If not, why not?

2.2. Is it your first time to be the leader? If not, when was the previous period of leadership?

3. **Leadership selection process** (skip it if you interview non-leader)

Do you know how were you selected for the chairperson position?

If yes,

How did you get information about the need of chairperson election/selection?

Who did play a key role to select you as chairperson? Why?

What were the roles of other women for selecting you as chairperson?

If no,

Who did you select you as chairperson for your group?

When did you know you are selected as chairperson for your group?

4. **Motivational factors for leadership role** (skip it if you interview non-leader)

What motivated you to be the leader of your NRM group?

5. **Knowledge and leadership relationship**

- While interviewing a leader: While selecting you as a leader, did your group considered your knowledge as an important criteria for the leadership roles? If yes, what aspects of your knowledge (e.g. forest conservation, social networking, forest management, medicinal plant use, empowering other women etc) was considered or acknowledge during your candidacy for leadership?
- While interviewing a ordinary user: Did you remember any cases where your group considered “practical knowledge of a user” as important criteria for selecting/electing leader? If so, which kind of knowledge did the group consider and who was accepted (man or woman) for the knowledge?

6. **Awareness about leader’s roles/responsibility?** (skip it if you interview non-leader)

You have been working as a chairperson for your group; can you tell us what you are doing (your roles and responsibility)?

7. **Decision-making opportunities**

In your experience, who makes the following decisions in your group (please tick mark)?

Decisions about	Women	Men	Both	Not sure	Reason
Group fund utilization (in general)					
Lending fund for users (if any)					
Forest opening/harvesting months and duration					
Forest product distribution					

Forest protection measures					
Forest thinning/cleaning activities					
Plantation in community forests/conservation area					
Biodiversity conservation and use (if any)					
Water spring conservation					
Erosion prone area conservation					
Relation building with government and NGOs					
Sending participant for training and workshop					
Support for the poor and disadvantaged groups					
Forest operational plan revision					
Assembly date, time and venue					
Committee meeting date, time and venue					
Nominating members for the executive committee					
Sending women in training and workshops					
Other (mention)					
Other (mention)					

8. Participation opportunities

Who play the following roles in your group (please tick mark)?

Major roles	Women	Men	Both	Not sure
Bringing agendas during committee meeting				
Bringing agenda during general assembly				
Bringing new ideas during meetings and assembly				
Coordination with DFO and other government offices				
Other if any				

9. Do you propose any agenda during committee meeting?

If **yes**, do other people listen it? why do they listen it? If **no**, why?

10. Awareness level about policy and resource use at community level

Do you know (please tick mark)?

Awareness on major issues	Yes	No	If yes, explain
Do you know about CF policy on fund utilization that ensures access of the poor poor, Dalits and IPs to it?			
Do you know about conservation policy that has provision of spending 30-50% of the total income generated by a national park or protected area for local development?			
Do you know about the amount of fund available in your group?			
Do you know where does money come from in your group?			
Do you know about whether your group has lent money to its members? If yes, for what purpose?			
Have you ever borrowed money from your group? If yes, for what purpose?			
Have you heard of any other policy of forestry and/or environment sector? If yes, please mention it			
Do you know whether your group sell timber or not? If yes, which species of timber?			
Do you know whether your group sell non-timber? If yes, which species of non-timber forest product?			
Do you remember any cases of exclusion of women leaders from being reselected in the leadership position when forest has started producing more income or other revenue?			

11. What initiatives did you take during your leadership (skip it if you interview non-leader)?

12. In your opinion, who do you think the main person of your group look like? Why she/he is the main person?

13. **Use of agency and gender based violence** (to be asked only for women chair/ex chair)

1.1. Can you share a moment where you felt very happy when working as “group leader or chair” in your group? What did you do and what made you happy?

1.2. Can you share a moment where you felt very challenging or insecure situation when working as “group leader or chair” in your group? What were the problems and how did you overcome it?

1.3. Do you know any kind of violence against girls and women in your village and/or NRM group? What, how, when, and why it happened? What did community do for justice to the victim?

1.4. Can you please share the way your family is supporting to you and your community leadership?

14. In your opinion, what would be the advantages of having women leader in your NRM group?
15. In your experience, what would be the advantages of having men leader in your NRM group?
16. In your experience, what are the barriers for women leaders to lead a NRM group effectively?
17. In your knowledge, what are the barriers for men leaders to lead a NRM group effectively?
18. In your experience, do you think women users are equally capable of leading NRM group as their men counterpart? If so, why?
19. In your opinion, what needs to be done for strengthening women's leadership?
20. Do you know anyone in the forest or conservation/national park office? If yes, please mention name and how did you know him/her?
21. Thank you very much for giving us your valuable time and sharing your great experience and knowledge. Now your time to ask us question !

Annex 5: Checklists for focus groups discussions

Date:District:.....Village

Type of interview:
(please tick mark)

Mixed group	Women only	Men only
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No. of people attended the FGD (by gender):(by caste/ethnicity).....

Name of NRM group:Address:

Group informally started to organize (year):formally registered:Forest area (ha):

1. Leadership selection process

- 1.1. Please tell us how did you elect/select members of executive committee of your group?
 - How do you inform forest/conservation users about the need of committee selection?
 - What are criteria to be considered while selecting executive committee?
 - What are the criteria for selecting chairperson?
 - Did you consider practical knowledge of a user as important criteria for selecting/electing leader? If so, which kind of knowledge did you consider and who did you find (man or woman) for the knowledge?

- 1.2. Did your group ever have selected/elected a woman chairperson?

If yes,

 - What was her name?
 - Which year she was she selected?
 - How many years did she work as chair?
 - Why did you select her (her reputation in village, caste, religion, education, assertiveness, economic, social network , ability to patrol and save forests, able to give time for social work...)?
 - If she was also selected in the second and third time? Which years she was selected?
 - What encouraged her to be chair for several times?
 - Who took major roles and decision in selecting/electing the woman chair?
 - Was she relative of previous chair or executive committee members?, If yes, whose relative was she?

If no,

- Why you were not able to elect/select a woman chair in your group? What would happen to your group if you select a woman chair?

2. Knowledge about selecting a man chairperson

- Please tell us how many men did work as a chair in your group?
- How did you select the man chairperson? Was it through election or anonymously interest from all users?
- Why did you select the current man chairperson (if there is no woman chair at the moment)?

3. People's perception on women's and men's agency for leadership role

- In your opinion, what would be the advantages of having women leader in your NRM group?
- In your experience, what would be the advantages of having men leader in your NRM group?
- In your knowledge, what are the barriers and challenges for women to be a leader in your group?
- In your knowledge, what are the barriers and challenges for men to be a leader in your group?
- Do you think women users are equally capable of leading NRM group as their men counterpart? If yes/no, why?
- In your opinion, what needs to be done for strengthening women's leadership in your group?

4. Policy and resource allocation within NRM group for women's leadership development and their economic empowerment

- Does your group have policies that help women to generate income and leadership?
If so, what are those policies?
If no, why?
- Does your group have any programme and budget regarding women's leadership development and economic empowerment? If yes, what are those? where did the idea come from and what are the benefits to women?

If not, why not?

5. Decision-making opportunities

Who makes the following decisions in your group (please tick mark)?

Decisions about	Women	Men	Both	Not sure	Reason
Group fund utilization (in general)					
Lending fund for users (if any)					
Forest opening/harvesting months and duration					
Forest product distribution					
Forest protection measures					
Forest thinning/cleaning activities					
Plantation in community forests/conservation area					

Biodiversity conservation and use (if any)					
Water spring conservation					
Erosion prone area conservation					
Relation building with government and NGOs					
Sending participant for training and workshop					
Support for the poor and disadvantaged groups					
Forest operational plan revision					
Assembly date, time and venue					
Committee meeting date, time and venue					
Nominating members for the executive committee					
Sending women in training and workshops					
Other (mention)					
Other (mention)					

6. Participation opportunities

Who play the following roles in your group (please tick mark)?

Major roles	Women	Men	Both	Not sure	Reasons
Bringing agendas during committee meeting					
Bringing agenda during general assembly					
Bringing new ideas during meetings and assembly					
Coordination with DFO and other government offices					
Coordination with forest civil society and NGOs					
Inclusion of new member in your groups					

7. Awareness level about policy and resource use at community level

Do you know (please tick mark)?

Awareness on major issues	Yes	No	If yes, explain
Do you know about CF policy on fund utilization that ensures access of women members of the poor and disadvantaged groups to it?			
Do you know about conservation policy that has provision of spending 30-50% of the total income generated by a national park or protected area for local development?			
Have you heard of any other policy of forestry and/or environmental sector? If yes, please mention it			
Do you know how much money is available in your group?			
Do you know where does the money come from?			
Do you know where does your group have spent the money?			

8. Thank you very much for giving us your valuable time and sharing your great experience and knowledge. Now your time to ask us question !

Annex 6: Checklists for key informant interviews in CBNRM institutions

1. Profile of respondent

Full name:..... Address:

Age group:

<30	30-40	40-50	>50
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 Gender:.....

Literate	Illiterate	Below SLC	Above SLC
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Literacy:

Occupation:

Name of NRM group:Address:

2. In your experience, what did you find most significant development of your groups (forest, institutional, fund use, women leadership, GESI sensitization) over the last twenty years?
3. Please tell us the change taking place in your group in terms of leadership position over the last twenty years?
4. Does your group have specific programme on women's leadership and empowerment ?
 - a. If yes, what are they?
 - b. When did the programme started? where did the idea come from?
 - c. If no, what have been the constraints for implementation of women leadership programme?
5. There are some forest and conservation policies and/or guidelines that emphasize for consideration of gender issues in forestry. Have you seen and/or read any such policy document and/or guidelines?
 - a. **If yes,**
 - i. which policy documents and guidelines have you seen?
 - ii. which policy documents and guidelines have you read?
 - 1.1. **If no,** why?
6. What are some of the obstacles to implement the GESI policy of the forest sector?
7. What needs to be done in your group in order to implement the forest sector's GESI strategy 2008?
8. Thank you very much for giving us your valuable time and sharing your great experience and knowledge. Now your time to ask us question !

Annex 7: Interview checklists for interviewing forest stakeholders at district level

Date:District:..... Village.....

Type of respondents
(please tick mark)

DFO staff or DSWCO	PA staff	Forest civil society (committee member)	Forest civil society staff	Women NRM NGO	Dalit NGO	IPs NGO
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1. Profile of respondent

Full name:..... Gender: Position:.....

Office name/address:.....

2. In your experience, what did you find most significant achievements of community forestry or community-based conservation programme in your district over the last twenty years?
3. In your experience, what are the main barriers of community forestry or community-based conservation for bringing women in leadership position?
4. Does your organization have specific programme on women's leadership and empowerment ?
 - a. If yes, what are they?
 - b. When did the programme started? where did the idea come from?
 - c. If no, what have been the constraints for implementation of women leadership programme?
5. Does your organization have any other programme that support for dealing gender issues in conservation and community forestry? If yes, explain them
6. There are some forest and conservation policies and/or guidelines that emphasize for consideration of gender issues in forestry. Have you seen and/or read any such policy document and/or guidelines?
 - a. **If yes,**
 - i. which policy documents and guidelines have you seen?
 - ii. which policy documents and guidelines have you read?
 - b. **If no,** why?
7. Have you seen, read and use the Gender, Equity and Social Inclusion (GESI) strategy or the community forestry development (CFD guidelines) of the forest ministry?
 - a. **Yes,**

Seen it	Read it	Use it
---------	---------	--------
 - b. **If you read it,** what motivated you to read it?
 - c. **If you used it,** in which activities or decisions you have used the GESI strategy/the CFD guidelines?
 - d. **If you have not seen it,** why?
 - e. If you have seen it, **but not read it,** why?
 - f. If you have seen it, read it, **but not used it,** why?
8. What are some of the obstacles to implement the GESI policy of the forest sector?
9. Review of community forestry shows that women's participation in leadership role tend to be very weak, although their roles seem very high in forest conservation, use and management. It is also difficult to know what percentage of women are taking leadership role in community forestry. In your experience, why is it so? what are the problems of women's exclusion in leadership position?
10. Do you think women leadership is necessary in the forestry sector? If yes, why?

11. What needs to be done to promote women's effective leadership and their meaningful participation in decision-making and forestry sector's activities?
12. What needs to be done in your organization in order to implement the forest sector's GESI strategy 2008?
13. Thank you very much for giving us your valuable time and sharing your great experience and knowledge. Now your time to ask us question !

Annex 8: Interview checklists for interviews with NRM stakeholders in national level

Date:

Name:.....Organization:Position:.....

1. Rapport building/setting the context for interview

- Researchers introduce the topic of the research (rationale and objective) and acknowledge the time given by respondent
- Could you please share your job experience of forestry/NRM in Nepal (when did you start your career, what were major training and areas of expertise, what are your major accomplishments?)

2. Perceivable achievements/gaps of community forestry

- In your many years work with the forestry sector in general and community forestry particularly, what did you find significant achievements of Nepal's community forestry?

- What did you find not working well in community forestry? Why did you think it is not working or is still a problem? What potential does community forestry have in terms of gender and social equity issues?

3. Problems of women's meaningful participation in the forest sector

- Several studies highlight the problem of passive participation of women in the forest sector, when it comes to policy making or programme design or decision-making (whether at the grassroots or national level forest institutions), what do you think about it? Why is it so, what caused such situation? How can we address this problem? Who has the main roles to play to change this situation and why?
- Do you think women's participation in policy-making process in the forest sector is meaningful? If yes/no, why?
- What measures are needed to have women's effective voice and influence in the policy making process?

4. Women's leadership promotion in the forest sector (skip it if interviewing non-leadership)

- You are leading GESI programme and/or heading your institution, what motivated you to lead the programme or institution?
- What are the main barriers for women to lead a forestry institution or programme? What caused the barriers?
- Do you have a role in decision-making in your organization? If yes, in which issues/areas do you take decisions (e.g. policy issues, fund allocation, staff recruitments, annual planning and budgeting, participate in training/meeting)? If no, why?

5. Implementation of GESI policy

- Have you hear or read of any policy related to gender, social inclusion and women's empowerment in Nepal's forestry sector? If yes, which policies have your seen or read ? If no, why?
- The GESI strategy, 2008 and CFD guidelines, 2008 of the forest ministry clearly recognize the importance of gender, social equity and poverty reductions. Do you think these policies are implemented at your organization? If yes, how it has been implemented and who is benefitted from the policies?
- If the GESI policies are not implemented as expected, what are the problems for not implementing these policies?
- Does your organization have gender operational strategy? If yes, what is the focus of the strategy? If not, why?
- How much budget does your organization allocate annually for gender focused programme and analysis?
- How supportive are the members of board members in your organization for gender integration (in case of non-state actor)?
- What interventions are needed at institutional and policy level to implement the policies effectively?

6. Actors' roles in policy and actions in the forest sector

- Given the men dominant Nepalese forest sector, how do you think such progressive policy discourses can be implemented?

- The sector is heavily dependent on external actors, especially donors in defining and implementing policies. At policy and implementation level, actors have limited interests to implement GESI policy. In such context, how do you see the roles of donors in the forest sector, especially in tackling gender equality and women’s empowerment issues? What they should do or change in their intervention approach or perspective of women’s empowerment?
- Women at the grassroots are participating in natural resource conservation and use, their participation remain very poor when it comes to economic opportunities and decision-making at all level. In this context, how can the government, donors, NGOs, civil society and projects be pro-poor and gender?
- Think that your organization can be change agent to make the forestry sector pro-gender, if so, what issues do you see at your organization to make its efforts gender focused and sensitive? What measures are needed to make your organization pro-gender in the forest sector?

7. Thank you very much for giving us your valuable time and sharing your great experience and knowledge. Now your time to ask us question !

Annex 9: Interview checklists for collecting data on gender dimensions of biodiversity (Focus group discussions)

Date:District:.....Village

1. Basic information

Type of FGD:

Women only	Men only
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 of people in the FGD by gender and caste/ethnicity:.....

VDC/ward no:.....Altitude (m):.....

NRM group name:Forest areas:

Type of group:

Women only CFUG	Mixed CFUG	Cons. group
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Ecosystem type:

Forest	Rangelands	Grasslands	Wetlands
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2. Frequency of forest/rangeland use

- Annually, when do you go to forests (which months and how many days per month)?
Why do you go to forests?
Which parts of forests do you go?

3. Timber use

3.1 Which **timber species** are available in your forest and farm land, which parts and for which purpose do you use them?

Local name	Which parts ⁵ do you use?	Which purpose ⁶ do you use?	What do you do for conservation for future needs?

3.2 Do you experience any changes in the availability of these timber species in your forests or farm land over the past decade?

Species	Increased	Decreased	No changed	Reasons

3.3 If new species are appeared in your forests, what are those species and why are appeared?

4. Firewood use

4.1 Which firewood species (e.g. tree, shrub, and bush species) are available in your forest and farm land, which parts and for which purpose do you use them?

Local name	Which parts do you use?	Which purpose do you use?	What do you do for conservation for future needs?

4.2 Do you experience any changes in the availability of these firewood species in your forests or farm land over the past decade?

⁵ Parts include: bark, leaves, stem, roots, branches, bulbs, seed, ripe fruits, tender shoot, resin

⁶ Purpose: could be vegetables, pickles, medicine, edible/food, curry, spice, gum, cash income, cultural, religious, pollination, environmental conservation, social networking

Species	Increased	Decreased	No changed	Reasons

4.3 If new species are appeared in your forests, what are those species and why are appeared?

5. Fodder/forage use

5.1 Which fodder/forage species are available in your forest and farm lands, which parts and for which purpose do you use them?

Local name	Which parts do you use?	Which purpose do you use?	What do you do for conservation for future needs?

5.2 Do you experience any changes in the availability of these fodder/forage species in your forests or farm land over the past decade?

Species	Increased	Decreased	No changed	Reasons

5.3 If new species are appeared in your forests, what are those species and why are appeared?

6. Medicinal plants

6.1 Which medicinal plants are available in your forest and farm lands, which parts and for which purpose do you use them?

Local name	Which parts do you use?	Which purpose do you use?	What do you do for conservation for future needs?

6.2 Do you experience any changes in the availability of these medicinal plants species in your forests or farm land over the past decade?

Species	Increased	Decreased	No changed	Reasons

6.3 If new species are appeared in your forests, what are those species and why are appeared?

7. Birds

7.1 Which birds are available in your forest and how do you use them?

Local name	Which parts do you use?	Which purpose do you use?	What do you do for conservation for future needs?

7.2 Do you experience any changes in the availability of these birds species in your forests or farm land over the past decade?

Species	Increased	Decreased	No changed	Reasons

--	--	--	--	--

7.3 If new species are appeared in your forests, what are those species and why are appeared?

8. Animals

8.1 Which **animals, insects, pests, and reptiles** are available in your forest and how do you use them?

Local name	Which parts do you use?	Which purpose do you use?	What do you do for conservation for future needs?

8.2 Do you experience any changes in the availability of these animals or pests or insects or reptiles species in your forests or farm land over the past decade?

Species	Increased	Decreased	No changed	Reasons

8.3 If new species are appeared in your forests, what are those species and why are appeared?

Thank you very much for giving us your valuable time and sharing your great experience and knowledge. Now your time to ask us question !

Annex 10: Travel plan for the field visit

District	Research Team	Dates	Remarks
Kaski	Gopal Kafle and Bimala Dhungana	18 April to 21 April May 1 to May 2	Mentoring in the field from WLCN chair
Mustang	Gopal Kafle and Bimala Dhungana	3 May to May 12	
Chitwan	Meena Adhikari and Kumar Bahadur Darji	June 7 to June 12	Mentoring in the field from WLCN chair
Kailali	Kumar Bahadur Darji and Punita Chaudhari	June 17 to June 22	
Bardiya	Kumar Bahadur Darji and Kamal Lamsal	June 23 to June 27	

Annex 11: No. of leadership in the executive committees of CBNRM, study area, 2013

NRM regime	NRM groups	CHAL districts			TAL districts		TOTAL (No)	Leadership by gender (% of total)	
		Chitwan	Kaski	Mustang	Bardiya	Kailali		Women	Men
Community Forestry	CFUG	64 (2)	421 (15)	-	277 (45)	257 (56)	1019 (118)	12	88
Buffer Zone Management	BZUG	1107 (NA)	-	-	262 (NA)	-	1369 (NA)	NA	NA
	BZUC	13 (0)	-	-	19 (0)	-	32 (0)	0	100
	BZCFUG	(0)	-	-	59 (NA)	-	-	-	-
	BZM Council	1(0)	-	-	1(0)	-	2 (0)	0	100
Conservation Area Management	CAMC	-	17 (0)	16 (2)	-	-	43 (2)	5	95
	CAM Council	-	3 (0)	2(0)	-	-	5 (0)	0	100

Note: figure in parenthesis is women leaders in the executive committee of the grassroots NRM institution
NA refers to data not available

Annex 12: List of plants reported by men and women forest users, Ranikhola CFUG, Kaski

Plants		Reported by gender	Plants		Reported by gender
Local name	Scientific name		Local name	Scientific name	
Amala	<i>Phyllanthus emblica</i>	Women	Jaluki	<i>Monochoria hastata</i>	Women
Ansuro	<i>Justicia adhatoda</i>	Women	Jamun	<i>Syzygium cumini</i>	Women & men
Badahar	<i>Artocarpus lakoocha</i>	Women & men	Kadam	<i>Anthocephalus chinensis</i>	Women & men
Bakino	<i>Melia azedarach</i>	Women & men	Kalikath	<i>Myrsine semiserrata</i>	Women
Ban tarul	<i>Dioscorea bulbifera</i>	Women	Kans	<i>Saccharum spontaneum</i>	Women & men
Banmara	<i>Eupatorium odoratum</i>	Women & men	Khamari	<i>Gmelina arborea Roxb</i>	Women
Banso	<i>Brachiaria species</i>	Women & men	Khayer	<i>Acacia catechu</i>	Men
Barro	<i>Terminalia bellirica</i>	Women & men	Kukur daino	<i>Smilax ovalifolia</i>	Women
Bayer	<i>Zizyphus mauritiana</i>	Women	Kush	<i>Desmostachys bipinnata</i>	Women & men
Bel	<i>Aegel mermelos</i>	Men	Kutmiro	<i>Litsea monopetala</i>	Women & men
Bhaise tapre	<i>Cassia occidentalis</i>	Men	Kyamun	<i>Cleistocalyx operculatus</i>	Women & men
Bhalayo	<i>Semecarpus anacardium</i>	Men	Nim	<i>Azadirachta indica</i>	Men
Bhorla	<i>Bauhinia vahlii</i>	Women & men	Palans	<i>Butea monosperma</i>	Men
Bhuimala	<i>Phyllanthus urinaria</i>	Men	Pire jhar	<i>Polygonum hydropiper</i>	Women
Bilaune	<i>Maesa chisia</i>	Women	Rajbrikchhya	<i>Cassia fistula</i>	Women & men
Bodhangero	<i>Lagerstroemia parviflora</i>	Women & men	Saj/Asna	<i>Terminalia alata</i>	Women & men

Chhatiwan	<i>Alstonia scholaris</i>	Men	Sandan	<i>Desmodium oojeinense</i>	Women & men
Chilaune	<i>Schima wallichii</i>	Women & men	Siris (Kalo)	<i>Albizina lebbek</i>	Women
Dabdabe	<i>Garuga pinnata</i>	Women	Siris (Seto)	<i>Albizina procera</i>	Women
Datiwan	<i>Achyranthes aspera</i>	Women	Satsal	<i>Dalbergia latifolia</i>	Men
Debre lahara	<i>Smithia sensitiva</i>	Women	Simal	<i>Bombax ceiba</i>	Men
Gandhe jhar	<i>Ageratum houstonianum</i>	Women	Simali	<i>Vitex negundo</i>	Women
Gaujo	<i>Millettia extensa</i>	Women	Sindure	<i>Mallotus philippensis</i>	Women
Gayo	<i>Bridelia retusa</i>	Women & men	Siru	<i>Imperata cylindrica</i>	Women
Ghodtapre	<i>Centella asiatica</i>	Women & men	Sisoo	<i>Dalbergia sissoo</i>	Women & men
			Tanki	<i>Bauhinia purpurea</i>	Women & men
Gindari	<i>Premna integrifolia</i>	Women & men	Tantari	<i>Dillenia pentagyna</i>	Women & men
Gurjo	<i>Tinospora reflexa</i>	Men	Tapre jhar	<i>Cassia tora</i>	Women & men
Harro	<i>Terminalia chebula</i>	Women & men	Titepati	<i>Artemisia dubia</i>	Women
Haldu	<i>Adina cordifolia</i>	Women & men	Tuni	<i>Toona ciliata</i>	Wimen

Annex 13: Lists of birds and wild animals reported by gender, Sardikhola, CAMC, Pokahra 2013

Birds	Reported by gender	Wild life	Reported by gender
Local name		Local name	
Bakulla	Men	Beer	Women & men
Bhangera	Men	Deer	Women & men
Chibe	Women	Fish	Women
Crow	Women	Frog	Women & men
Dangre	Women	Gangato	Women & men
Danphe	Women	Jacal	Women & men
Dhukur	Women & men	Leopard	Men
Fiste	Women	Lizard	Women & men
Jureli	Women	Monkey	Women & men
Kalij	Women & men	Rat	Women
Koili	Women	Snake	Women & men
Lokharke	Women	Thar	Men
Luiche	Men	Tiger	Women & men
Monal	Men		
Monkey	Women & men		
Parrot	Men		
Percupine	Women & men		
Piwusa	Men		
Titra	Men		
Ullu	Women		
Vulture	Women & men		

Annex 14: People's perception of change in biodiversity, Sardikhola CAMC, Kaski 2013

Biodiversity	Local name	Increased	Decreased	Not changed	Reasons
Plants	Nigalo		Yes		Limited forest harvesting reduced germination of nigalo (mentioned by women)
	Banmara	Yes			
	Champ	Yes			Strict protection
	Chuletro		Yes		
	Ainselu			Yes	
	Neuro		Yes		Increased trees cover and decreased forest harvesting has impacts on growth of Neuro (mentioned by women)
	Kurilo		Yes		
	Amriso	Yes			Plantation both in private & state lands
	Kharu		Yes		
	Timur		Yes		
	Siltimur		Yes		
Birds	Allo		Yes		No regular harvesting leads to poor regeneration of Allo. People have left allo collection and processing due to shortage of labour caused by out-migration of youth (mentioned by women)
	Piura		Yes		
	Luiche		Yes		
	Titra		Yes		
	Monal		Yes		
	Bhangera		Yes		
	Vulture			Yes	
	Dhukur	Yes			
	Parrot		Yes		
	Bakulla	Yes			
	Rajarani chara		Yes		
Animal	Bees		Yes		Loss of flowering plants; use of pesticides in farms, and forests have only big trees
	Porcupine	Yes			Increased forest cover
	Monkey	Yes			
	Langur		Yes		Illegal poaching (trapped by Indian poacher 10 years ago)
	Deer	Yes			
	Leopard	Yes			

Source: Field study 2013