

Special Publication

ICIMOD

Gender and Pastoralism in the Rangelands of the Hindu Kush Himalayas

Knowledge, Culture, and Livelihoods at the Margins of the Margins

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The International Centre for Integrated Mountain Development, ICIMOD, is a regional knowledge development and learning centre serving the eight regional member countries of the Hindu Kush Himalayas – Afghanistan, Bangladesh, Bhutan, China, India, Myanmar, Nepal, and Pakistan – and based in Kathmandu, Nepal. Globalization and climate change have an increasing influence on the stability of fragile mountain ecosystems and the livelihoods of mountain people. ICIMOD aims to assist mountain people to understand these changes, adapt to them, and make the most of new opportunities, while addressing upstream-downstream issues. We support regional transboundary programmes through partnership with regional partner institutions, facilitate the exchange of experience, and serve as a regional knowledge hub. We strengthen networking among regional and global centres of excellence. Overall, we are working to develop an economically and environmentally sound mountain ecosystem to improve the living standards of mountain populations and to sustain vital ecosystem services for the billions of people living downstream – now, and for the future.



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Special Publication

Gender and Pastoralism in the Rangelands of the Hindu Kush Himalayas

Knowledge, Culture, and Livelihoods at the
Margins of the Margins

Editors

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Contents

Contributors	vi
Foreword	vii
Preface	ix
Acronyms and Abbreviations	xi
Acknowledgements	xii
Part 1: Gender and Pastoralism	1
Chapter 1: Introduction	3
Rangelands in the Hindu Kush Himalayas	3
The gender, pastoralism, rangelands nexus: Unexplored terrain	4
Chapter 2: Overview of an Emerging Field of Research	9
The role of gender in the sustainable management of rangelands	9
Rapidly changing mountain rangelands	10
Gendered impacts	11
Chapter 3: Conceptual Framework and Methodology	15
Evolution of gender and environmental analysis	15
Women, environment, and development	15
Feminist political-ecology	17
Gender analysis of pastoralism and rangelands	20
Gender and pastoralist governance	28
Understudied gender issues and drivers of change	29
Methodology	30
Part 2: Gender Analysis of Case Studies	33
Chapter 4: The Study Area	35
Bhutan: Soe Yaksa and Nubri	36
China: Nima township (TAR), Gongshan (Yunnan) and Hongyuan (Sichuan)	37
Nepal: Upper Mustang	39
Brief overview of socioeconomic and cultural relations	39
Chapter 5: Access, Ownership, and Control over Land and Property	43
Rangeland tenure and rights, and security over land	43
Ownership of land	45
Ownership of livestock	48

Chapter 6: Division of Responsibilities, Roles and Labour	51
Division of labour	51
Livestock management	54
Agriculture	54
Decision-making power over crop cultivation	55
Household work	57
Chapter 7: Access to Natural Resources	59
Energy scarcity	59
Drinking water	60
Fodder and forage	62
Chapter 8: Gender Impacts of Rapid Change	63
Climate change	63
Other drivers of change	65
Chapter 9: Understudied Gender Issues in Natural Resource Management	67
Access to training and extension services	67
Access to rangeland management and development technologies	68
Access to development services and resources	69
Gender-based discrimination and violence	72
Chapter 10: Gender, Pastoralism, and Governance	75
Interests and actors in rangeland resources governance	75
Plural governance institutions	77
Participation, representation, and decision making	79
Gender inclusive and exclusive pastoralist policies	81
Part 3: Conclusions and Recommendations	85
Chapter 11: The Challenges in Realizing Gender Transformative Change	87
Four cornerstones of gender transformative change	87
Gendered land, livestock and labour challenges	87
Gendered implications of multiple drivers of change	90
Gendered research gaps and understudied subject areas	91
Gender-biased policy making and governance	94
Weak leadership skills and capacity strengthening	96
Resistance and lack of commitment the gender equality	98

Chapter 12: Opportunities for Gender Equality and Change	99
Recommendation 1: Fill urgent gender research and methodological gaps	100
Recommendation 2: Carry out gender transformative institutional and capacity strengthening	102
Recommendation 3: Ensure gender-responsive, demand-driven and culturally-appropriate development	103
Recommendation 4: Formulate and implement gender transformative policies	106
Recommendation 5: Research gender responses and adaption to multiple drivers of change	108

Annexes

Annex A: Case Studies Commissioned for this Study	111
Annex B: Checklist for Qualitative Methods	113
References	116

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This Special Publication draws from five case studies prepared by the contributors listed below. The case studies were commissioned, designed, and coordinated by Muhammad Ismail, Brigitte Leduc, Srijana Joshi, and Ritu Meher Shrestha. Ritu Verma and Manohara Khadka authored the literature review, conceptual framework, conclusions and recommendations, and main body of the text and edited, synthesized, and analysed the case studies across the region.

Dorji, Yeshey, (2009) *Gender assessment in alpine rangelands of Bhutan, Soe Yaksa and Nubri, Paro Dzongkhag, Soe Yaksa and Nubri, Paro Dzongkhag*. Unpublished field study report submitted to ICIMOD, Kathmandu

Tingyu, Gan; Jioubing, Ni; and Jun, Lai, (2009) *Gender assessment in the rangeland: A case study in Hong Yuan County, Sichuan Province, PR China*. Unpublished field study report by the Institute of Rural Development, Sichuan Academy of Social Sciences, submitted to ICIMOD, Kathmandu

Lun, Yin (2009) *Social and gender analysis in the process of enhancing the livelihoods of agro-pastoralists in North West Yunnan, China*. Unpublished field study report submitted to ICIMOD, Kathmandu

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Sherpa, Dechen; Shrestha, Binay (2009) *Gender assessment in the rangelands: Mustang, Nepal*. Unpublished field study report submitted to ICIMOD, Kathmandu

Foreword

Rangelands cover about 60 per cent of the Hindu Kush Himalayas and cover diverse geographical settings and rich pastoralist cultures shaped by physical, socioeconomic, and historical forces. The management of this fragile and precious resource faces many challenges, not the least of which are climate change, globalization, and land degradation. However, rangeland ecosystems and the pastoralists who derive their livelihoods from them remain generally neglected in terms of research for development, legislation and government planning, and investment for sustainable and equitable development, thereby undermining sustainable management. There is an urgent need for improved integrated knowledge on rangeland ecologies, livelihoods, sociocultural relations, and gender in the HKH region. In response to these needs, the International Centre for Integrated Mountain Development (ICIMOD) is pleased to share this document to highlight gender and pastoralist issues in rangelands.

In order to address the critical gap in knowledge regarding gender experiences in rangeland management, in 2009 ICIMOD and its regional HKH partners carried out several case studies in the remote rangelands of the HKH. They developed a conceptual framework and carried out an extensive literature review. This was followed by research conducted from 2011 to 2013 in the Tibet Autonomous Region, Yunnan, and Sichuan in China; Soe Yaksa and Nubri in Bhutan; and Upper Mustang in Nepal. Women and men in these areas practise various forms of pastoralism (e.g., nomadic, combined or mixed mountain agriculture, settled transhumant, and agropastoralism). This report is the culmination of seven years of work by various researchers, development practitioners, and policy makers. It presents a synthesis and critical analysis of the results and a set of recommendations.

This regional-level report signifies the efforts of many scientists and colleagues in each of the participating five case studies, who have dedicated their time, energy, and intellectual capacity to gathering data and information required to effectively portray gender and pastoralist issues in the rangelands of their respective countries. As the authors argue, pastoralist women are often at the 'margins of the margins' of development, yet the knowledge, agency, and voices of both women and men are critical for sustainable mountain environments and livelihoods. The findings of this study are important for the development of sustainable, equitable, and appropriate conservation approaches, management plans, practices, and policies for these fragile, valuable, and sacred ecosystems.

This publication makes a valuable contribution to the conservation of rangelands and the provision of much-needed support for pastoralist livelihoods through the analysis and application of policy-relevant research from the field. This comprehensive report will be of great importance to researchers, planners, and decision makers working in development, especially those who are champions of gender equity and women's empowerment. Through

the engagement of three understudied, yet interconnected fields of knowledge – gender, pastoralism, and rangelands – this study contributes to knowledge in our region, and presents actionable policy and research recommendations. The study was made possible through the valued support of the Austrian Development Agency and our core donors. I would like to thank the Austrian Development Agency for their continuous support of this important study. I wish to thank the editors, authors, and many contributors for preparing this timely and relevant study and hope that it will lead to long-term benefits, including the improved wellbeing and enhanced gender equity of mountainous pastoralist and rangeland communities.

David Molden, PhD

Director General

ICIMOD

Preface

Pastoralism from a temporal dimension is as old as the first human civilization; and spatially it is witnessed all across the world's dry belt region. In Asia, pastoralism is concentrated mostly in the Hindu Kush Himalayan region. The erstwhile development model driven primarily by market economy and capitalism has ignored the contribution of pastoralists to society and sustainable environments. Pastoralists and their way of life are yet to receive the attention they deserve, since current development paradigms emphasize intensive and sedenterized farming systems to fulfill the increasing demand for food. Further, there are limited studies and in-depth integrated research that help us to understand pastoralism in a holistic way. Perhaps it is an opportune time to assess pastoralism in a more systematic manner to gain a deeper perspective and provide due attention and support to the rangelands.

Historically pastoralism has operated beyond nationalism, as nomads move their herds beyond borders based on inherent traditions. Though, under the current context, it may not be appropriate to ignore the national boundaries and sovereign rights of respective nations. Attempts must be made to enable pastoralists, as well as development planners, researchers, academicians, and other relevant agencies to interact and share their knowledge and resources by having common institutions and initiatives to facilitate collaboration so as to support and nurture pastoralism. ICIMOD's leadership in the Hindu Kush Himalayan region and its efforts in promoting collaboration with its member countries are commendable in this regard.

Therefore, for the countries of the Hindu Kush Himalayan region – Afghanistan, Bangladesh, Bhutan, China, India, Myanmar, Nepal, and Pakistan – where a substantial proportion of the population are pastoralists, there is an urgent need to collectively invest in promoting the products, cultures, and traditions associated with pastoralism. Collaboration is perhaps one of the best choices we have in this age of uncertainty of economics, climate phenomena, and resources. It is even more critical for reviving, promoting, and strengthening our common ancestry, culture, and traditions.

This study is a promising attempt to fill the significant research void on gender and pastoralism. I am optimistic that this study will pave a pathway for a better understanding of pastoralism, coupled with valuable information which could enable the delivery of appropriate policies, legislation, governance, and technical support, to pursue inclusive development without compromising on sociocultural aspects, environmental sustainability, and the human wellbeing of these fragile communities. I take the opportunity to congratulate ICIMOD and its partners for this successful and innovative publication.

Yeshey Dorji

Minister, Ministry of Agriculture and Forests
Royal Government of Bhutan

Acronyms and Abbreviations

CAMC	conservation area management committees
FAO	Food and Agriculture Organization
GAD	Gender and Development
GED	Gender, Environment, and Development
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
HKH	Hindu Kush Himalayas
ICIMOD	International Centre for Integrated Mountain Development
IDS	Institute of Development Studies
IFAD	International Fund for Agricultural Development
IUCN	International Union for Conservation of Nature
masl	Metres above sea level
NGO	non-governmental organization
TAR	Tibet Autonomous Region, China
VDC	village development committee
WED	Women, Environment, and Development
WID	Women in Development

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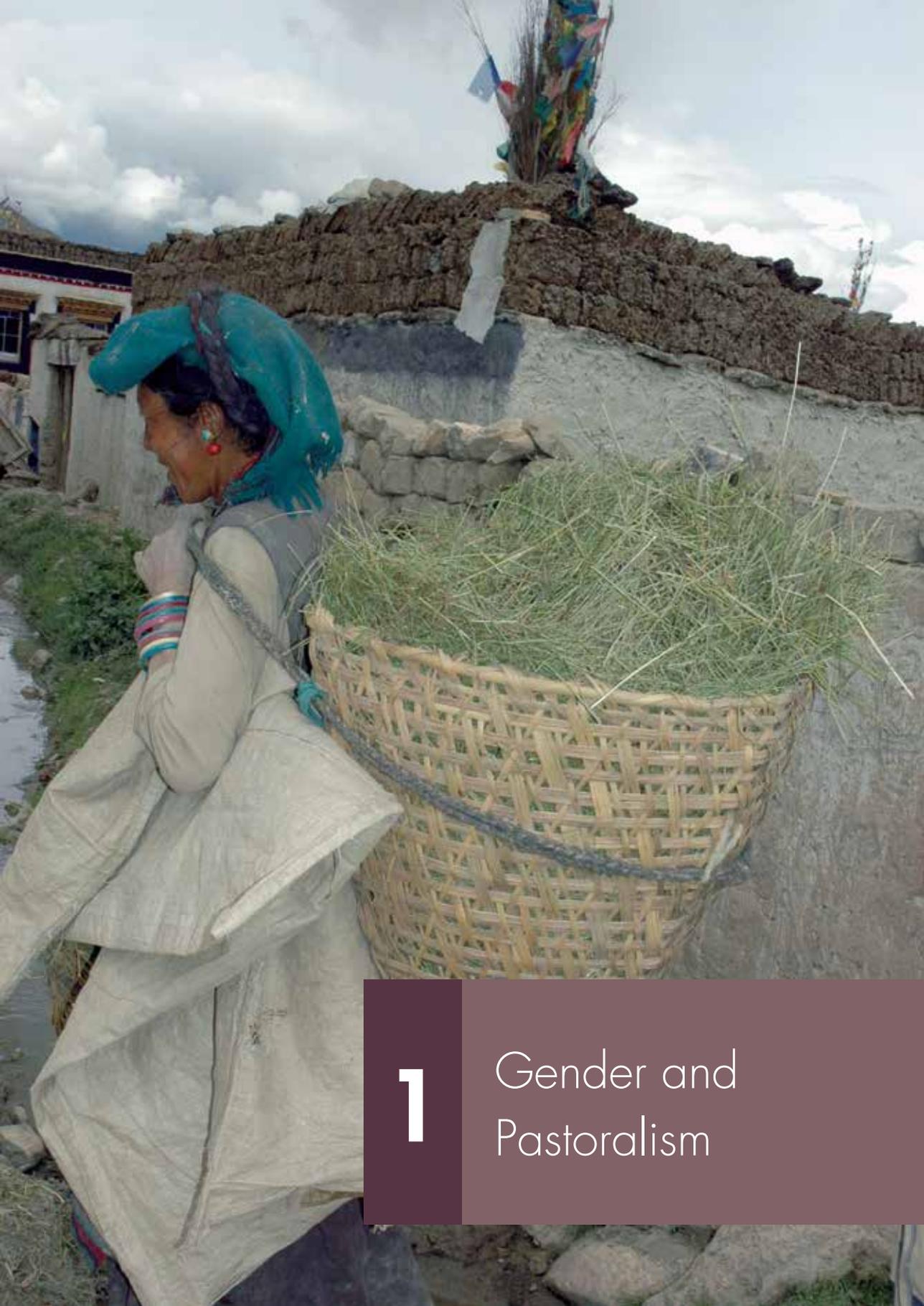
This study could not have taken place without the valuable contributions of pastoralist women and men in the Hindu Kush Himalayas (HKH). We are deeply indebted to all the women and men who shared their knowledge and time with the researchers. The study also benefitted from the dedication of the cases study authors: Dechen Sherpa, Binay Shrestha, Yin Lun, Yeshey Dorji, Gan Tingyu, Ni Jioubing, Lai Jun, Ciren Yangzong, Babita Bohra, and Tawheed Gul.

ICIMOD's Gender Strategic Institutional Area (formerly the Gender and Governance Division), Rangelands Team, and partners worked collaboratively to conduct and analyse the research. Through their vision and championing in 2009, Muhammad Ismail and Brigitte Leduc initially commissioned and designed the case studies. Manohara Khadka undertook a literature review of gender and rangelands in 2011 and 2012. The conceptual framework was developed by Ritu Verma and content editing, synthesis, and analysis was carried out by Ritu Verma and Manohara Khadka from 2012 to 2016.

The authors are deeply grateful to Dorothy Hodgson at Rutgers University, Houria Djoudi at the Centre for International Forestry Research (CIFOR), and Hermann Kreutzmann at the Centre for Development Studies Geographische Wissenschaften, Freie Universitaet Berlin for their peer reviews, feedback, and comments on the study. Colleagues of the rangelands team at ICIMOD, including Muhammad Ismail, Srijana Joshi, Abdul Wahid Jasra, and Ritu Meher Shrestha, provided important support and inputs into the overall study, and the strategic governance leader, Rucha Gate, provided inputs on certain sections. The report also benefitted from the support of the former director general of ICIMOD, Andreas Schild (during his tenure), current director general, David Molden, livelihoods theme leaders Michael Kollmair (during his tenure) and Golam Rasul, and the ecosystem theme leaders Eklabya Sharma (now Director of Programme Operations), Wu Ning, and Gopal Rawat.

The authors would like to express their sincere gratitude to the Austrian Development Agency and Bundesministerium für wirtschaftliche Zusammenarbeit (BMZ) Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) for their financial support of the case studies and keen commitment to gender and pastoralist issues in the HKH.

ICIMOD is a regional intergovernmental organization dedicated to the mountains and people of the HKH, which includes countries where pastoralism is a critical livelihood strategy and where rangelands make up significant parts of the national and regional landscapes. From Afghanistan and Pakistan, to India, Bangladesh, Nepal, Bhutan, Myanmar, and China, pastoralism is vital to the wellbeing of women, men, and children, as well as for the sustainability of fragile ecosystems, landscapes, and environments. We hope this study will shed light on some of the overlooked dimensions of pastoralism and rangeland management, and especially on gender equitable and sustainable mountain development.



1

Gender and Pastoralism



Chapter 1: Introduction

Rangelands in the Hindu Kush Himalayas

The rangelands of the Hindu Kush Himalayas (HKH) constitute more than 60 per cent of the total region. These vast tracts of mountainous land support pastoralist and indigenous women, men, and children who derive their livelihoods from the rich natural resources found in these rangelands. Rangelands support rich pastoralist cultures and spiritual practices, as well as diverse livelihoods and gender relations, which are inextricably intertwined with local environments and landscapes. They play an important role in supporting and regulating water resources, nurturing biodiversity and the many endemic species of fauna and flora, and providing important ecosystem functions and services. Rangelands also provide a scientific research base for critical knowledge, retain clean air and common spaces for recreational purposes, and support sacred landscapes of significant spiritual value (Dong et al. 2009, p 174; Miller and Craig 1997).

Pastoralist knowledge built up over generations is invaluable for managing the fragile, harsh, semi-arid to arid, and often, rugged environments found in mountain contexts. Despite their importance, pastoralists are often marginalized and excluded from mainstream policy making and development processes. This is perhaps more so in isolated mountainous terrain where access to mountain rangelands is more difficult than in the lowlands and plains. If pastoralists are at the margins of development, then pastoralist women are at the 'margins of the margins'. This study explores this double marginalization, as well as the agency, knowledge, and power of pastoralist women and men as they negotiate their needs and rights in various mountain contexts.

The need for research to help fill urgent gaps in knowledge cannot be overstated.

Box 1: The importance of pastoralists and rangelands in the HKH

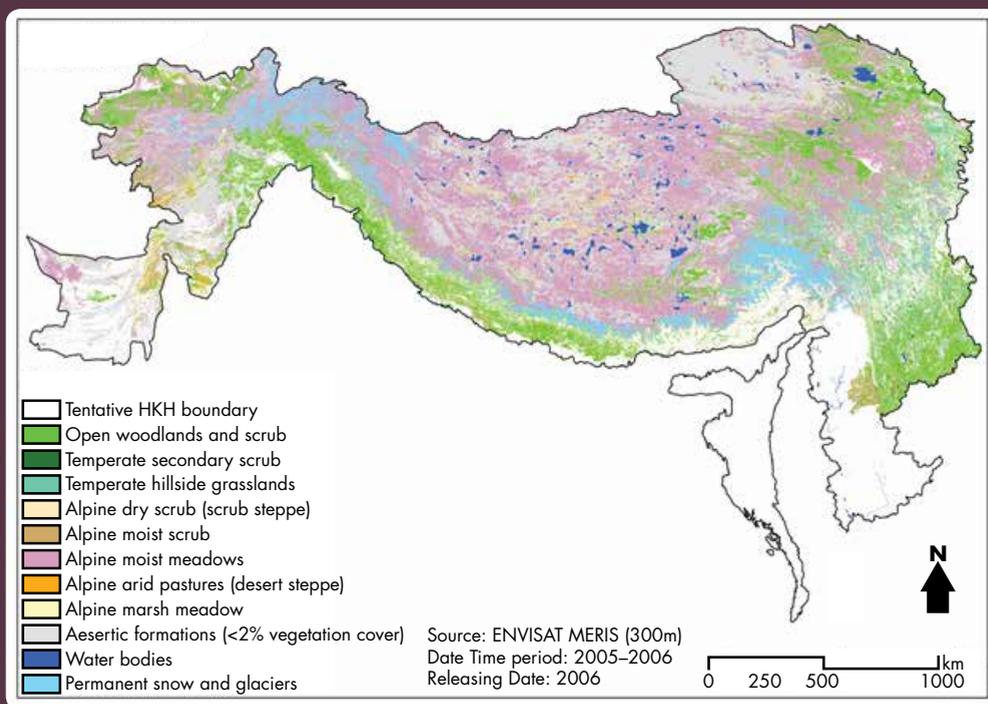
The HKH is a highly dynamic region with remarkably rich biodiversity, diverse ecosystems, and unique cultures. Within this context, rangeland ecosystems are one of most important resources, especially those in the northern mountainous regions (Sharma et al. 2007; Yi and Muhammad 2010; Wu et al. 2012). Around 60 per cent of the total terrestrial land in the region consists of rangelands, which offer ecosystem resources to the approximately 210 million people living in mountain areas as well as the 1.3 billion people downstream. Around 100 million pastoralists in the region derive their livelihoods from rangeland resources (Yi and Muhammad 2010). Rangelands in the HKH are the main source of survival for pastoralists, providing medicine, fibre, food, forage, fodder, fuelwood, herbs, water, and landscapes on which their livestock and crop production practices depend on. They are also home to a great number of distinct indigenous people, cultures, languages, religions, and spiritual practices, which influence and provide a treasure house of knowledge for the world at large.

Although both women and men are important managers of natural resources in the HKH and beyond (Gurung 1999; Khadka and Verma 2012), the critical role of half of the population of rangelands is often overlooked, and under-researched. Hence, the valuable ways in which women in particular sustain pastoralist livelihoods and rangeland environments and the degree to which their needs are addressed by governance and policy-making institutions and development processes in the region are poorly understood. While this study takes a gender analytical approach, it also attempts to highlight the role of women pastoralists, which is hidden from view in the many studies on rangelands and pastoralists around the world.

The gender, pastoralism, rangelands nexus: Unexplored terrain

Numerous scholars have demonstrated that gender, natural resource management, environmental sustainability, and the wellbeing of women and men are inseparable (Moore 1993; Leach et al. 1995; Thomas-Slayter et al. 1995; Meinzen-Dick et al. 1997; Rocheleau and Edmunds 1997; Schroeder 1999; Verma 2001; Westermann et al. 2005; Nightingale 2006; Buchy and Paudyal 2008). However, much of the research focuses on sedentary agriculture (Steinmann 1998). Despite the importance of exploring the connections between gender, pastoralism, and rangelands, there remains a dearth of research in this area, with less focusing on mountain contexts.

Figure 1: Rangeland areas of the Hindu Kush Himalayas



These three domains of enquiry (gender, pastoralism, and rangelands) form an important, but under-researched, nexus, whereby shifts or changes in one critically affect the others. This nexus provides a critical point of departure for exploring issues related to gender, pastoralism, and rangelands, including, firstly, how rangeland management (the ecological sphere) and pastoralism (the human, sociocultural, and livestock spheres) are interlinked (Kreutzmann 2012a). The relation between rangeland management and pastoralism is such that the former provides livelihoods, sociocultural, and political-economic options, and the latter contributes to the conservation and sustainable use of the former (Yi and Muhammad 2010). Secondly, livestock plays a central role in pastoralism throughout the world, often characterized by different forms of cooperation, negotiation, and power relations between women and men. The relationship between people, livestock, and the environment in these distinct ecological contexts also shapes the unique cultural, social, and spiritual relationships of pastoralists throughout the world, which are an asset to the rest of humanity. Thirdly, development and governance interventions in highland rangelands affect pastoralist men and women in different ways (Ridgewell et al. 2007; Kristjanson et al. 2010; IUCN 2011), largely due to socioculturally constructed and gender differences. Pastoral women tend to be in marginal socioeconomic and political positions (Haidari and Wright 2001; Kristjanson et al. 2010; IUCN 2011). They negotiate access to resources, the division of labour, and ownership rights within skewed gender power relations that often disadvantage them. However, women are not powerless victims, but have agency and knowledge in ensuring the sustainability of highland environments (Mackenzie 1995; Verma 2001, 2009), as well as in rangeland management and pastoralist livelihoods.

Understanding the gender dynamics of pastoral livelihoods and rangeland management in the HKH region is important in conceptualizing, researching, and implementing gender-sensitive and responsive policies and programmes. The HKH is a distinct region of the world – politically, culturally, socially, and economically – with unique natural resource management practices, governance arrangements, topographies, ecosystems, and gender relations. However, the extent to which interventions and resources related to rangeland management in mountains equally benefit women and men pastoralists depends on their meaningful participation and engagement in decision making, governance institutions, and development processes, which are, in turn, influenced by the relations of power between and among men and women. The ways rangelands are used, managed, and governed by multiple actors have direct implications for pastoralist women. In most countries in the HKH, pastoralist women and children mainly carry out the arduous work of collecting fuelwood, fodder, medicinal plants, and water and food, both in normal times and times of crises (Tabassum 2006; Khadka and Verma 2012). When pastoralists' ability to sustainably access and manage rangelands and common property resources are compromised, the environment can become degraded. In turn, limited access, degradation and reduced productivity of rangelands negatively affects women and children by increasing the amount of time, energy, and labour that is spent in collecting the above-mentioned resources required for their survival (Tabassum 2006; Khadka 2011a).

Furthermore, the region has been impacted by development, globalization, modernizing interventions, and the proliferation of dominant environmental and development discourses (Wu et al. 2012; Kreuzmann 2012a, 2012b) over many years. Development and globalization often fuse together the idea of 'free markets' and neoliberal economic policies. As they gain traction throughout the world, globalizing forces such as increased transportation, multi-directional communication flows, and the proliferation of the global media compel increased integration of various locales into the world economy, as well as changes to cultural identities of pastoralists (Edelman and Haugerud 2005, p 3). Such processes are also being affected by (and affecting) migration, climate change (Tsering et al. 2010; Banerjee et al. 2011), and policies aimed at the privatization of land and sedentarization of pastoralist communities. Despite numerous interventions in the natural resources sector in rangelands, there have been few positive impacts on women, especially women who are economically poor and socially disadvantaged (Lama and Buchy 2002; Tabassum 2006; Paudyal 2008; Buchy 2012). There is a serious knowledge gap about the way women and men engage in pastoralist livelihoods and governance institutions, as well as how they negotiate and contest access to, ownership of, and control over rangeland resources in these rapidly changing contexts.

In order to address the knowledge gap regarding gender experiences, livelihoods, and knowledge in rangeland management, in 2009 ICIMOD's Gender and Governance Division and Rangelands Action Area, together with regional partners, carried out studies in the remote rangelands of Bhutan, China, and Nepal. Case studies were also undertaken for Ladakh, India, and Chitral, Pakistan, but these are not included in this publication. This study highlights case study findings from Bhutan (by Yeshey Dorji); Sichuan, China (by Gan Tingyu, Ni Jioubing, and Lai Jun); Yunnan, China (by Yin Lun); Tibet Autonomous Region, China (by Ciren Yangzong); and Upper Mustang, Nepal (by Dechen Sherpa and Binay Shrestha) (see Annex A). A literature review on gender and pastoralism was carried out by Manohara Khadka in 2011 and 2012, a conceptual framework was developed by Ritu Verma from 2012 to 2013, and the case studies were analysed and synthesized during this period and beyond.

The research explored the gender dimensions of pastoralism in mountain rangelands and was guided by four research questions:

- What are the gender roles and division of labour in sustaining pastoralists' livelihoods and use of rangeland resources?
- What are the gender dynamics of access to, ownership of, and control over rangeland resources, including productive resources?
- What are the potential impacts of climate change on rangelands and the implications | for women?
- To what extent are rangeland policies, governance, and institutions in the HKH responsive in addressing gender issues and benefitting women pastoralists?

This study presents a synthesis and critical analysis of the results of these explorations through case studies from the ground. It is the culmination of seven years of work by various researchers, development practitioners, and policy makers dedicated to the study and preservation of pastoralism as a sustainable resource management practice and way of life with the potential for gender equity and empowerment. The literature review on gender and pastoralism informing the study is based on pastoralist contexts around the world, but with a particular focus on regions where available published research exists. Although the findings of the fieldwork echo similar realities regarding women's status in various pastoral contexts around the world, this report analyses research from the Hindu Kush Himalayas.

The report is divided into three parts: Part 1 begins with an introduction, an overview of this emerging field of research, and the conceptual framework used for gender and pastoralism in the analysis of the case study findings. Part 1 also elaborates on the methodology engaged for the study. Part 2 provides a description of the study areas, including pastoralist livelihoods, and an overview of socioeconomic and cultural relations in the study areas. This is followed by the analysis and synthesis of findings from the case studies, which explore gender dimensions of rangeland resources management including access; ownership and control over land and property; division of responsibilities, roles, and labour; access to natural resources; rapid change; governance; and gender issues in natural resource management. Part 3 concludes with a discussion of the challenges facing pastoralist women and key recommendations for future gender transformative research, policies, capacity strengthening, and institutional change.





Chapter 2: Overview of an Emerging Field of Research

The role of gender in the sustainable management of rangelands

In the global South, over 180 million pastoralists depend on rangelands to sustain their livelihoods, culture, and environment (Bennett and Barrett 2007; Berhanu et al. 2007; Ridgewell et al. 2007; Kristjanson et al. 2010; Flintan et al. 2011; IUCN 2011). In the HKH, rangelands are the key means for the everyday survival for pastoralist women, men, and children (Kreutzmann et al. 2011; Kreutzmann 2012a). The natural resources found in rangelands are critical sources of food, income, livelihoods, and fodder for livestock rearing (Steinmann 1998) and provide the basis for cultural identity. Further, rangelands are characterized by high levels of remoteness and economic poverty (Hunzai et al. 2011), but also have value as sacred landscapes and for their biodiversity and ecotourism potential (Zomer and Oli 2011). They are diverse in terms of governance modes for ecosystem management (Khadka and Verma 2012) and varied in terms of both matrilineal and patrilineal sociocultural practices. Despite the ‘feminization’ of agriculture due to the outmigration of men and other factors (Jain 2010; Lama 2010; Leduc 2011; Adhikari and Hogley 2011), they are characterized by acutely unequal gender power relations (Gurung 1999; Sarin 2008).

Extensive literature exists on rangeland issues in the HKH focusing on biophysical and livestock dynamics, such as the quality of rangelands, species composition, rangeland productivity, pasture improvement, and economic value (Ho 2000; Roder et al. 2001; ICARDA 2002; Sheehy et al. 2006a). Although some recent studies focus on the institutional dimensions of rangelands (Wu and Richard 1999; Zhaoli and Wu 2005; Dong et al. 2009; Kreutzmann et al. 2011; Gruschke 2012; Goldstein 2012; Ptackova 2012; Kreutzmann 2012a, 2012b; Wu et al. 2012; Agrawal and Verma 2016), gender studies are scarce and data and analysis even more so. This has resulted in a general lack of understanding of the gender dimensions of rangeland management, which ultimately weakens the capacity of policy and decision makers and practitioners to positively support the needs of pastoralists. As natural resource management scholars (notably Blaikie and Brookfield 1987; Rocheleau 1995; Brown 1998; Lama and Buchy 2002; Sharma et al. 2010; Kreutzmann 2012b) argue, sociocultural, political-economic, and gender knowledge are key gaps that, once filled, have the potential to make positive differences in the lives of pastoralists.

Empirical studies have shown that gender, rangelands, and development are interlinked and development interventions in highland rangelands affect men and women in different ways (Ridgewell et al. 2007; Kristjanson et al. 2010; IUCN 2011). Researchers from other regions

have highlighted that women tend to be excluded from public decision-making processes and experience high levels of violence and ill health in rangeland areas. For example, the prevalence of more men than women in all pastoralist regions of Ethiopia, although understudied, is likely to be associated with the high rates of maternal death and violence against women (Flintan 2006, p 226). In many contexts, pastoralist women and men have different roles, responsibilities, assets, and access to resources and decision-making power. These differences result in gender-differentiated needs, knowledge, and priorities. Gender relations between women and men shape access to, control over, and ownership of the resources that they need for living (Flintan 2006, 2007, 2008; Ridgewell et al. 2007; Kristjanson et al. 2010; IUCN 2011).

Women are custodians of technical and environmental knowledge that is crucial to the rural economy (Mackenzie 1995; Verma 2001, 2009; Flintan 2008; Wangui 2008). The role of pastoralist women is vital for subsistence livelihoods in times of economic and ecological crises (Verma 2001, 2009; Kassam 2012). In some contexts, while men migrate seasonally or circularly with most of the cattle, women are additionally engaged in care economy activities with the entire responsibility for managing environments, households, farm plots, children, and the remaining livestock (Flintan 2006, 2008). However, women do this with limited access to resources and information, little decision-making power, and heavy workloads. This reminds us that gender issues must be considered one of the most important factors contributing to the development and sustainable management of rangeland ecosystems in the HKH and beyond.

Rapidly changing mountain rangelands

Mountain regions are rapidly changing. Climate change, globalization, powerful market forces, urbanization, migration, and social and land use changes are creating new challenges, as well as opportunities, for pastoralist communities and rangeland ecosystems. Rapid political-economic, sociocultural, and environmental change in the region has had several consequences for gender and rangeland management. Central Asia, the HKH, and the Tibetan Plateau are among the major rangeland areas of the world (Yi and Muhammad 2010) that are experiencing the impacts of climate change. The Tibetan Plateau is heating faster than previously anticipated (DIIR 2009, p 1). As a result, glacial melt, permafrost degradation, the desertification of grasslands, changes in river hydrology, and the shrinking and drying up of lakes, wetlands, and rivers are being observed (*ibid.*, p 10–12). Literature reveals that the rate of warming in the HKH region is significantly higher than the global average, with significant spatial and temporal variations (Tsering et al. 2010). In the eastern Himalayan region, including Nepal, Bhutan, northeast India, north Myanmar, south Tibet Autonomous Region, and northwest Yunnan, from 1977 to 2000 the average annual temperature increased by 0.01°C in the foothills (< 1,000 m), 0.02°C in the middle mountains (1,000–4,000 m), and 0.04°C in the higher Himalayas (> 4,000 m) (*ibid.*). Increased warming has had some impacts on rangelands in the study areas, such as on the availability of water, fuelwood, food, and fodder, thereby increasing women's workload.

These changes on the Tibetan Plateau not only affect the food security of men and women pastoralists, they also affect the ecosystem services enjoyed by those beyond the Plateau, including in neighbouring countries. Changing climates in rangelands have a tremendous effect on the availability and quality of pastures and other natural resources such as water, soil, and biodiversity (Lenton 2002; Thornton et al. 2009). Klein et al. (2007) report that warming induces a loss of palatable plant species and an increase in non-palatable species. In Pakistan, the yield of major crops has declined by 30 per cent as a result of the increasing desertification of land, loss of soil fertility from water logging, salinity, and floods, and increased pests caused by the warmer climate and high precipitation.

Kreutzmann (2005, 2011a, 2011b, 2012b) argues that global change is more important than climate change when considering the transformation of mountain livelihood practices, including rangeland management. As studies from the Tibet Autonomous Region and other parts of China reveal, pastoralists have been affected by ‘modernization’ through government resettlement programmes and poverty alleviation strategies. As a result of these strategies, in most parts of the Tibetan Plateau, pastoralists have been forced to resettle either in ‘high-pasture’ areas or in lowland ‘agro-pasture’ areas (Kreutzmann 2011a). Although the government has been active in providing infrastructure (e.g., roads, power grids, drinking water, hospitals, schools); subsidies for agricultural inputs (e.g., seeds, chemical fertilizers) and fodder production; fencing rangelands; and promoting migration as a poverty reduction strategies (Wang et al. 2011; Kreutzmann 2011a, 2011b), further work is required in terms of enhancing wellbeing and preserving sociocultural practices. In addition, policy reform for rangeland management in China, such as the shift from the People’s Commune System to Household Contract Responsibility in 1983, has created several changes in pastoralism (Jun et al. 2011; Wu et al. 2012; Goldstein 2012). Such changes also create opportunities. Kreutzmann (2011a) points out that socioeconomic, political, and environmental transformations in the Tibetan Plateau have supported the diversification of income in addition to livestock, which has created opportunities for pastoralists to be compensated by payments for ecosystem services (PES) in the landscapes they manage and conserve. Furthermore, as shown in the African context, pastoralists have been able to coordinate and improve herd management as a result of access to new technologies such as mobile phones (Krätli et al. 2013).

Gendered impacts

Climate change exacerbates existing gender vulnerabilities as a result of men and women’s different livelihood roles (Skinner 2011) and their varying access to, and ability to benefit from, resources – such as natural resources, education, social networks, and information (Vincent et al. 2011). Responses to climate-induced stress and hazards are often influenced by cultural norms and traditions associated with ethnicity, caste identity, and gender (ICIMOD 2009). Women in the HKH are among the most vulnerable to climate change because of their limited ownership of property, access to technology, education, information, skills, income-earning opportunities, and increase to already heavy workloads within and outside

the household (Nellemann et al. 2011). A decline in agricultural productivity and natural resources as a result of drought and erratic rainfall have forced women to work longer to secure food, water, and fuelwood (Khadka 2011b; Leduc 2011).

For example, a study from Nepal shows that economically poor women-headed households are more vulnerable to the impacts of climate change (Gautam et al. 2007). As women generally have fewer livelihood alternatives than men, they experience greater food insecurity and vulnerability when impacted by climate change (Vincent et al. 2011; Skinner 2011; Nellemann et al. 2011). Gender inequalities “impact how people experience climate change, their abilities to cope with its impacts and their potential to influence decision making” (Sasvari 2010, p 15). These inequalities, combined with gender power imbalances and norms and sociocultural, economic, political, and environmental factors, make women more vulnerable to the negative effects of climate change than men (CARE 2009; Nellemann et al 2011; Skinner 2011). At the same time, women are important actors in adapting to climate change. Women’s specific knowledge of maintaining biodiversity through the conservation and domestication of wild edible plants, food crop breeding, and the conservation of indigenous seeds, forests, and water springs is key to adapting to climate change more effectively (CIDA nd; Khadka and Verma 2012).

Globalization, market forces, and outmigration have resulted in multiple gender issues in mountains. In the HKH region, most of those who migrate are men, with women, children and the elderly remaining behind (Thieme 2006; Sherpa 2010; Hoermann et al. 2010; Banerjee et al. 2011). For example, in Nepal more than 80 per cent of those migrating to international destinations are men (Sherpa 2010). In the mountain areas of India and Nepal, outmigration of men to urban areas and foreign countries for employment has shifted their responsibilities and work in agricultural production and natural resource management onto the shoulders of women (Hoermann et al. 2010; Jain 2010; Leduc 2011; Nellemann et al. 2011; Adhikari and Hobley 2011). In migrant households, women’s work hours have increased on average by two to four hours a day (Hoermann et al. 2010, p 16).

In the Changthang region in the Indian Trans-Himalayan area of Ladakh, it is difficult for some households to sustain pastoralism as a way of life because of the reduced labour force, mostly caused by men’s outmigration (Namgail et al. 2007). On average, pastoralism accounts for 72 per cent of the sampled household income, followed by farming with an average of 18 per cent and off-farm non-pastoralist activities with an average of 10 per cent of income (Berhanu et al. 2007, pp 875–876). A lack of labour force in rangelands can affect pastoralism and ultimately reduces income and the indigenous knowledge of pastoralists. In the Hunza valley of Pakistan, animal husbandry is declining for various reasons, including labour shortages, which are mainly caused by job opportunities in the government, trade, tourism, and non-agrarian occupations (e.g., migration) and children’s school attendance. As men members of households have greater off-farm income opportunities, livelihood burdens are shared among the remaining household members: women, children, and elderly men (Kreutzmann 2005).

The way in which declines in food production affect is yet to be explored. Pastoralist women and men in the HKH region rely on plant and animal-based products to meet cultural, economic, and social needs. Knowledge about gender relations associated with the gathering, processing, and marketing of value-added plant and animal products in the changing climate scenario is lacking in the region, although studies predict impacts of climate change on ecosystems and people in general (DIIR 2009; Tsering et al. 2010).

Despite their role in sustaining the environment and protecting culture and sacred landscapes, pastoralists and rangelands in the HKH region receive low priority at the policy and institutional level. Pastoralists live in ecological environments that are extreme, harsh, and risky and remote from participatory decision making and centres of power (Kreutzmann 1995, 2003, 2012a). Despite their role in sustaining environment and protection of culture and sacred landscapes, neither the rangelands nor the pastoralists receive weight at policy levels. The voices of pastoralists in the Hindu Kush Himalayas are barely heard in rangeland management decisions. Instead, they are often blamed by contemporary policy makers and some researchers for causing rangeland degradation (Miller and Craig 1997; Dong et al. 2009, p 175). Decision makers and politicians see mountain pastoralism as an environmental threat to the Himalayas (Sharma et al. 2003, p 29, in Kreutzmann 2012c, p 20). As a consequence, current policies are generally inadequate in meeting the needs of pastoralist communities (Kreutzmann 2012a).

Arguably, the impact of multiple drivers of change is being felt more in terms of agriculture, animal husbandry, and natural resource management in the Hindu Kush Himalayas than in other regions of the globe. As the roles played by women and men in mountain regions and their access to, ownership of, and control over resources are different, the analysis of the gender dynamics embedded in pastoralist livelihoods is important in a rapidly scenario. Understanding the linkages between gender, development, and rangeland management and their contribution to the wellbeing of pastoralist communities is, therefore, extremely important. The following chapter outlines the conceptual framework and methodology used to investigate these linkages.



Chapter 3: Conceptual Framework and Methodology

In order to analyse the complex inter-relations between gender, pastoralism, and rangelands in mountain contexts, this study developed a conceptual framework and methodology that evolved over the course of the study. The initial case study design and fieldwork began with an approach embedded in gender and development (GAD), which was later deepened with a feminist, post-structural political-ecology approach. This not only reflects a marked evolution over the life of the project, but evidences the fact that the analytical rigour regarding the case study material has also matured. This chapter outlines the conceptual framework used for the study, including a review of the evolution of gender and environmental analysis leading to feminist political ecology. It provides an overview of key analytical components of gender analysis of pastoralist livelihoods, governance and understudied issues before describing the methodology used to carry out the fieldwork.

Evolution of gender and environmental analysis

Several historical shifts have occurred in conceptual approaches regarding gender (and women), environment, and development over the past 50 years. It is useful to review these to differentiate between approaches that have been heavily criticized for their shortcomings and those that perhaps provide more robust and nuanced analysis. While most agree on the importance of the way women and men relate to the environment and the value of policy making that reflects this, there is less agreement about the actual characteristics of gender and environmental relations within development (Leach et al. 1995). Such relations are conceived in significantly different ways, as articulated in approaches such as women, environment and development (WED); eco-feminism; gender, environment, and development (GED); and feminist political-ecology, the conceptual framework used for this study.

Women, environment, and development

Approaches ranging from WED to eco-feminism view women as having a 'special' relationship with the environment. WED remains a common, but problematic, approach engaged in dominant development discourses, programmes, policies and institutions. Developed in the 1980s, it resulted from a simplistic attempt to tie together an earlier women in development (WID) approach with environmental concerns. WID emerged in the 1970s and advocated for reformist rather than structural changes, such as the more equitable distribution of development benefits rather than substantive changes in development processes (Schroeder 1999, p 7) and power relations themselves. It can basically be summed up as an attempt to 'add women and stir' into existing men-centric institutions and programmes.

Rather than being a new approach, WED draws heavily on WID's narrow focus on women's drudgery and images of women as "hewers of wood, haulers of water, custodians of genetic resources, food producers, and so on", based on assumptions that women's interests and those of the environment are always complementary (Leach et al. 1995, p 1). WED targets women as a means for attaining the goal of development and environmental conservation and therefore is not able to tackle complex issues embedded in power relations between women and men (Buchy and Paudyal 2008) or the contradictions between environmental conservation and development. Most critically, it sometimes leads to inappropriate policy recommendations that increase women's workloads in environmental and natural resource management (Leach et al. 1995) without changing underlying gender power relations. WED focuses on women as users of, and dependent on, the environment, while fixating on their 'vulnerability' and 'victimization' in the face of a loss of natural resources (Steinmann 1998, p 84), environmental hazards, degradation, and rapid change.

Eco-feminism

Eco-feminism is based on the dualistic belief that women have an inherent relationship with nature (Shiva 1997) as opposed to men, who have a desire to control and dominate nature through science, technology, and development (Steinmann 1998, p 84). Within this conceptualization, the women-nature relationship is considered a biological and essentialist position. This approach gained momentum with famous movements such as the Chipko Movement in the 1970s and 1980s, which arose as non-violent resistance to the destruction of forests in hill and mountain areas, as women literally hugged trees marked for felling for commerce and industrial purposes that were otherwise critical sources of livelihoods, food, fuel, and fodder, as well as for stabilizing soil and water resources (IISD nd). A post-structural critique of this approach challenges the women-nature affinity, which is viewed as a social construct rather than a biological essentialist one (Schroeder 1999). The closely assumed link between women and nature as the basis for ecological sustainability has sometimes exacerbated women's responsibility to 'save the environment' without considering whether they have access to resources or decision-making power to do so (Leach 1995, p 34, cited in Schroeder 1999, p 14).

Gender, environment, and development (GED)

Gender, environment, and development (GED) emerged in the 1980s with its roots in social feminism and feminist anthropology (Walsh 2009), reflecting shifts in thinking from a broader gender and development (GAD) approach (Flintan and Tedla 2010), to one focusing on social relations within environmental issues. The GAD approach draws heavily on Marxist and third world feminists and seeks to explain gender relations as social relations in specific cultural and political contexts (Schroeder 1999, p 7-8), rather than focusing on women in isolation (Young 1997, p 51). It grew out of a critique by feminists from the South about the problematic representation of "third world women" as "backward, vulnerable 'other' in need of salvation from Northern (or Northern-trained) development experts" (Marchand and Parpart

1995, p 16; Mohanty 1991). GED explicitly questioned the essentialist character of the women-nature relationship posited by earlier theories (e.g., Mies and Shiva 1993), as well as material approaches argued by feminists such as Agarwal (1991) (Marchand and Parpart 1995). It focuses on the concept of 'gender' rather than 'women', while paying particular attention to the social construction of gender roles and relations (ibid.). Critiques of the approach centre on its failure to challenge modernizing notions of science and neo-liberal economic growth models, as well as its low to non-existent uptake by development organizations and agencies because of transformative considerations of power that are seen as too 'sensitive' (ibid.) or that are negatively labelled as 'activist' and 'feminist'.

Feminist political-ecology

While much of gender analysis in development contexts focuses on agriculture, forestry, and other natural resources, few studies have been carried out on rangelands and even fewer on mountain rangelands and pastoralism. Against this background, conceptual framings for the study of gender and pastoralism are scarce. To address this gap, this study uses a conceptual framework for the gender analysis of pastoralism and rangelands in mountain contexts, bringing together conceptual threads from feminist, post-structural political ecology and the anthropology of development, with a focus on pastoralism and land tenure of common property and communal lands.

Rather than add issues of gender (or worse still, 'add women and stir') to problematic, out-dated women in/and development approaches, and in particular to pastoralism and rangelands, it is useful "to explore how, through their inter-relations, the global, the land, and gender, are mutually constituted" (Mackenzie 2010, p 35). Given that within rangelands 'land' has special significance as communal, common property, as well as sociocultural and spiritual significance, and that pastoralism is a unique form of sustaining livelihoods in fragile environments, feminist post-structural political ecology provides a useful conceptual framework for analysing such complexities. Perhaps the most important aspect of this approach is its focus on tracing how broader processes are lived and negotiated in different locales and by differently positioned women and men. This approach attempts to understand how international development, the state and its apparatus, markets, globalization, different drivers of change, and multiple property rights regimes affect and are mutually constituted in local natural resource practices, management, and access (Carney 1996, p 165; Mackenzie 2010). In this study, we contextualize feminist political-ecology within an action-oriented framework, which highlights both analysis, as well as the aim of gender transformative change.

While the political ecology stresses the importance of understanding human-environment relations (Bryant and Bailey 1997), feminist political ecology emphasizes the role of gender power relations in influencing access to, knowledge about, and control over resources. It is concerned with analysis within households, communities (Nightingale 2003) and between individuals, including their roles in shaping gendered identities and differences. Post-structural approaches move away from rigid conceptions of sociocultural phenomenon as 'structures',

towards a more fluid understanding of social relations as negotiated and contested. They challenge notions of 'absolute truth' and conventional discourses of development, or meta-narratives, especially universal, reductionist, and simplified definitions and treatment of political-ecological phenomenon (Parpart and Marchand 1995). They argue that conventional models essentialize reality and disregard relations of power and knowledge and the inseparability of culture and meaning, and they fail to address subjective experiences and the complexity of life as lived (ibid.).

In a post-structural framing, gender not only includes relations between men and women, but also considers relations between and among them, as gender cuts across multiple domains of difference such as class, marital status, age, life-cycle positioning, caste, ethnicity, occupation, and location (Leach 1991; Mackenzie 1995; Rocheleau and Edmunds 1997; Steinmann 1998; Verma 2001; Lama and Buchy 2002; Westermann et al. 2005; Nightingale 2006). By doing so, this approach exposes the flaws of conceptualizing women and men as flat and closed homogenous categories, and instead emphasizes the diversity and multiple identities of women and men, which are fluid and changing over time. Gender concepts that are central to this study, such as the household, patriarchy and agency, resistance, and gender transformative change, are elaborated below from this perspective.

The household

Post-structural analysis moves away from viewing the household as a fixed, altruistic, democratic, cooperative decision-making unit characterized by a joint utility or joint welfare function that pools resources (labour, income, goods, etc.), which are in turn shared and accessible to all household members (Whitehead 1981; Evans 1991; Roberts 1991; Moore 1993; Kabeer 1994; Verma 2001). However, this conception does not reflect the reality of households the world over, which are often characterized by negotiations and contestations, including pastoralist households, which are often mobile and fluid. Despite this, development organizations persist in using this model, which isolates the household from other social institutions and relations (Verma 2001). Berry (1984) suggests that, instead, the household should be a point of departure for gender analysis (Berry 1984, cited in Carney and Watts 1990, p 217), keeping in mind that it is a socially-constructed concept that varies culturally in diverse pastoralist contexts. Household activities may not have a single locus, and any one locus does not necessarily represent a single unit of labour or resources (Roberts 1991, p 62). Nonetheless, the household remains a valuable concept for exploring the effects of different gendered interests, options, and social relationships in relation to resource management (Verma 2001) and, therefore, is a valuable point of departure for gender analysis, keeping in mind the mobility and diversity of pastoralist livelihoods.

Patriarchy and agency

Power relations are often mediated by patriarchal discourses and practices that make women possibly the most disadvantaged group among pastoralists, which is already a disadvantaged

group (Verma 2007). This was referred to earlier as double marginalization (i.e., marginalization within an already marginalized group). However, care must be taken not to simplistically equate a problematic and ahistorical concept of patriarchy to pastoralism. As Hodgson argues, “patriarchy must be understood as a consequence not of cows but of history” (Hodgson 1999b, p 64), thereby highlighting the consequence of the imposition of colonialism (and contemporary neoliberal processes) to gender relations of power that consolidated men’s control over livestock and their formal political power, while relegating women to domestic concerns of the home and homestead (ibid.). However, while women may be disadvantaged in accessing and controlling land and other productive resources as a result of historical processes, they are not powerless actors (Verma 2007). The concept of agency is central in highlighting gender relations and powerful histories of negotiation, contestation, resistance, and the creation of room to manoeuvre (Mbilinyi 1992, p 38; Mackenzie 1995, 1998; Verma 2001, 2007), as well as the way gender differences emerge and are produced through everyday practices (Nightingale 2011, p 155). Such agency might not always occur overtly or publically, but may take place through ‘backdoor’ and ‘hidden’ acts of resistance to dominant power relations (Scott 1990, 1985; Abwunza 1997; Mackenzie 1998, 1995; Verma 2001). Equally important is agency manifested in public forms of leadership, representation in governance institutions, activism, and acts of transformative change.

Resistance

Although power-laden gender relations are open to contestation, they sometimes hit walls of resistance and backlash, highlighting the limits of gender transformative change at any given moment in history, as well as potential material and symbolic consequences (Nightingale 2011; Verma 2014b, 2001). In light of this, women often engage in coping strategies to maximize security, optimize livelihood options, and resist gendered constraints, norms, and rules. However, in doing so, they sometimes reproduce patriarchal discourses and practices, which can be considered as a type of ‘patriarchal bargain’ (Kandiyoti 1988; Verma 2007). Such deference to the ‘patriarchal order’ is a double-edged sword, as it creates temporary room to manoeuvre, while simultaneously reinforcing entrenched and skewed gender relations that ultimately disadvantage women. For instance, when women go up against gender power relations that are to their disadvantage they can unleash metaphorical attacks and powerful discourses that paint them as ‘wayward’, ‘misfit’, ‘loose’, or ‘disobedient’ (Jefremovas 1991; Hodgson 1996b). Through their agency, women use the shifts and spaces created in such struggles to negotiate and leverage changes in income redistribution, rights, and obligations, as well as to access new opportunities created by development projects, institutions, and drivers of change (Hodgson 1996b).

Furthermore, and perhaps beyond the scope of this study, performative aspects of gender relations problematize concepts of ‘sex’ and ‘gender’ (Butler 1997, 1993) by “shifting attention to embodied mechanisms through which normative gender discourses are maintained” (Butler 1997, pp x–xii, cited in Nightingale 2011). Hence, gender and sociocultural differences are produced through everyday practices and negotiations, where

power is simultaneously embodied in performance as well as symbolic aspects (Butler 1997, 1993; Nightingale 2011). Such conceptualizations help scholars to differentiate between discourses, hidden forms of resistance in subtle public performance, and the embodied nature of gender. Similarly, an emerging body of anthropology of development literature questions the social, cultural, gendered, professional, and discursive roles of development practitioners in the deployment of development (Mosse 2005; Coles and Fechter, 2008; Verma 2008, 2009). This sheds light on the language and exercise of power between development practitioners, the 'targets' of development, and researchers who often "seem to stand apart from and outside what they are describing".

Gender transformative change

The nature and pace of global, economic, sociocultural and environmental changes differentially impact on pastoralist women and men's livelihoods and wellbeing (Verma 2013). Increasingly, their adaptive capacities to these new changes depend on their access to resources, knowledge, services, and meaningful engagement with development and governance institutions (ibid.). Resilient responses recognize gender divisions of roles, property ownership that considerably limits or favors women's and men's ability to make decisions, and the ability of development organizations to value existing gendered pastoralist knowledge, agency, and experiences (ibid.). Women and men must also be able to exercise their own agency in order to make their own choices and exert control over their assets (ibid.). They manage and cope with these new realities in different ways due to socially-constructed gender norms and relations of power (ibid.). An action-oriented framework that incorporates these different issues and elements is required.

After years of failed gender 'mainstreaming' approaches described above, new conceptual frameworks have been developed in order to support development organizations in their gender equality aims (Verma 2014b). Gender transformative change is a useful approach that is increasingly being engaged by development organizations in the HKH and beyond to promote equitable development and research processes and to ensure women and men equally benefit from it (Verma 2013). It brings together four inter-related domains, or cornerstones, namely: the focus and integration of gender analysis and action-oriented research into the natural resource management research agenda, the emphasis on capacity strengthening and women's leadership, the importance of gender inclusive policy and partnerships, and the highlighting of gender positive organizational change and institutional strengthening (ibid.).

Gender analysis of pastoralism and rangelands

In light of the multiple drivers of change and rapid political-economic change taking place in rangelands, feminist post-structural political-ecologists provide ample material for the critical analysis and unpacking of complex processes that intertwine global and local processes. What a feminist post-structural political-ecology analytical framework might look like in

analysing gender, pastoralist, and natural resource management issues in rangelands has been put to use in the synthesis of case studies in this paper. Several gender analytical spheres are engaged, as outlined below, and can be further expanded in future studies. The key elements of gender analysis of pastoralism and rangelands are mobility, development discourse, ownership of land and livestock, access to and control over natural and development resources, division of labour, and the cross-cutting role of culture, social institutions and drivers of change. Gender decision making and drivers of change are addressed within governance issues further below. Together these elements provide a comprehensive understanding of gender relations, equality, and power in different contexts. When nuanced within the political ecology analysis of the way global forces interact and shape local experiences and meanings, and vice versa, these elements form the basis for analysing the case studies in this study through a feminist post-structural political-ecology lens.

Mobility

Most critical to the analysis is the gendered understanding that pastoralist livelihoods and rangeland environments are unique in different and complex ways, predominantly characterized by mobility to varying degrees in semi-arid, arid, and fragile ecosystems, as well as rich sociocultural diversity in mountain contexts. Mobility is a key feature qualifying pastoralism (Rota and Sperandini 2009, p 1) and encompasses livelihoods that vary from nomadic (when mobility is high and in irregular patterns), transhumant (when there are regular back-and-forth movements between relatively fixed locations), and sedentary (*ibid.*). Pastoralism refers to the interconnected relationships among pastures, livestock, people (Rota and Sperandini 2009), gender, and sociocultural relations.

Pastoralism, as the main basis of survival for high mountain people in the HKH, includes animal rearing, crop production, and rich sociocultural practices. Rangeland natural resources are the main source of pastoralism. Pastoralist practices include different forms: nomadism (livestock rearing by herders who don't remain in villages, but tend to live in tents and move with tents and livestock between summer and winter pastures), transhumance (which involves the seasonal migration of herds between summer pastures in the mountains and winter pastures in the lowlands), and combined mountain agriculture (where crop production and livestock rearing are mixed) (Kreutzmann 2012c). However, despite the key characteristics of mobility, valuable indigenous knowledge, and seasonal land use, which define both pastoralists and mountain rangelands in fragile environments, pastoralists are often misunderstood by dominant agricultural communities and development approaches that view rangelands as 'idle', 'underutilized', or 'vacant' (Okoth-Ogendo 2002; Verma 2007).

Development discourse

Development discourses play a critical role in characterizing pastoralist livelihoods and the management of rangelands. For instance, dominant discourses sometimes depict pastoralism in condescending and disparaging ways as 'outdated', 'backwards', 'outmoded', and

Box 2: The power of dominant discourses and theories regarding the 'commons'

A famous paper published by Hardin (1968) posits the logic of "the tragedy of the commons". Hardin's theory about how common property resources used by pastoralists eventually become overused and depleted had powerful influences on international development policies and interventions at that time, and they continue to hold sway even today (Fratkin 1997). The theory stipulates that every person is locked into a pastoralist system of livestock management that compels them to increase their herds without any limits (Hardin 1968, in Fratkin 1997). However, this is set within a world that is finite in terms of its resources (ibid.). The theory continues, "ruin is the destination towards which all men rush, each pursuing his own interest in a society that believes in the freedom of the commons. Freedom in a commons brings ruin to all" (ibid.). This theory is very similar to Malthusian theory that postulates that environmental degradation, a decline in productivity, and dependence on the import of food is brought about by a rising ratio of population to land (Malthus 1798). In the case of pastoralists, the rising population is not only human, but also livestock. Both Hardin's and Malthus' theories have had far-reaching impacts on the way that international development policies are formulated. For instance, Malthusian theory about explosive population growth accelerating environmental degradation has deeply influenced and provided the discourses necessary for dominant development policies and interventions (Williams 1995). Similarly, Hardin's theory about pastoralism accelerating desertification and environmental degradation provides rationale for development banks and other donor policies that advocate the privatization, formalization and sub-division of land (Fratkin 1997). Because these theories and discourses have powerful sway for development policies, practices, and interventions, it is important to locate their source, name them, problematize them, and posit new conceptual framing that better reflects the lived realities of pastoralists.

From Verma 2007, pp 7-8

'traditional' (Verma 2007; Ole Koissaba, 2006; McAulisan 2006; Hesse and Odhiambo 2002). Such discourses not only delegitimize "pastoralism and communal land tenure as a sustainable and viable way of life", they also promote "agriculture, sedentarization, and the privatization and sub-division of land (Verma 2007, p 6). A dichotomy is constructed between two separate domains of livelihoods and land tenure, which are inadvertently pitted against one another, whereby one is portrayed as 'backwards and unsustainable' and the other 'modern and sustainable' (ibid.). Numerous scholars have argued against this line of reasoning, including against the infamous theory of the 'tragedy of the commons' (see Box 2; Hardin 1968), and instead formulated theories that more appropriately represent the lived realities, knowledge, and agency of pastoralists in managing fragile lands and environments (Ostrom 1990; Okoth-Ogendo 2006, 2002). Similar to post-structural critiques of development, these scholars question the appropriateness and capacity of modern science, external technologies, and gender-blind and neo-liberal economic development to solve pastoralist issues, while ignoring indigenous knowledge, complex cultural and gender relations, and natural resource management practices. Most importantly, while aiming to describe 'indigenous knowledge' and 'peoples', it is important to work against generalizing tendencies that flatten and homogenize pastoralist culture as discrete, bounded, internally coherent, and men-centric.

The risks associated with producing neat, bounded, and general ethnographic descriptions result in:

...smoothing over contradictions, conflicts of interest, doubts, and arguments, not to mention changing motivations and historical circumstances. Besides being theoretically unsound, this erasure of time and conflict is misleading because it makes what is inside the external boundary set up by homogenization seem essential and fixed. (Abu-Lughod, p 9).

In-depth qualitative and ethnographic methods provide the research findings required to write against generalizations (ibid.) and describe complex gender and power relations that affect the sustainable management of natural resources. These together with quantitative analysis provide an understanding of both the depth and breadth of some of the issues.

Ownership and control over livestock, land, and property

Equitable ownership of, access to, and control over productive pastoralist resources such as land, livestock, property, and natural and development resources (e.g., technology, credit, information, social services, and justice) are reflective of gender power relations (Dankelman 2002 p16; Ridgewell et al. 2007; Flintan 2007, 2008; Kristjanson et al. 2010; Khadka 2011b). For pastoralists, livestock are a particularly important productive, cultural, and social resource with gendered sociocultural meanings. Livestock in this context refers to larger animals such as cattle, yak, and camels, whereas smaller animals, such as goats, pigs, and fowl are treated differently, as discussed later. For many pastoralists wealth is stored in livestock as a valuable form of household property. In many contexts, livestock play an important role in gender rites of passage, such as marriage, and are often considered valuable in the exchange of dowry in Asia and bride wealth in Africa and Asia. Livestock are also used in other important sociocultural rituals, such as funerals and ways of connecting to ancestors (e.g., in Madagascar, see Verma 2009), sacrificial ceremonies (e.g., in Nepal), and identities (e.g., in Kenya, Tanzania, Madagascar, Bhutan, India, China, and Pakistan). Moreover, livestock assets are often considered a risk-reducing mechanism in relation to economic (Reardon et al. 1992; Fafchamps et al. 1996, in Valdivia 2001, p 35) and other shocks related to the climate or food security.

Given that pastoralist wealth is normally stored in livestock, not necessarily land, the number of livestock that the household and, in particular, men own is closely related to social status, prestige, class, and identity. Livestock is a special category of property, different from land, which is not easily liquidated or converted into cash. Often considered a reserve of wealth, to be used for bride wealth, dowry, or retirement, and often sold in emergencies or dire economic circumstances, livestock are embedded in strong cultural norms (Ferguson 1994). For instance, while cash can be converted into livestock, one-way barriers often limit livestock from being converted into cash because of cultural norms that treat livestock as a special form of property with important sociocultural value (ibid.). Ownership of, and control over livestock

is often directly related to authority and bargaining power within the household, where men are generally privileged (although this is somewhat different in matrilineal communities, as discussed below).

Gender differences in the management and ownership of livestock and its products are telling. Differential gendered rights to access, produce, maintain, and use livestock resources often means that women have access to, and responsibility for, caring for livestock, but not necessarily ownership or control over decision making in relation to livestock consumption, sale, and exchange (Flintan 2007, 2008; Kristjanson et al. 2010). Without such rights, the incentive for women to invest in improving productivity and sustaining the environment in light of their other roles and labour demands diminishes, although they may in some cases be in a position to influence how animals are managed (Kristjanson et al. 2010, p 10). For example, in Indonesia cattle are owned and controlled by men, whereas women have greater control over livestock products such as milk (Valdivia 2001). In other cases, such as in Kenya, men have greater decision-making power over buying and selling livestock and the use of the income generated from livestock products (Conelly and Chaiken 1993, author's highlighting in Valdivia 2001, p 31).

Although the majority of economically poor livestock keepers are rural women (Thornton et al. 2002; Rota and Sidahmed 2010), they tend to be disadvantaged in terms of ownership rights. For example, while Kalhor nomadic men in Iran have exclusive rights over land and animals, women have neither the right nor status or opportunity for their needs to be heard at the local ministry offices responsible for nomad issues (Haidari and Wright 2001). In other places, such as Bolivia, while women have the right to inherit livestock upon marriage when they receive both sheep and cattle, only men inherit land (Valdivia 2001). Gender tenure arrangements and rights to ownership of livestock (as well as property and land) are often influenced by customary laws of inheritance and are heavily negotiated and contested. Women receive, inherit, and access livestock through a variety of ways and means in different cultural contexts and at different stages of their lives (e.g., at birth, marriage, through inheritance, during divorce, and after the birth of a child) (Flintan 2008, p 31). For instance, in northern parts of Pakistan, including Kalam in the Swat Valley, women continue to own livestock that are part of their dowry and can decide on what to do with the animals, excluding outright sale, which requires the prior approval of men (Dohmen 1992, in Bravo-Baumann 2000, p 14).

The types of animals men and women own and control vary according to different cultural contexts, and also have meaning and significance. In some contexts, women own and control small animals, such as sheep, goats, and poultry, while men have control over larger animals with high economic value, such as cattle (Brockington 2001). While the types of livestock may vary across contexts, what is most important is that men's control over certain animals is highly gendered and symbolic of ownership and property, as well as of status, privilege and power. In such a scenario, and where livestock and their products provide a vital source of income and livelihood (Delgado et al. 1999, p 40), women may be responsible for the labour

associated with larger livestock, such as herding and milking, but men have the power to make decisions on their sale or exchange (Valdivia 2001).

Nonetheless, livestock products, in addition to small animals, are also important food security assets for women, who tend to control decision making over them (FAO 2011a, p v), while also contributing to expenditure on welfare and accumulation for future investment (Valdivia 2001; Flintan 2007, 2008). For instance, a study from rural Bangladesh revealed that daughters have better health outcomes when their mother own strong and secure household assets (Hallman 2000, in Meinzen-Dick et al. 2011, p 10). Small animals such as sheep can provide food security in a household, as they are used as a buffer when food shortages occur. Given women's limited access to credit (Quisumbing 1999, in Valdivia 2001), control over the sale of small animals can also provide important funds for investment purposes (Valdivia 2001).

Given the central significance of common property and communal land in pastoralist livelihoods in rangelands, it is useful to conceptualize the gender dimensions of land tenure and property rights within a framework of legal pluralism (Verma 2007). Access and struggles over land, including gender struggles, take place within and across multiple, overlapping legal domains, which include laws, norms, codes, rules, and sanctions (*ibid.*). The complex reality is that statutory and multiple culturally specific customary laws interact – where statutory laws are not isolated from, and have not pre-empted, replaced, or overridden customary laws (Mackenzie 1995; Verma 2007), creating room for pastoralist women and men to manoeuvre and contest rights to land. However, on a broader level, policy and legal arrangements and institutions exist within inequitable power relations, which often render pastoralist customary laws and common property invisible or marginal, while both statutory and customary legal orders generally disadvantage women. Land and property rights vary depending on *de jure* and *de facto* rights, the former referring to legal rights and the latter referring to rights as actually practiced.

It is widely accepted among scholars that access to, ownership of, and security over land is a critical dimension and both representative and symbolic of women's sociocultural and political-economic empowerment. However, throughout the world, women have minimal to no title deeds over land, including in South Asia where they constitute more than 65 per cent of the agricultural workforce but own less than 10 per cent of land (Vincent et al. 2011, p 22–23). In pastoralist contexts, it is important to refocus our lens on access, control, and ownership of other critical forms of property as well as contextualizing women's decision making and access over common and communal land.

For pastoralists, common property resources include water, fuelwood, medicinal plants, wild food, and grasses for weaving, thatching, and livestock feed. Although pastoralism provides potentially valuable political spaces for women to claim their rights to natural resources, in many societies, both customary and statutory regimes advantage men in terms of pastoralist land use, management, and rights, which undermines women's agency and

power (Flintan 2008). Women's access and control is often in relation to land that is poorer in quality and where their tenure is insecure (FAO 2011b). In addition, women's representation in statutory local governance institutions concerned with land disputes and allocations is poor to non-existent in many locales in the HKH. The situation in customary institutions is similar. In addition, in the context of present day land grabbing by powerful actors, if and when there is compensation in the form of land, an important opportunity for titling of land for both women and men under joint tenure is missed entirely (Verma 2014a). In compensation involving money, the assumption that men are the heads of the household means that they receive such funds, which again ignores the importance and value of women's right to access land and its resources, as well as opportunities to shift compensation to be on more equal terms (*ibid.*).

Matrilineal contexts provide a particular departure (Luo 2008, p 14). For example, in the Khasi and Garo hills of Meghalaya in northeast India, women have exclusive land rights and inheritance rights over ancestral property through the female lineage. As such, they have greater mobility and visibility than in other parts of the country (Gangmei *nd*). They also have greater decision-making power. However, given the rapid changes in matrilineal contexts around the world, which include exposure to patriarchal discourses and relations, decision making has begun to become dominated by senior men (uncles, sons, and brothers) (Verma et al. 2010). In some matrilineal contexts, men live in their spouse's family house upon marriage, where they have particular culturally and gender-defined roles and become a guest in their spouse's house; this is defined as matrilocality.

Access to rangeland resources

Women's access to rangeland resources does not necessarily mean that they have the power to make decisions regarding resource management and use, and the income derived from such use (Ridgewell et al. 2007; Flintan 2007, 2008). Women often gain access to rangeland resources through husbands, brothers, and sons and their membership in clans and households based on patrilineal kinship, rather than through their independent rights or status. Customary practices and norms that are interlinked to gender status, ownership of property, and roles shaping natural resources often give priority to men. For example, in some contexts women are expected to wait to access watering holes for domestic use until after men have finished bringing livestock to water (Tukai 2005 in Flintan 2007, p 5).

The role of customary and statutory institutions in influencing and shaping access to resources cannot be ignored. In many pastoralist contexts, such as Kenya, Ethiopia, and Kyrgyzstan, for example, men and, in particular, elder men often control the functioning and decision making of customary institutions governing the use and management of rangeland resources (Flintan 2007, p 4, 2008; Verma 2007). In other cases, new laws are introduced, but without a focus on gender issues or impacts. For example, in Kyrgyzstan, the new law on pastures, which focuses on community-based pasture management for the sustainability of natural resources and people's development, states that all pastures not transferred for rental use must be managed by local pasture committees and associations of pasture users (Baibagushev 2011,

p 114). It is envisioned that strengthening customary and local institutions through greater autonomy in the use of indigenous knowledge and management of rangeland resources will help to reverse rangeland degradation (Rota and Sidahmed 2010). However, the extent to which local rangeland institutions and pasture management and use are gender sensitive has not been adequately explored or made explicit.

Similar to customary institutions, statutory institutions in rangelands can also be gender blind or biased in defining rules and rights and, therefore, affect women negatively or exclude them. For instance, in Kenya, local district governing boards and governance meetings regarding rangeland resource management are often dominated by men (Verma 2007). The fact that such institutions do not support women's access, voice, and needs, indicate that alternative institutional arrangements may need to be found (Flintan 2007), as well as a great deal of effort expended on sensitizing and strengthening capacities in order to bring about gender transformative change. A failure to understand both customary and statutory institutional arrangements, the politics involved, and their impacts on all resource users may reinforce the inclusion of dominant groups and people while excluding others (ibid, p 5).

Division of labour

Gender roles, responsibilities, and division of labour in rangeland management practices are socially constructed, rather than biologically determined, and vary across place and time. Men and women carry out the same tasks in different communities and different tasks in the same communities (Chambers and Momsen 2007). Women generally play a major role in caring for animals, crops, and agricultural land, even when they are not owners or do not have the final say in major decisions concerning them.

A case study in Uttaranchal, India, revealed that on average women devote five hours per day to different dairy operations while men only expend one hour per day (Tulachan et al. 2002, p 9). On average, women provide 85 per cent of the time used in dairy production. The collection of bedding material, fodder, and the feeding and grazing of animals take the largest part of a women's day (ibid.). Another study in Hariyana, India, revealed that on average women devote 5.6 hours to animal husbandry compared to 1.25 hours per day devoted by men (Thakur et al. 2001, p 1,175). Similarly, in intensive livestock contexts in Asia, more than 75 per cent of livestock related tasks are the responsibility of women (Niamer-Fuller 1994, in Kristjanson et al. 2010, p 10). In contrast, in Central and Eastern Kenya, time spent by men and women in dairy-related activities did not significantly differ (Njuki et al. 2004, in Kristjanson et al. 2010, p 11). However, the total working hours per day for all activities related to livestock, the household, and agricultural production differed significantly between men and women, with women working more than 17 hours per day and men working 11–12 hours per day (Nairesiae 2012).

Although the division of labour varies in different cultural contexts, women tend to work longer hours and on more intensive work than men. A study on pastoralists in Ethiopia reported that

women mostly milk animals, while men herd them (Ridgewell et al. 2007). In the Changpa pastoralist production system in the Indian trans-Himalayan region of Ladakh, women are mostly involved in milking and dairy processing, while men are responsible for shearing cashmere wool, herding, and selling animals (Namgail et al. 2007). In Nepal, women spend most of their time in agriculture and forest activities, animal care, and household chores, which are labour intensive (Khadka 2011b). In the midhills of Nepal, women's involvement in most of the difficult tasks of livestock management, such as forage collection and transportation, cleaning gutters and sheds, and feeding animals is high, whereas men are involved in easier tasks such as milking animals and selling milk (Paudel et al. 2009).

Gender norms, cultural values, perceptions, and livelihood needs determine women and men's roles in crop and livestock production and natural resource management around the world. For instance, in Nigeria, women feed and manage vulnerable animals (calves, small ruminants, and sick, injured, and pregnant animals), clean barns, milk cows, and make butter and cheese, but are not involved in livestock marketing or dealing with livestock diseases (Kristjanson et al. 2010). In the midhills of Nepal and India, women are mostly involved in feeding animals, cleaning cattle sheds, carrying manure to farms, and grazing animals, while men are involved in ploughing farms by oxen and taking animals for veterinary care (Jain 2010; Lama 2010). In the high mountain rangeland areas of the Western and Mid-Western regions of Nepal, collecting fodder, forage, leaf litter, and farmyard manure are women's roles (Khadka 2011b). Cultural values shape social and gender rules and taboos.

In addition to animal husbandry, the collection of wild food, forage, and medicinal and aromatic plants is also an important livelihood strategy. In most countries in the HKH, women and girls are involved in the collection, drying, processing, and use of medicinal plants and rangeland products for economic, social, and cultural purposes, and as food in times of crises, drought, and famine (Khadka and Verma 2012). In other parts of the world such as in Morocco, a case study found that 63 per cent of women in economically poor pastoralist households living in a town collected wild mushrooms compared to 30 per cent of women in wealthy households (Steinmann 1998, p 95–97). As nomadic pastoralists who spend time living in mobile tents, economically poor women collect medicinal plants as sources of income (70%) compared to moderate (53%) and wealthy (40%) women (ibid.). In pastoralist communities in Ethiopia, women and children mostly engage in the collection of wild foods, which constitute a large part of normal diets (Ridgewell et al. 2007).

Gender and pastoralist governance

Often the forgotten dimension of analysis in natural resource management, governance reveals a great deal about relations of power, status, and identities between and among women and men. Governance is also an important indicator of gender transformative change and equality. In this study we analyse gender decision making, policy and institutional processes, access to key development resources and services, and drivers of change affecting gender power relations.

A lack of women's empowerment and gender inequality can sometimes directly result from planned economic and social change and policies, which are sometimes based on problematic or gender-blind assumptions about gender roles and rights. Even though some policies promote community participation in natural resource management, these policies are not necessarily gender sensitive. Policies focusing on participatory approaches to natural resources are often inadequately implemented to address complex gender and social issues (see Buchy and Paudyal 2008; Khadka 2009). Gender issues generally remain a low priority in influential policy debates and outcomes in the natural resource management sector (Khadka 2009). This low importance limits the capacity of policy makers, decision makers, and practitioners to understand pastoralist livelihood practices from a broader socio-ecological perspective, which natural resource management scholars and researchers (notably, Blaikie and Brookfield 1987; Rocheleau 1995; Brown 1998; Lama and Buchy 2002; Sharma et al. 2010) recognize is needed to move forward.

Integrating gender into natural resource management policies and institutional practices is both a technical and a political process, which requires a shift in organizational culture and involves a process of learning and unlearning (Ahmed 2002). This is possible if interventions to promote collective action for natural resource management and development directly address power relations and institutional norms that marginalize the powerless from participating and decision making (Lama and Buchy 2002; Westermann et al. 2005). Responses to rangeland management have to ensure the effective and meaningful participation of pastoralist women and men.

Understudied gender issues and drivers of change

Women's access to, ownership of, and control over critical resources such as land, livestock, property, and natural resources in mountain regions is affected by the degree to which they receive opportunities for mobility, networking, and access to development resources, as well as participation and leadership in community spheres. However, their access, ownership, and control are being continuously negotiated and contested in the rapidly changing circumstances that define fragile and remote rangeland areas of the HKH.

Pastoralists have rarely lived in isolation from the world and have historically engaged in trade, information sharing, and cultural exchange with other people, facilitated by their nomadic and mobile way of life. However, rapid changes brought about by climate change, globalization, and neo-liberal policies are having a profound impact on the lives of pastoralist men and women. Impacts include men's outmigration, externally imposed land use changes, privatization, the enclosure of rangelands, and land grabs, all of which have brought about changes in gender power relations, divisions of labour, roles, identities, responsibilities, and decision making.

As mentioned earlier, pastoralist women and men are not passive victims of these changes, but are active agents who negotiate, contest, and resist these changes. Collective action,

customary institutions, and knowledge sharing are critical for such negotiations in sustaining the livelihoods, rich cultures, valuable indigenous knowledge, and important environments of pastoralist women and men. Within the realm of rapid changes, gender issues are also emerging, including gaps in knowledge in relation to inequitable access to development resources and services, and the relationship between natural resource management and gender-based violence, which this study addresses in its analysis.

Methodology

As the main interest of this study is the understanding of gender relations in rangelands of the HKH at the individual, household, and community levels, as well as policy and institutional responses to tackling complex gender and development issues, a gender-political ecology perspective guides the methodology and analysis. Both qualitative and quantitative research was undertaken to collect the information from respondents representing four spheres: households, individuals, groups, and policy makers. Given the study's main objective to analyse the gender dynamics of pastoralism in rangelands in mountain regions, a mixed methods approach was used to enable the identification of these issues in multiple ways, triangulate findings, and give greater opportunity to learn from experience and knowledge of pastoralist women and men.

Qualitative approaches were used to gather information from respondents on gender experiences, roles and responsibilities, division of labour, and access to and control over natural resources and public services (Khadka and Verma 2012). Quantitative approaches were used to validate qualitative data. The qualitative methods allowed researchers to use multiple sources of data to explore research questions and generate in-depth information (Richards 2005), whereas quantitative methods provided opportunities to quantify the degree and breadth of gender differences. Case studies included in this study were carried out by Yeshey Dorji in Bhutan; Tingyu Gan, Ni Jioubing, and Lai Jun in Sichuan, China; Yin Lun in Yunnan, China; Ciren Yangzong in Tibet Autonomous Region, China; and Dechen Sherpa and Binay Shrestha in Upper Mustang, Nepal.

Data were gathered through household interviews, key informant interviews, focus group discussions, participant observation, and surveys (Table 1). Focus group discussions were held separately with men and women pastoralists and agropastoralists. Each focus group consisted of 10–15 people and lasted for approximately two hours. Key informant interviews took place with men and women practising different forms of pastoralism, leaders of customary institutions, village and community elders, and officials of natural resource management ministries and departments.

The number of focus group discussions and key informant groups varied across the study areas depending upon the size and geography of rangelands and pastoralist settlements. In Bhutan, eight focus group discussions (five with women and three with men) were conducted. In Nepal, six focus group discussions (three with women and three with men) were carried out

Table 1: Data collection methods matrix for HKH case studies

Case studies	Focus group discussions	In-depth interviews	Key informant interviews	Participant observation	Literature review
Bhutan – Soe Yaksa and Nubri	✓		✓	✓	✓
China – Sichuan	✓		✓	✓	✓
China – Yunnan	✓	✓	✓		✓
China – Tibet Autonomous Region	✓	✓	✓		✓
Nepal – Mustang	✓	✓	✓	✓	✓

with pastoralists and mountain farmers. In the Tibet Autonomous Region of China, a random survey was conducted of 50 households from six villages in Nima township, as well as ten in-depth interviews with women pastoralists, and six focus group discussions (with women and men separately). In Sichuan and Yunnan, China, data were collected through focus group discussions and household interviews. A total of 20 days were spent in each site for the fieldwork. Interview checklists focussing on qualitative and quantitative responses were developed and used for gathering information in the field (Annex B). As the majority of pastoralist women did not have access to formal education in all the study areas in the past, participatory rapid appraisal tools were used (e.g., ranking/scoring, focus group discussions, and informal interactions with respondents).

The key informants interviewed included staff of the departments of livestock, departments of forests, ministries of agriculture, research centres, local government institutions, and non-governmental organizations (NGOs) working on conservation issues. In the Tibet Autonomous Region, interviews were held mostly with the head of the Women’s Federation of Nima township, the heads of village women’s federations, women in single households and those in polyandry households, and men and women herders. To triangulate the information gathered through the interviews, people’s everyday livelihood practices were observed. Numerous field notes were taken on the daily schedules of men and women pastoralists and their socioeconomic situations, cultural norms and perceptions, and indigenous knowledge.

A literature review was undertaken in 2011 by Manohara Khadka, following the fieldwork, to review various published and unpublished documents related to the study sites and beyond, including on government programmes and policies on land use, forests, rangelands, nature conservation, and livestock management; project reports; and gender issues in relation to natural resource management in the HKH. Given the limited literature available on the gender dimensions of rangelands and pastoralism in the region, literature on this topic from other mountain and rangelands contexts, as well as on gender and natural resource management, was reviewed.

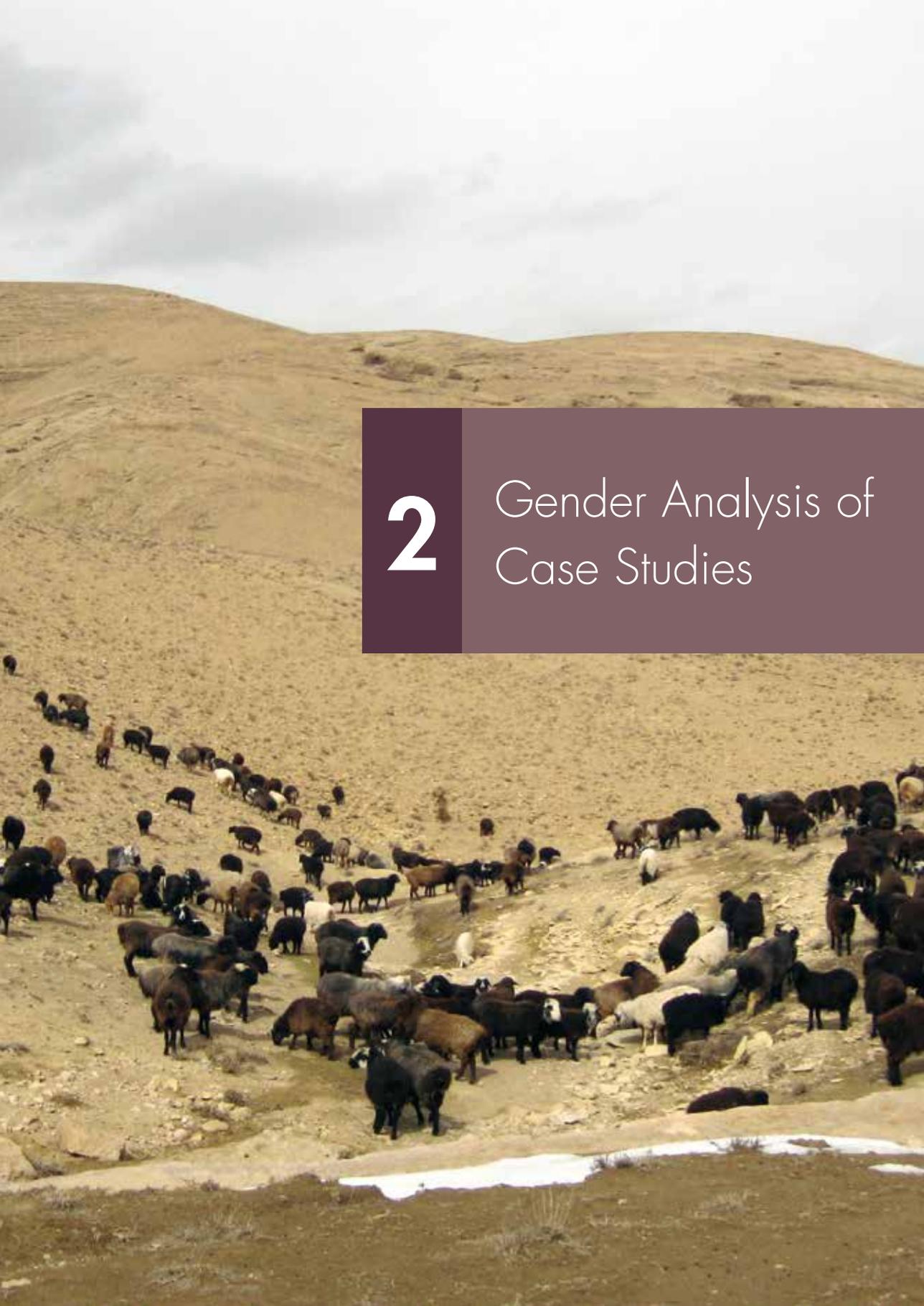
It is useful to note several limitations of this study, shaped by methodological design and approach developed. Although the case studies were carried out over the same time period in 2009, there were differences among the case studies in terms of methodology,

gender datasets, analysis, and development of recommendations. This becomes evident in Part 2, in the sections describing gender relations and containing the gender analysis of the case studies.

Another limitation of the study is that none of the case studies developed an analytical framework to guide the research, and the conceptual framework was only developed in the synthesis phase by the editors. As a result, not only do the case studies vary in terms of approach, data collection, and underlying concepts, but there are limits to what the gender analysis could yield post-fieldwork as evidenced by some gaps identified later in the study. Nonetheless, the empirical results were later interpreted in the light of the gender dimensions of rangelands as guided by a feminist political-ecology approach to the analysis and in light of the data collected in the different case studies.

The case studies are synthesized into the four main chapters in Part 2: Chapter 4 gives an overview of the study areas; Chapter 5 discusses gendered access, control, and ownership of land and resources; Chapter 6 looks at division of labour between pastoralist women and men; Chapter 8 outlines the rapid changes taking place in the region and their gendered impact; Chapter 9 looks at understudied gender issues in natural resource management; and Chapter 10 examines gender and governance. Conclusions and recommendations for future research, action, and policy are elaborated in Part 3.



A large flock of sheep, including black, brown, and white breeds, is grazing on a dry, hilly landscape. The sheep are scattered across the slopes, with some gathered in a small, muddy stream bed. The hills are barren and brown, suggesting a semi-arid or high-altitude environment. The sky is overcast with grey clouds. A dark purple rectangular box is overlaid on the right side of the image, containing the chapter title.

2

Gender Analysis of Case Studies



Chapter 4: The Study Area

This study was carried out in high-mountain areas of three countries of the HKH region: Bhutan, China, and Nepal which are characterized by Tibeto-Burman sociocultural relations, a rich heritage of indigenous peoples, and the practice of Buddhism (Figure 2). Areas with a higher proportion of rangelands and pastoralism – characterized by economic hardship, remoteness, lack of access to formal education, and challenges with rangeland productivity – were considered while selecting the study areas. Fieldwork was carried out in a total of 11 village development committees (VDCs), townships, and counties in the three countries (Table 2), the local statutory governance and administrative units. Case studies were carried out in Soe Yaksa and Nubri townships in Bhutan; Chhonhup, Chhoser, and Lomanthang VDCs in Upper Mustang; Waqie and Anqu counties in Sichuan, China; Bingzhongluo counties in Yunnan, China; and Nima township in the Tibet Autonomous Region (TAR) of China (Figure 2). To set the scene for the gender analysis and synthesis of the case studies, this chapter briefly details the study area contexts, as well as sociocultural and economic-ecological dynamics. It then gives a brief overview of the study areas in terms of socioeconomic and cultural dimensions.

Figure 2: Map of study areas in the HKH region

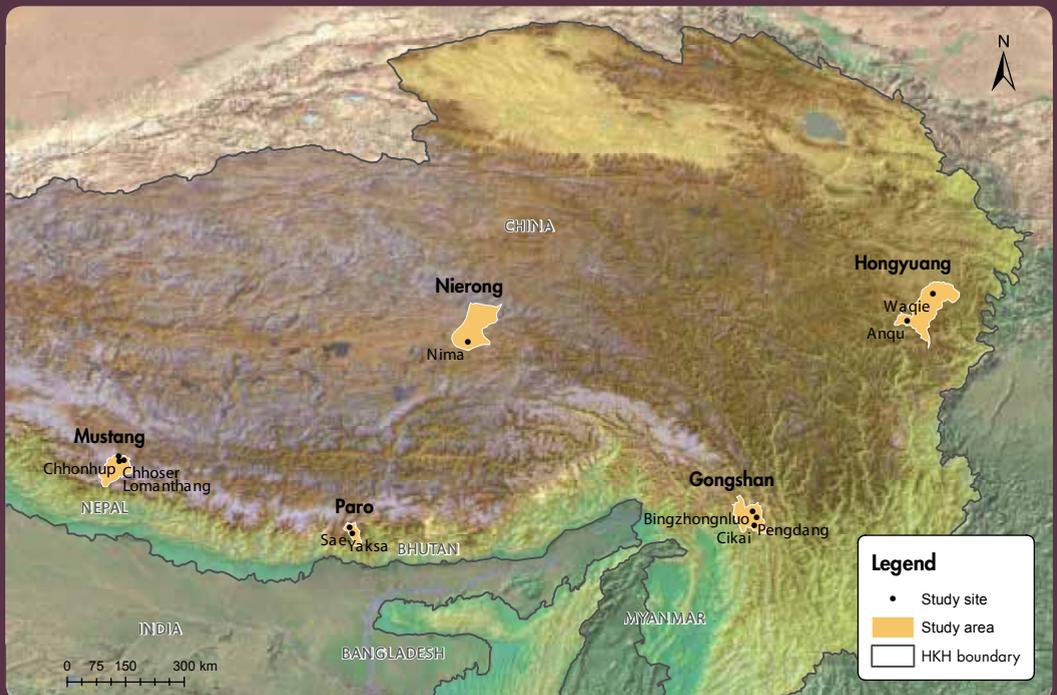


Table 2: **Field study areas in the HKH region**

Country	Province	District/ prefecture	County/ilaka/ geog	Village development committee (or township or sub-geog)	Main source of livelihoods
Bhutan		Paro	Lango	Soe Yaksa, Nubri	Livestock, wage labour, tourism
China	Sichuan		Hongyuang	Waqie, Anqu	Livestock
	Yunnan		Gongshan	Cikai, Pengdang, Bingzhongluo	Livestock, mountain agriculture
	TAR	Naqu	Nierong	Nima	Livestock, wage labour
Nepal		Mustang	Upper Mustang	Chhohup, Chhoser, Lomanthang	Livestock, mountain agriculture, tourism, wage labour

Source: Field studies in Bhutan, China, and Nepal (Dorji 2009; Lun 2009; Tingyu et al. 2009; Yangzong 2009; Sherpa and Shrestha 2009)

Bhutan: Soe Yaksa and Nubri

Soe Yaksa and Nubri are remote villages of Bhutan located approximately three-days walk from the nearest motorable road. There are 17 mountain nomadic pastoralist households in Nubri village, which depend on yaks for their livelihood and mules and horses for the transport of tents, household goods, and utensils. Their pastures range from over 4,000 masl

(winter settlements) to about 5,000 masl (summer pastures). Pastoralist women and men live in tents in summer and temporary huts in winter. Yak herders spend about six months in the winter settlements and then migrate to the summer pastures. Both villages receive little rainfall and the average maximum and minimum rainfall are 400 mm and 10 mm, respectively. The cool climate coupled with the uneven topography means that crop cultivation is not feasible and livestock and their products are the main source of livelihood.

Soe Yaksa comprises nine villages, which are half an hour walk from each other, with 20 households. These 20 pastoralist households live in permanent houses at altitudes ranging from 3,900 to 4,200 masl. Usually



one or two household members remain in their settled homes while other members move to temporary summer yak pastures at about 5,000 masl. However, in small households, all members move with their herds and return to their permanent houses at lower elevations during winter. As extensive agriculture is not possible because of the cool temperatures and short growing season, many pastoralist women in the study area maintain home gardens, usually growing vegetables such as radishes, onions, potatoes, and turnips in the summer.

China: Nima township (TAR), Gongshan (Yunnan), and Hongyuan (Sichuan)

Nima township in the Tibet

Autonomous Region is located on the southern side of Nierong County,

34 km away from the prefecture headquarters and 57 km away from Nierong County. The average elevation of Nima township is 4,800 masl. The climate is unique and complex – the yearly average temperature is around -3°C with annual rainfall between 410 mm and 420 mm. The high plateau meadows are characterized by grassy landscapes. Tibetans are the main inhabitants of this area. Pastoralists in Nima township have been resettled to high-altitude pastures in newly built towns. They live in houses constructed by the government under nomad resettlement programmes. They follow settled transhumance animal grazing, but in contrast to their previous practices, movement between seasonal pastures is restricted and, as a result, herd composition is being restructured for commercial purposes. Mostly yaks and sheep graze in fenced pastures that are contracted to them according to the government's new policy of 'Household Contracted Responsibility'.

Hongyuan County in Sichuan is located on the southeastern edge of the Qinghai-Tibet Plateau in the northwest of Sichuan Province. It lies in the central region of Aba Tibetan and Qiang Autonomous Prefecture. The average altitude of the county is 3,600 masl. The maximum and minimum annual average temperatures are 1.4°C and -36°C respectively. The main livelihood activity in the county is pastoralism and the main inhabitants are Tibetans. Gongshan County is situated in the northwest of Yunnan Province. The Nujiang (Salween River) runs through the county roughly from north to south. The elevation ranges from 1,170 to 5,128 masl. Its climate is characterized by a rainy season with heavy rainfall and 90 per



cent humidity and a dry season with little rain and droughts. Rainfall is about 2,700 to 4,700 mm per year with a mean average temperature of 16°C. There are 15 indigenous ethnic groups living in the county; minorities such as Nu, Lisu, Tibetan, and Dulong constitute 96 per cent of the population. Farmers in Gongshan follow agropastoralism and keep cattle, pigs, goats, sheep, and chickens, as well as horses and donkeys for transportation. They also cultivate paddy, maize, vegetables, and potatoes.

Nepal: Upper Mustang

Upper Mustang lies in Mustang district, a sparsely populated high-mountain area of north-central Nepal. More than 98 per cent of the total land in the district is rangeland. The district consists of seven VDCs with 31 settlements, of which three VDCs, Chhonhup, Chhoser, and Lomanthang, were included in the case study. The district is divided broadly into two regions: Lower and Upper Mustang; the case study VDCs were from the latter.

Upper Mustang is considered unique for its places of archaeological significance, Tibetan cultural practices, sacredness, indigenous governance practices, and local monarchy, which governs local development and resolves local conflicts (such as property issues and physical abuse). The region is in the rain shadow of the Himalayas and is extremely dry with annual rainfall of around 250 mm (Yi et al. 2012). Crop cultivation in the area is limited due to water scarcity, the challenges 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 livelihood for pastoralist women and men in the study areas.

Brief overview of socioeconomic and cultural relations

Livestock are central to the livelihoods of pastoralists in the study areas. Pastoralist women and men follow different livestock rearing practices including combined or mixed mountain agriculture, mountain nomadic pastoralism, settled transhumant pastoralism and agropastoralism (Kreutzmann 2005, p 56–58; Kreutzmann 2012b). In Upper Mustang, Nepal and Hongyuan County in Sichuan, China, for instance, combined mountain agriculture and livestock-keeping are practised. Women and men live in permanent houses at lower altitudes of the valley and animals are moved to and from high-altitude pastures in summer and winter. Animals are taken to high-altitude pastures above the tree line (>4,000 m) during summer, whereas in the winter to early spring (November to May), herders take livestock down and feed them maize, wheat, straw, and hay (stored dried grasses). Often shepherds are hired or men household members are engaged for such work.

Livestock have important uses, value, and meaning for pastoralists in the study areas, where more than 80 per cent of women and men rely on livestock for their livelihoods. Pastoralists in the study areas raise livestock for economic, social, and cultural purposes including food production, storage of wealth, and agricultural purposes (as draught animals and for manure). While yak are the dominant livestock in the rangelands of Bhutan, Sichuan, and the Tibet Autonomous Region, goats, sheep, and dzopas (hybrid cow/yak) are common in Upper Mustang. In Yunnan, goats, sheep, cattle, pigs, and chicken are the main animals. While horses, mules, and donkeys are kept for transportation in most case study areas, except Yunnan, yaks are important animals adapted to the high and cold slopes of the HKH. Women and men use yak milk, milk products (yak cheese and a hard cheese called churpi), meat, skin, hair, and wool for livelihoods, consumption, and medicinal purposes. Yak dung constitutes a major source of energy for cooking and heating in Upper Mustang, Sichuan, and Tibet Autonomous Region where fuelwood is scarce. Dzopas are equally important for transporting goods, milk, ploughing, and manure for agricultural fields in Upper Mustang. In some rangelands, horses, mules, and donkeys are primarily kept for the transportation of food and other necessities from the district headquarters to remote villages, as the case studies in Upper Mustang, Tibet Autonomous Region, and Sichuan illustrate. In recent years, trekking has provided income-generating opportunities through the use of yak, which carry tourists' gear. Yak also have important spiritual value and meaning and are sacrificed in local ceremonies to respect local deities.

In Bhutan, Nepal, Sichuan, and Tibet Autonomous Region, yak and their products (meat, dairy products, and yak-hair products) are marketed or bartered for grain and other necessities with people from the lowlands, giving herders an important source of income. Yak

are shorn every year between May and June and ropes are prepared from the outer hair and 'liu' and 'pakhi' (woollen blankets) made from the fine inner hair (FAO 2010a). 'Docha' (warm shoes), bags, ropes, and boots are prepared from yak skin. 'Chamers' (the tail of a chauri, yak, or nak with fibre on it) has religious and aesthetic value and is in high demand among religious communities and has high market value (FAO 2010a, p 10). As the Sichuan case study illustrates, herders' per capita income in 2008 was Yuan 3,100 (USD 494), indicating the importance of livestock. Income earned from livestock is used to purchase food, clothing, and other necessities, while wealth is also stored in livestock.

The number and type of livestock owned by pastoralists varies across the study areas and depends on economic class and geographical conditions. For example, in Soe Yaksa and Nubri villages in Bhutan, economically poor households own 40 yak while wealthier households can own up to 400 yak. As most yak belong to monasteries and wealthier households, economically poor herders are hired by yak owners to look after their herds. Among the study countries, China has a greater population of yak, consisting of 14 million, accounting for 90 per cent of the total world population of yak. In the study areas in Sichuan and Tibet Autonomous Region, the composition of herds is regulated because of the government's policy regarding nomad resettlement. Despite close linkages among pastoralists, rangelands, and herders, political-economic and environmental changes in study areas such as Sichuan and Tibet Autonomous Region have affected indigenous pastoralist practices, and herders are being compelled to become livestock farmers instead (Sheehy et al. 2006b, p149).

Although cultivated land in high-mountain regions accounts for only a small fraction of that occupied by pasturelands, there is a relationship between livestock and agriculture in many of the study areas. While livestock tend to be an important source of livelihood, manure, draught, food security, and income, as well as having social value and spiritual meanings, for pastoralists in Upper Mustang, Sichuan, and Yunnan, agriculture also provides food security, fodder, leaf litter, fuelwood, and income. While agriculture requires precious water from the rangelands, it produces crops such as potatoes, vegetables, cereals (maize, wheat, barley, buckwheat), and leguminous crops for multiple purposes. For example, while maize, legumes, and vegetables offer food for people and livestock, potatoes provide income at the household level.

Although livestock is the main source of livelihoods in the case study areas, daily wage labour, sale of rangeland products (such as cardamom, medicinal plants, etc.), trade, tourism, business, seasonal migration, agriculture, and trekking/tourism are alternative sources of income. Some agropastoralist communities, such as those in Gongshan County in Yunnan, have diversified their livelihoods by engaging in a variety of activities such as the sale of walnuts, wage labour, and the sale of fuelwood. Pastoralist households in Upper Mustang receive income from business and trade, tourism, and remittances. In Nima township in Tibet Autonomous Region, settled pastoralist households have begun to engage in wage labour, and in Bhutan pastoralist men engage in work as porters for trekking.

In some of the case study areas, the collection of the high-value medicinal caterpillar fungus yarshagumba (*Cordyceps sinensis*), which is found in subalpine regions at altitudes ranging from 3,200 to 4,000 masl in the rangelands of the HKH (Singh et al. 2010), is reported as an additional source of income. In the Tibet Autonomous Region, the collection of yarshagumba represents approximately 80 per cent of the total income of pastoralist households (Wang et al. 2011, p 165). Since 2004, the Government of Bhutan has legalized the collection of yarshagumba to support the income generation of local communities. During the month of the yarshagumba harvest (15 May–15 June), herders often stop herding activities to collect yarshagumba (Dervillé and Bonnemaire 2010). It is estimated that households collect 100 grams of yarshagumba on average annually, constituting about 45 per cent of annual household cash income (Jasra et al. forthcoming). The collection and sale of incense and other medicinal plants is another source of income for pastoralists in Bhutan. Diversification of income sources has enabled pastoralist families to connect with markets, incomes, and the global economy. On the other hand, this diversification has critical implications for cultural roles and gender roles, as women’s workloads have increased in many cases, as elaborated further in this study.





Chapter 5: Access, Ownership, and Control over Land and Property

At the heart of gender analysis and equality are gendered rights and security over land, control over labour, and access to resources. For pastoralist women and men, of particular importance are struggles, negotiations, and contestations over livestock, property, and land (which is often predominantly or partly communal land or common property). Such struggles take place in a context of legal pluralism in which extensive areas of rangelands are managed in a complex blending and overlapping of statutory and customary rights (IUCN 2011). Perhaps most importantly:

...over centuries pastoralists have developed elaborate systems of customary resource management to enable them to manage the heterogeneity of their resource base. Such management systems are adapted to the specific features of pastoralist resources such as their fluctuating availability, uncertainty based on external influences like meteorological conditions, armed conflicts, demographic changes such as immigration and emigration, and risks such as animal diseases and natural disasters (IUCN 2011, p 4).

Ownership, control over, and access to productive resources such as animals, land, and property by men and women characterize and reflect relations of power between and among them. Similar to lowland areas, women in highland rangelands have limited ownership, control over, and access to critical assets such as land and livestock, compared to men. For pastoralist women and men, the ownership, decision making, and control over such resources is particularly significant, as livelihoods, survival, culture, and social relations depend on livestock. This is even more significant for pastoralists whose lives are shaped by culturally defining communal land and common property regimes, in which livestock play an important role in signifying and characterizing wealth, status, social relations, and livelihood options.

Rangeland tenure and rights, and security over land

Ownership and rights related to the use and management of natural resources such as forests, water, natural landscapes, mountains, and non-cultivated lands in the rangelands are sometimes highly contested issues. Secure tenure rights to use, regulate, and manage resources equally by women and men are important indicators of gender empowerment and the status of women. Ownership and rights over natural resources are defined by both customary and statutory institutions (Okoth-Ogendo 2006, 2002; Verma 2007; Meinzen-Dick and Mwangi 2009; Mackenzie 2010), which overlap with each other in complex ways in the study areas. Gender plays an important role in the actual practices that ensue from this context of legal pluralism.

In Upper Mustang, Nepal, pastoralism and combined mountain agriculture are practised together. In terms of common property resource management, pastoralist communities have the right to use, govern, and manage rangelands. Ownership of the land is held communally and vested in local governance structures such as VDCs, although all land in Nepal is under the overarching jurisdiction of the state. Customary institutions of rangeland management in Mustang called 'mukhiyas' (customary village heads) define rules about pasture users, areas, duration, fee, and penalties. The mukhiya governance tends to be gender-skewed, as it is men who are normally mukhiyas. Such gender-biased governance practices and representation have not yet been effectively challenged by government policies, civil society, or pastoralist groups. However, it is important to note that, given the existence of combined pastoralism and mountain agriculture, a complex situation of both communal land and private property exists, especially in the valleys of mountain rangelands.

In Bhutan, the existence of both matrilineal and patrilineal land inheritance customary laws and norms make it unique among the case studies (however, matrilineal land inheritance can also be found in other HKH contexts, such as in India and Nepal). While in matrilineal contexts land and livestock is passed trans-generationally between women (usually, from mother to daughter), in patrilineal contexts they are passed between men (usually, from father to son). In such a matrilineal context, women are advantaged in the ownership of livestock and property, with varied rights over decision making over livestock (Dey and Gyeltshen 2010), as elaborated below. In rangelands, usufruct or grazing rights are allocated to groups of herders. As men are often treated as 'herders' and 'farmers' and are responsible for community roles in Bhutanese society, *de jure* rights to use and manage rangelands are allocated to men. Herders sometimes pay nominal fees to the government annually and renew their access rights to communal pastoralist lands.

The case study findings from China reveal several changes with regard to regulatory frameworks for managing and using rangelands and livestock production. All three provinces in the case study (i.e., Tibet Autonomous Region, Sichuan, and Yunnan) have gone through drastic transformations in rangeland tenure, with settlement policies promoting the enclosure of rangelands or the privatization of rangeland stewardship to individual households as a way of mitigating rangeland degradation (Wu and Richard 1999; Richard 2000; Zhaoli et al. 2005; Xu et al. 2008; Wu et al. 2012). Before 1958, rangelands were managed under communal tenure, but with the participation of high-class social groups (e.g., tribal leaders, affluent families, and monasteries). These social groups had unique decision-making power regarding rangeland use and were privileged in shifting herds to new rangelands, as their herds used to move ahead of others in the same community (Wu et al. 2012). Between 1958 and 1982, both rangelands and livestock in China were collectivized into two types of production units: 'Mutual Aid Agricultural Cooperation' (1958–1973) followed by 'People's Commune' (1973–1983) and state owned farms. Under the Mutual Aid system, a small pasture group consisting of several economically poor and middle class nomad households (five to 15 households) shared pastures and cooperated in herding and production (Goldstein 2012, p 263). Each household retained ownership of its own animals. After 1973, the management of pastures

and livestock was under the jurisdiction of People's Communes, in which the commune leadership, not pastoralist households, had decision-making power over when to milk and where to herd. The position of herders was as 'workers' for communes or the state. Between 1983 and 1995, pastures were managed under the Common Property Resources management regime and all livestock were allocated to individual households. Pastoralists had full authority in managing their own livestock. Since 1995, a Household Responsibility system has been practised, in which rangelands are divided between individual households or households groups (ten to 20 households) on a long-term contract basis and each household or household group is responsible for the improvement and management of rangelands.

By the end of 2003, about 70 per cent of China's rangelands was leased through long-term contracts, of which 68 per cent was contracted to individual households and the rest to groups of households or villages (Yan et al. 2005, in Wu et al. 2012, p 294). As men are considered the 'heads' of households in the study areas, they were entitled to membership for rangelands contracts. Thus, women lacked *de jure* rangeland tenure rights. Statutory rights have not guaranteed the recognition of women's rights over the management of rangelands and the use of the benefits derived there from (Verma 2014a). The current state policies on rangelands, which emphasize the 'Pasture Contract' system (Dong 2011), are framed under the assumption that the grasslands of China were degrading because of lack of secure tenure and stewardship, which led to overstocking of rangelands by pastoralists (Xu et al. 2008). According to this policy, livestock are maintained in fenced pastures on the assumption that the pastures will improve through forage plantation and hay making for winter consumption. The government is investing substantially in development activities to implement this policy. As a result, customary Tibetan pastoralist practices and indigenous knowledge of migratory grazing and livestock mobility, and their inbuilt resilience to natural hazards such as droughts and snowstorms, have been undermined (Xu et al. 2008).

Gender gaps in workloads have increased due to the fencing of rangelands, although claims have been made that the labour required for overall household work has decreased. This is mainly due to the fact that men no longer spend time in long-distance herding, leaving them more leisure time as they transfer their roles and responsibilities to women (Richard 2000; Zhaoli et al. 2000). In some places, the privatization of rangelands has led to increased labour inputs and created more workload for women and children (Zhaoli et al. 2005, p 31). Access to social and economic services has been made more difficult for some, while social conflicts have increased because of the privatization of rangelands (*ibid.*).

Ownership of land

Despite their tremendous role in pastoralist livelihoods, women in most of the rangeland communities studied (with the exception of matrilineal communities in Bhutan) lack secure property rights to land and other assets such as income, livestock, and technology. Men are normally considered the 'head' of the household and property owners in all of the case study sites, except Bhutan and in cases where women are *de jure* head of the household. This is

evident even if men have emigrated and women are the de facto head of household. Women pastoralists in China and Nepal tend to have rights to lands via their husbands. Even in cases where women are de jure head of the household, such as widows, they tend to inherit lands 'in trust' for their sons.

Unlike the case study areas in Nepal and China, women in matrilineal case study areas of Bhutan inherit property and have relatively more freedom in household decision making and room to manoeuvre. In matrilineal contexts in Bhutan, women inherit all, or a large portion, of their mother's land and children belonging to the women's clan. Women play a strong but varied role in household decision making in matrilineal households. Similarly a study of Moso women and men, an indigenous group in southwestern China, revealed that women are more likely to play an important role in household decisions in matrilineal households (Luo 2008). However, the formal power of women in matrilineal households is gradually shifting to advantage men in Bhutan through patriarchal discourses, which are not only shifting gender power relations, but also affecting administrative practices. For example, children now need to mention their father's name on their birth certificate to ensure citizenship. Although many societies in Bhutan are dominated by matrilineal land tenure practices, according to the National Commission for Women and Children, about one-third of Bhutanese women do not inherit land and property (NCWC 2012). Recent data on gross national happiness indicates that 54 per cent of land is registered in the name of men (Verma and Ura 2015).

In general, both matrilineal and patrilineal systems of inheritance coexist in Bhutan, with women having strong land and property rights compared to other countries in the HKH (Verma and Ura 2015). However, variations in patterns of land inheritance exist that depend on context-specific gendered cultural practices and customary laws. While eastern, northern, and western Bhutan are matrilineal, southern Bhutan is dominated by patrilineal gender relations. In southern Bhutan, among the Hindu households in particular, and in eastern Bhutan, among some Sharchops, property is passed down through sons (Tshering 1999, p 152). Hindu religious ideology dominates in these areas, where it is considered the norm that sons inherit property (Gurung 1999) and act as head of the household.

In Upper Mustang, Nepal, the eldest son tends to inherit property, including any privately-owned land, with the understanding that he will take responsibility for looking after his parents (although in practice, it is normally his wife and daughters who carry out the day-to-day work related to their care). The second son is usually sent to become a monk and the remaining sons become 'makpa' (a husband living in a wife's house) or stay with their eldest brother. Makpa is a system whereby the husband moves into the wife's house and takes on the responsibility of looking after the wife's family. This is practised only when there are no sons in the wife's family. In this case, all of the property goes to the husband or makpa, not to the daughter. Although Nepalese women are the key workforce for rural livelihoods, they have limited land ownership with only 10 per cent owning land (Khadka 2011a), and this land averages less than 0.1 hectare (Paudyal and Khatri 2011).

In Nima township in Tibet Autonomous Region of China, the first child of either gender inherits the property (Gyetsa 1999). While firstborn women enjoy equal rights as men in many socioeconomic aspects, her younger sisters marry out and take their husband's name, often experiencing humiliation in the process. This is because daughters-in-law and wives, often called 'namas', remain lower in the hierarchy of social relations. "Some say becoming a nama is the equivalent of becoming a servant" (ibid., p 208). In Sichuan, China, women lose land entitlement upon marriage, although Chinese law allows an equal share of parental property between children, irrespective of sex (Zhaoli 1999). In Yunnan, China, land is registered in the man's name (Jieru 1999).

Women's insecurity in property rights also exists in other countries of the HKH. In the Indian Himalayas, women and girls generally do not have the right to inherit property equally with their brothers or other men heirs (USAID 2010). Less than 10 per cent of privately held land in the Indian Himalayas is registered in the name of women (ibid.). Even when land title is in a women's name, her actual control over the land is limited (Bhasin 2011). In Pakistan, women have no ownership of land and other assets and sons tend to inherit all property (Hunzai 2008). Women's exclusion from decision making in the household and at higher levels remains a pervasive gender issue in areas such as Chitral (ibid.).

In China, borrowing money from either local moneylenders or the county government is very common. For example, in the Tibet Autonomous Region, most pastoralists borrow money from the county government, even though 69.6 per cent of total households are not economically poor. Men are entitled to loans because of their social status as head of the household and property owner, facilitated by norms that allow them to speak directly with outsiders and officials. The majority of households (54.4%) interviewed spent loans on meeting their daily needs. Other households spent on house construction (18.7%), medical services (13.4%), buying durable goods (9.5%), and buying other goods (4%). Women in the study areas in China do not usually receive financial credit, despite their interest in investing in productive activities, which is a critical issue given that men are privileged in the ownership and control of land, livestock, and property.

Other studies in the HKH argue that the lack of property entitlements, especially to livestock, combined with administratively complex and gender insensitive procedures for obtaining loans, further place women at a critical disadvantage (see Leduc 2011). Women's limited, or lack of, ownership and control over land, livestock, and other property is reinforced by patriarchal discourses, laws, and norms. Similar to rangelands contexts in other parts of the world (Kristjanson et al. 2010; IUCN 2011), pastoralist women in patrilineal contexts such as China and Nepal gain rights to lands via their husbands upon marriage. Women de jure heads of household rarely own land, with widows sometimes inheriting land in trust on a temporary basis, until their sons take over ownership. Livestock, in particular, are important assets for pastoralist livelihoods and rangelands. Livestock are not only sources of food and income for pastoralist communities, but are equally valued as sources of social prestige and for meeting cultural and spiritual needs. Nonetheless, men and women have different forms of power and control over livestock.

Ownership of livestock

Although women pastoralists contribute significantly to managing livestock in the study areas, they have limited power over livestock compared to men. Discussions with women's groups in Yunnan revealed that decisions related to species selection, rearing methods, rearing size, and marketing of animals of high economic value are often made by men (see Table 3). Women have more decision-making power over small livestock (e.g., swine and chickens), which have lower economic and social value.

In Sichuan, although pastoralist women move from highlands to lowlands and vice-versa along with their husbands during winter and summer, men have greater power over decisions regarding yak species selection, breeding, purchasing, and selling; the marketing of dairy products; and big decisions involving large expenditure including time of movement and the places they live. This supports the findings from other studies in the region, which highlight that pastoralist men are privileged in terms of power relations and decision making over animal tending, migration, and products, although women have multiple tasks and responsibilities in terms of the management of homes, children, farms, and animal husbandry (Bhasin 2011). When compared to pastoralist households dominated by patriarchal practices in Nepal and China, pastoralist women from matrilineal contexts in Bhutan have a greater say in household decisions. Although men have more control over livestock and its management in Bhutan, Nepal and China, including over sale of livestock products and decisions regarding household income, they consult women in decision making to varying degrees.

Table 3: **Decision-making power over livestock production activities by gender in Yunnan, China**

Activity	Gender of decision maker	Average score			
		Cattle, yak, horses	Goats/sheep	Swine	Chickens
Type of animal raised	Women	3.74	2.44	5.87	7.67
	Men	6.26	7.56	4.13	2.33
Species of animal raised	Women	3.67	2.44	5.93	7.66
	Men	6.33	7.56	4.07	2.34
Size of animal raised	Women	3.91	2.44	5.85	7.52
	Men	6.09	7.56	4.15	2.48
Raising method	Women	3.88	2.44	5.83	7.58
	Men	6.12	7.56	4.17	2.42
Sale	Women	3.76	2.44	5.06	7.00
	Men	6.24	7.56	4.94	3.00

Source: Ranking exercise, focus group discussions in field study in China (Lun 2009)

Note: Score was ranged from 0 to 10 (low to high). The average score was calculated by summing up the score of different focus group discussions divided by total number of focus groups discussions.

In migrant households, women who remain behind lack the power to make decisions regarding critical livestock activities. In Upper Mustang, although women are often the de facto head of pastoralist households as a result of men's outmigration, men have a greater say in deciding major activities related to herd management, purchasing and selling livestock, agricultural crops and technologies, and the use of household income. Pastoralist women reported conflicts arising in their household when they took decisions on crop production and animal sale.





Chapter 6: Division of Responsibilities, Roles, and Labour

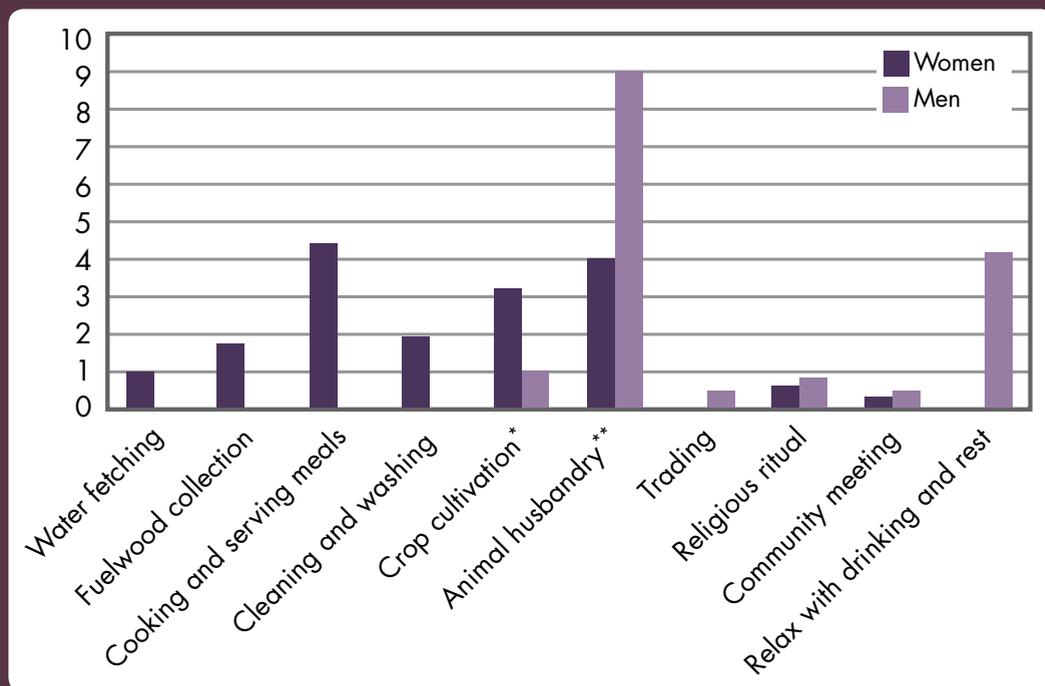
Pastoralist livelihoods include a large variety of activities such as animal husbandry and herding, crop cultivation, household work, income generating activities, community work, and social responsibilities. These activities are marked by gender differences in work, responsibilities, and roles, and demonstrate the skewed gender divisions of labour in the HKH and differentiated power of men and women to affect decisions.

Division of labour

Although both pastoralist men and women are engaged in different livelihood activities, there is evidence of unequal gender divisions of labour with women spending more hours at work than men. The case study in Nepal revealed that women work for 17 hours a day on average whereas men spend only 12 hours, especially when household work is taken into account. Due to their greater workload, women find that they have little time for rest and relaxation, whereas men spend 4.2 hours per day relaxing and resting after meals (Figure 3). A large part of women's days are spent in carrying out numerous activities including preparing food, cleaning, washing, collecting water, collecting and transporting fuelwood and dung, caring for children, animal husbandry, spiritual rituals, and community meetings. Men's time is mainly spent on animal husbandry, relaxing, and drinking, with small amounts of time dedicated to crop cultivation, trading, religious rituals, and community meetings and activities. Most of the agriculture, animal husbandry, and cooking activities that women carry out are labour intensive and manual.

A similar pattern is seen in other study areas. In the Tibet Autonomous Region, where pastoralists are settled in high pastures and graze animals in a transhumant manner, a large portion of women's time is spent cooking, washing, cleaning, feeding and milking sheep and yak, and collecting water and dung. Men spend their day herding, rope making, eating, and relaxing. Pastoralist women work for 19 hours per day in the summer and 14 hours in the winter. This is longer than men's total working hours in the same respective seasons (Table 4). In the summer, women's days normally start at 4 am when they awake and end at 11 pm when they go to bed. In the winter, women tend to wake up at 8 am and go to bed at 10 pm. In comparison, in the summer, men begin their day at 7 am and go to bed at 10 pm, and, in the winter, they awake at 8 am and go to bed at 8 pm. Access to television due to the increased availability of electricity in the pastoralist communities of this study is changing the ways that women experience opportunities for entertainment and relaxation.

Figure 3: Gender division of labour in pastoralist livelihoods in Upper Mustang, Nepal



Source: Field study in Nepal (Sherpa and Shrestha 2009)

* Crop cultivation includes preparing land, sowing, weeding, harvesting, threshing, storage, processing, and disease and pest control.

** Animal husbandry includes herding, feed collection, feeding, cleaning cattle shed, milking, and processing.

Table 4: Gender division of labour in pastoralist families by season in Nima township, Tibet Autonomous Region, China

Women's tasks	Hours/day		Men's tasks	Hours/day	
	Summer	Winter		Summer	Winter
Milking sheep and yak	7	4	Herding	10	8
Milk processing	2	2	Making rope	2	0
Fetching water and dung	3	2	Eating, relaxing, resting	3	4
Cooking, washing, cleaning	6	6	Cooking, washing, cleaning	0	0
Relaxing and entertainment	1	1	Total hour	15	12
Total hours	19	15			

Source: Field study in Tibet Autonomous Region (Yangzong 2009)

In Soe Yaksa and Nubri villages in Bhutan, gender differentiated roles in pastoralist households are evident (Table 5). Men are mostly involved in productive work including herding, selling yaks, construction, trading, wage labour in trekking/tourism, consulting veterinary services, and community activities, such as the organization of festivals and

Table 5: Gender division of labour in pastoralist families in Soe Yaksa and Nubri, Bhutan

Activity	Labour division by gender	
	Men %	Women %
Herding	80	20
Giving salt to yaks	80	20
Organizing festivals	80	20
Performing religious ceremonies	80	20
Selling yaks	100	0
Trading horses	100	0
Portering for tourists	100	0
Construction	100	0
Consulting veterinary services	100	0
Collecting and transporting fuelwood	20	80
Cooking, washing, and cleaning	20	80
Collecting and storing grass	20	80
Preparing land for grass cultivation	20	80
Feeding animals	20	80
Processing yak products	20	80
Milking yaks	0	100
Fetching water	0	100
Working in home garden	0	100
Collecting non-timber forest products	50	50
Caring for young and sick animals	50	50

Source: Field study in Soe Yaksa and Nubri, Bhutan (Dorji 2009)

performing religious ceremonies. Women carry out most of the cooking, washing, feeding animals, collecting and transporting fuelwood, collecting water, milking and processing milk products, managing kitchen gardens, and collecting non-timber forest products. In interviews with men and women herders, men indicated they were partly involved in some household work, such as chopping and transporting fuelwood, feeding animals, processing milk products, and cooking food. Both women and men equally participate in the collection of non-timber forest products. The GNH national survey indicates that while the gender division of labour is more balanced in Bhutan than in other countries of the HKH, on average, women still work one hour longer and have one hour less leisure time than men (Verma and Ura 2015). The gender division of labour is likely more skewed in pastoralist areas, as the Bhutan case study data indicates.

The study findings indicate that there is a skewed gender division of labour in many pastoralist contexts in the HKH, which is similar to findings in other pastoralist contexts in the HKH. For instance, in the semi-arid mountains of northern Pakistan in Karak district, women have a heavier work burden than men, spending on average four to eight hours per day collecting forage, fodder, dung, fuelwood, and non-timber forest products such as broom grass (Tabassum 2006). Mountain women's work per day remains 14 to 16 hours on average (ibid.). Although the case studies did not disaggregate the data for work carried out by girls and boys, often the work carried out by girls in sustaining pastoralist livelihoods is significant and greater than that of boys, which also has implications for gender differential access to important services such as formal education.

Livestock management

Both men and women are involved in livestock management, but their degree of involvement varies according to the type of work and the associated social and symbolic significance. Yak, cow, goat, and sheep herding, tent construction, consulting veterinary service centres, and trading are generally regarded as men's roles in 'combined mountain agriculture' pastoralist livelihoods in Upper Mustang and Sichuan, 'settled transhumant' livelihoods in Tibet Autonomous Region, and 'agropastoralism' livelihoods in Yunnan (Table 6). The collection of fodder and forage, milking yaks and cows, processing the milk, cleaning animal sheds, and shearing and processing yak wool tend to be considered women's work in these areas. The work related to feeding and caring for animals, land preparation for fodder cultivation, and weaving yak wool are partly shared by men and women. Similar to agriculture, women's work in livestock production is labour intensive and manual.

Women are the main producers of local milk products such as butter and cheese. In Nepal, milk products are made out of yak milk using a wooden cylindrical tool called a 'theka'. In the evenings, women spend time weaving carpets out of yak and sheep wool and making winter clothes ('chubas'). Although women are the key producers of milk products, carpets, and clothes, men take the finished products to market to sell for extra income. Women are not normally directly remunerated for such economic activities and this is a point of intense contestation and negotiation within households.

Agriculture

In some case study areas, women and men are involved in agriculture production activities, but women have greater work burdens than men. In Nepal, 90.5 per cent of women are engaged in agriculture as compared to 74.9 per cent of men. Women are involved in pre-harvest, harvest, and post-harvest activities. The belief that women ploughing with animals will lead to the death of those animals restrict women's use of animals such as dzopa (hybrid yak) or ox for such purposes. Instead, women in rangeland communities in Upper Mustang and Yunnan plough fields using hoes, which is highly labour intensive. Women also engage in labour and time intensive indigenous methods of threshing, winnowing, and grinding. They

Table 6: Gender roles in livestock production in rangelands of the HKH region

Activity	Number of tasks	
	Men	Women
Animal (yak, cow, sheep, goat) herding	3	
Feeding animals	3	3
Land preparation for fodder cultivation in farms	3	3
Fodder/forage collection and storage		3
Collection of cow and yak dung for fuel		3
Cleaning cow and yak yards		3
Tying cows and yaks		3
Milking cows and yaks		3
Processing cow and yak milk		3
Shearing		3
Processing wool		3
Weaving	3	3
Consulting veterinary service centre	3	
Trading horses	3	
Construction of fences, tents	3	
Selling animals	3	
Selling wool products, milk products, and meat	3	
Total number of tasks	9	11

Source: Field studies in China, Nepal, Bhutan (Dorji 2009; Tingyu et al. 2009; Lun 2009; Yangzong 2009; Sherpa and Shrestha 2009)

thresh crops using yak leather flails or their hands. Similarly, women tend to have a greater role than men in agriculture production in Bhutan, Sichuan, and Yunnan, where men are mostly involved in herding, trading, wage labour (construction), and marketing of animal products and cash crops (e.g., yarshagumba, walnuts, potatoes, fruit). Although women are intensively involved in agriculture production, they are often disconnected from markets and extension services. This is mainly because of the dominant role of men in marketing and arranging agricultural and livestock inputs such as fertilizers, pesticides, veterinary services, and improved crops species, which is further compounded by gender-biased and exclusionary extension services, as discussed later in this study.

Decision-making power over crop cultivation

As mentioned earlier, pastoralist women and men in the study areas, with the exception of Soe Yaksa and Nubri villages in Bhutan and settled transhumant pastoralists in Nima township,

Tibet Autonomous Region, produce agricultural crops, including forage, at the valley bottoms of high-altitude pastures. The main crops include barley, wheat, buckwheat, peas, oats, beans, potatoes, and apples. While men make decisions on all activities related to cash crop production (e.g., apples, potatoes), women make decisions on cereal and food production (e.g., wheat, beans, peas). Although women sometimes hold the household 'purse' and guard over household income for future use, men have the ultimate decision-making power over the sale of cash and cereal crops and its proceeds. Women in Yunnan make decisions regarding most activities to do with cereal crop production, except for its sale (Table 7). In contrast, men decide on all activities related to cash crop production, which generates significant amounts of income for the household. Although women carry out the majority of the work in crop production, decisions regarding the income and proceeds from such crops are made by men. Such disconnects between investment and control over labour and the proceeds of that labour can act as disincentives for sustainable agricultural and environmental practices and have been at the centre of resistance by women in many contexts (see Carney and Watts 1990; Moore 1993; Mackenzie 1995; Schroeder 1995; Verma 2001).

Table 7: Decision-making power over crop production by gender in Yunnan, China

Activity	Decision making (average score)			
	Cereal crops		Cash crops	
	Women	Men	Women	Men
Planting type	5.13	4.87	3.94	6.06
Growing size	5.16	4.84	3.78	6.22
Crop species	5.27	4.73	3.89	6.11
Fertilizer use	5.17	4.83	3.85	6.15
Selling products	4.89	5.11	3.85	6.15

Source: Field study in Yunnan, China (Lun 2009)

Note: Score ranged from 0 to 10 (low to high). The average score was calculated by summing up the score of different focus group discussions divided by total number of focus groups.

Table 8: Gender roles in household activities in rangelands of the HKH region

Activity	Gender roles	
	Men	Women
Collecting water		3
Collecting fuelwood and animal dung	3	3
Taking care of children and elderly		3
Making tea and offering to family members		3
Cooking*		3
Cleaning		3
Washing		3
Preparing alcohol**		3
Number of activities	1	8

Source: Field studies in Bhutan, China, Nepal, 2009 (Dorji 2009; Tingyu et al. 2009; Lun 2009; Yangzong 2009; Sherpa and Shrestha 2009)

* Women need to cook four meals per day when they have hired farm labour in Mustang, Nepal.

** Alcohol is essential in religious, cultural, and social functions, as well as for household consumption in all the study areas.

Household work

Similar to in non-rangeland areas, pastoralist women spend greater amounts of time in household or care economy work than men. Women are involved in at least eight different labour intensive activities at the household level (Table 8). In alpine and semi-arid rangelands, fuelwood is scarce, and women collect yak dung and goat pellets as sources of energy for cooking and heating. As discussed later, women are able to meet only 11 per cent of household energy needs from forests and grasslands in rangelands and, thus, animal dung constitutes a major source of energy.

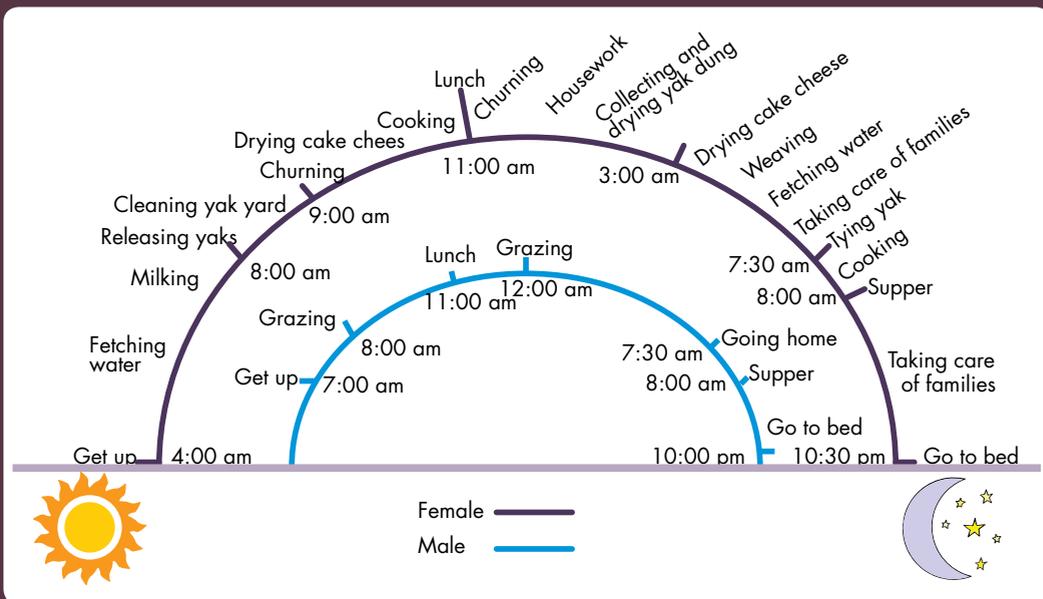
Within many households, wives, daughters, and daughters-in-law take on most of the responsibilities for household activities, compared to husbands and sons. As household surveys from Tibet Autonomous Region reveal, wives, daughters, and daughters-in-law provide 93 per cent of the total labour force required for household work such as cooking, washing, and cleaning; collecting, transporting, and using fuelwood and yak dung; collecting forage and water; caring for the elderly and children; feeding livestock; milking livestock; and churning butter. Husbands and sons account for 5 per cent and 2 per cent of the total labour for these activities, respectively (Table 9), demonstrating the skewed division of labour in household work.

Pastoralist women are experiencing increased work burdens in households and livestock production. The majority of Tibetan herders, including both women and men, believe that it is not suitable for men to do household work. In Sichuan, women are looked down upon by people in the village if they do not cook for their husbands and families (Jieru 1999). According to Buddhist norms and beliefs, women pastoralists in all of the case study areas prepare local wine for cultural and religious purposes, which adds to their household labour burden. While pastoralist men have more leisure time to relax, drink, smoke, and wait for meals to be served, women have little time to rest and for leisure. Indeed, Figure 4 illustrates the hard life of pastoralist women in Sichuan. Furthermore, patriarchal discourses that portray women as ‘weak’, ‘housewives’, and ‘care givers’ and men as ‘strong’, ‘household heads’, and ‘producers’ tend to dominate in remote pastoralist communities, such as in Bhutan, reinforcing skewed gender divisions of labour in households.

Table 9: Distribution of labour for household work within pastoralist families in Tibet Autonomous Region, China

Family member	% of labour
Husband	5
Wife	64
Son and son-in-law	2
Daughter	15.2
Daughter-in-law	13.8
Total	100
Source: Field study in the Tibet Autonomous Region (Yangzong 2009)	

Figure 4: Gender division of labour in pastoralist communities, Sichuan, China



Source: Field study in Sichuan, China (Tingyu et al. 2009)



Chapter 7: Access to Natural Resources

Food, fuelwood, forage, fodder, medicinal plants, non-timber forest products, animal dung, and water are some of the key rangeland natural resources on which women and men pastoralists depend to sustain their livelihoods. Such resources are interconnected to rich biodiversity and a complex of wider ecologies that ensure their existence. However, rangeland degradation, the unsustainable management of natural resources in light of multiple work demands, insecure ownership rights, rapidly changing contexts, and conventional gendered norms and beliefs around resource collection are intensifying women's work in collecting resources for their survival. Pastoralist women's workloads are exacerbated by inadequate availability of natural and development resources in many of the study areas, which is also affected by rapid changes, as discussed in the next chapter.

Energy scarcity

Fuelwood, twigs, bushes, and yak and cow dung are common sources of energy for cooking and heating in Nepal, Tibet Autonomous Region, and Sichuan. In Upper Mustang, sheep and goat pellets are also used for energy, whereas in Bhutan, fuelwood, twigs, and bushes are used. Pastoralist women in Bhutan are advantaged compared to women in other countries in collecting fuelwood because of the healthy forests in Bhutan, which is ensured by the nation's constitution which stipulates 60 per cent of the country must be under forest cover in perpetuity (RGOB 2008). However, increased demand for fuelwood, which is needed for making cheese, cooking, heating, and meeting increased demands for alcohol, has meant that women have to travel further to collect fuelwood; scarcity of quality fuelwood and colder climates may be other factors.

In agropastoralism areas such as Yunnan, crop-residue and fuelwood are used to meet energy needs. Women and girls are normally the main collectors and users of these energy resources in all of the case study sites, although in some cases in Bhutan, men assist women in collecting and transporting fuelwood using horses, yak, and mules. The collection of these resources is laborious and time consuming.

As the case study from Nepal reveals, women in semi-arid mountain regions spend 1.7 hours daily on average (10% of the total 17 working hours) in collecting fuelwood. In Lomanthang VDC, women spend a large amount of time collecting fuelwood during the summer. On average, they leave their homes at 5 am and come back at 6 pm. Work burdens in collecting fuelwood have also increased in other places, such as in the semi-arid mountain regions of Pakistan where women spend four to eight hours every day on average collecting and processing natural resources, including fuelwood (Tabassum 2006). According to data gathered from the Annapurna Conservation Area Project office in Pokhara, Nepal, a

Table 10: Demand and supply of energy in rangelands in Upper Mustang, Nepal

VDC	Number of households	Population	Energy demand (tonnes/year)	Fuelwood supply (tonnes/year)	Energy deficit (tonnes/year)	Energy deficit (%)	Supplement (tonnes/year)	
							Cow/yak dung	Sheep/goat pellet
Chhuksang	178	671	759	205	-555	73	186	168
Tsarang	139	660	747	52	-695	93	234	193
Ghami	167	851	962	63	-899	93	223	668
Lomanthang	176	854	966	101	-866	90	296	303
Surkhang	113	515	583	55	-528	91	544	164
Chhonhup	191	1,070	1,211	53	-1,157	96	986	193
Chhoser	162	791	895	147	-748	84	204	332
Total	1,126	5,412	6,123	675	-5,448	89	2,672	2,022

Source: Annapurna Conservation Area Project office, Mustang, Nepal (Sherpa and Shrestha 2009)

pastoralist household consisting of five members consumes on average 5.6 tonnes of energy annually in the Mustang area. Thus, it is apparent that pressure on rangelands from fuelwood collection is increasing. Travel distances have increased from one to at least two hours (one way) over the past two decades. Due to slow plant growth in cold and dry rangelands, the overexploitation of rangeland resources, and limited development support for rangeland management, the volume of rangeland fuelwood collected meets only 11 per cent of the total energy needs, with the bulk of energy needs being met through the collection and use of livestock dung (cow and yak dung and sheep and goat pellets) (see Table 10). Livestock dung can be used after four days of air-drying. Hence, energy demand increases with increases in human population (Table 10). In the case study area of Nepal, the VDC with the highest numbers of cows and yaks supplied the most dung as a major source of energy for cooking and heating.

Some of the factors in high demand for energy are related to heating requirements against the cold in high mountain areas and energy needs required to make local wine for drinking and spiritual offerings, as well as for cooking barley and oat flour, which requires intense heat to cook. However, some rangeland communities in Sichuan, Nepal, and Bhutan have begun to use solar panels and hydroelectricity (where accessible) for lighting, cooking, and recharging small electrical equipment such as mobile phones and radio batteries.

Drinking water

Water is the most vital resource for green pastures, livestock, crop cultivation, and people's survival in rangelands. Women and girls, who are responsible for collecting water in all of the case study areas, depend on streams, rivers, springs, wells, and drinking water taps for water

supply. Their access to water varies depending on the quality of natural resources in rangelands. For example, collecting water in Upper Mustang is a physically laborious and time-consuming task conducted by women and girls every day. In some communities, the government has provided taps for drinking water. However, these taps sometimes freeze during winter and then women have to walk to nearby streams or rivers to collect water. When water is available from taps, women spend on average one to two hours per day collecting water. Sometimes conflicts arise in accessing water, as a 43 old woman from Upper Mustang, Nepal explained:

We [women] have to be in queue several hours to fetch water. Sometimes, we fight. It is always the women who have to worry about water in households. Men don't even know what kind of problems we face in water collection and how much we have to fight for it. (Study participant, Lomanthang VDC, Mustang)

In other rangeland communities in Upper Mustang, the river and irrigation canals, where available, are the nearest accessible source of water, but are sometimes contaminated from multiple purpose uses (e.g., drinking, cooking, bathing, washing, and human waste). Non-state actors, such as the Annapurna Conservation Area Project in Nepal, have played an important role raising awareness about sanitation in rangeland communities. Women in Upper Mustang are practising hygienic measures, including cleanliness in kitchens. A woman from a focus group discussion elaborated:

We hardly used to wash our face. All our kitchen walls were black. We never used to wash dishes, but lick the dishes and reuse it. But, now, after an awareness raising programme from the Annapurna Conservation Area Project, we know that hygiene is very important. Tourists do not like dirty areas. We maintain sanitation. (Study participant, Lomanthang VDC, Mustang)

The most common request from pastoralist women is greater access to safe drinking water, because of its scarcity in their villages and homesteads. Their interest is to have a private, non-frozen water tap, which, according to them, would reduce their workload by up to 50 per cent. However, neither the government nor development interventions have effectively addressed these concerns. A woman pastoralist who lives in a small tent in Lomanthang village, Mustang reported water scarcity to be her biggest problem and confirmed that service-providing agencies have not addressed this issue:

Nobody looks after us because we are pastoralists. We don't have a house, we don't have money, and we don't have enough water. We have not received any services from the government or from any other organization. (Study participant, Lomanthang VDC, Mustang)

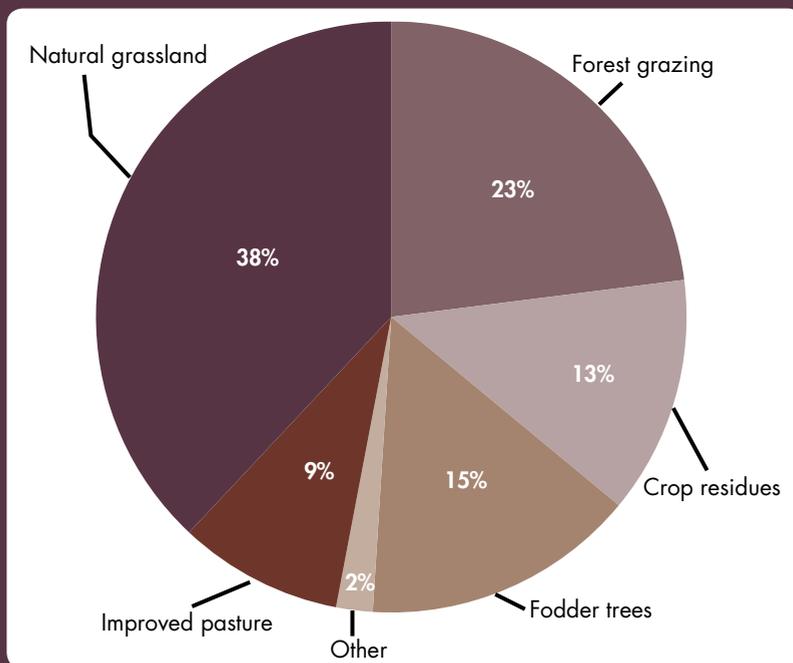
As elaborated later in the study, another emerging problem is the drying of water springs as a result of droughts in Upper Mustang, which has compelled pastoralists to leave their villages.

Fodder and forage

Natural forests, grasslands, cultivated fodder/forage, and crop residue (wheat straw, barley straw, and maize stovers) are common feed resources for pastoralists in mountain regions (Roder et al. 2001; FAO 2010a). A study in the temperate regions of Bhutan found that forest grazing and natural grasslands are the most important feed resources, constituting 23 per cent and 38 per cent of the total feed sources, respectively (Roder et al. 2001) (Figure 5).

In China, natural and artificial grasslands constitute the main source of forage and fodder. Several cereal species and grain legumes are grown as sources of fodder. In Nepal, about 42 per cent of the total fodder requirements for livestock production are derived from forests and rangelands (Pandey 1991 cited in Baral and Shakya 2007, p 3). In other parts of the HKH the amounts can be higher, as in the case of Balochistan, Pakistan, where 90 per cent of livestock feed is obtained from pastures (FAO 1987, in Muhammad 2006, p 6). As explained earlier, the collection of fuelwood, dung, fodder, and forage is mainly the responsibility of women in rangelands. The gender analysis of rangelands in the high mountain district of Jumla, Nepal, also shows the large amounts of time women spend in collecting fuelwood, fodder, forage, and leaf litter (three of the total 18 working hours per day) (Khadka 2011b). The distance women travel to collect these resources has increased over the last two decades because of the degradation of forests and pastures close to homesteads caused by illegal harvesting of forest products and increased grazing pressures (ibid.).

Figure 5: Fodder sources in temperate regions of Bhutan in 1999



Source: Adapted from Roder et al. 2001

Chapter 8: Gender Impacts of Rapid Change

The previous chapters have highlighted that the rangelands in the HKH, representing a significant area of the region, are vital in supporting the livelihoods of pastoralist and indigenous peoples in high mountain areas. However, despite being protected by their relative isolation over many centuries, they are undergoing rapid change due to forces that both transgress and defy territorial boundaries. In particular, climate change and other drivers of change such as development and globalization are challenging the capacity of the rangelands in supporting and regulating water resources, nurturing biodiversity and agrobiodiversity, accommodating ecosystem functions, retaining clean air and common spaces, supporting sacred landscapes and enabling cultural and spiritual practices (Dong et al. 2009; Miller and Craig 1997). Such changes both shape and are shaped by gender relations in diverse cultural contexts of the HKH, which themselves are constantly changing in response to broader socioeconomic change, to give rise to emerging gender issues. They impact both pastoralist livelihoods and environments, and they ultimately affect women and men differently. Impacts of such changes include the privatization of land, outmigration, and an increase in women's workloads in comparison to men. This chapter discusses the gendered impacts of change in the rangelands of the HKH.

Climate change

Pastoralist men and women in all of the study areas have observed changing weather patterns, especially over the past decade or so. They reported experiencing a gradual warming in their surroundings and perceived summer to be hotter than usual and winter to be colder than usual. Climate shocks such as droughts, snowstorms, and frost tend to occur more frequently. Although there is no established scientific data on the degree of warming in the case study areas, most herders repeatedly mention the rapid invasion of alpine meadows by woody species, which is reducing the quality of pasture. This observation is confirmed by a study on rising temperatures in Tibet Autonomous Region (Jin et al. 2004, in Xu et al. 2008, p 112; Yao et al. 2011).

A combination of intensified land use, demographic shifts, and climate change pressures are increasing the occurrence of events of water related shocks and disasters in downstream areas (Nellemann et al. 2011). In particular, glacial lake outburst floods (GLOFs) and the frequency of flash floods have increased in recent times (Richardson and Reynolds 2000; Cenderelli and Wohl 2003; Carey 2005; Chen et al., 2010; Dussailant et al. 2010). When GLOFs wipe out communities and livestock in the mountains, surviving households are forced to relocate to new areas, where women's workloads tend to increase as they are confronted with new

challenges of livestock rearing, water collection, food insecurity and livelihoods, and girls are discouraged to pursue an education and encouraged to marry early (Dolma 2014).

Data from nearly 100 stations across the Tibetan Plateau indicate that in the last 30 to 40 years the linear rates of temperature increase over the Tibetan Plateau have been 0.016°C per year for the annual mean and 0.032°C per year for the winter mean (Liu and Chen 2000; Wei et al. 2003; Zhou 2008, in Karki and Shaoliang 2011, p 20). This temperature rise is significantly higher than the global average (ibid.). In Qinghai Province, China, the annual mean temperature has increased by 1.5°C between 1961 and 2006 (Qinghai People's Government 2008, in Karki and Shaoliang 2011, p 20).

Increased temperatures have affected glaciers and permafrost at high altitudes causing glacier loss of 10 per cent, a reduction of 9 per cent in glacial coverage, and a decrease in glacial mass balance of 8.4 per cent. Local officials have also observed that wetlands, which constitute a major source of biodiversity and grazing areas during winter and spring, are disappearing in the rangelands due to climate change (Xu et al. 2008). Himalayan glaciers are also shrinking and their rapid reduction in the HKH (Xu et al. 2007) is a serious issue for the productivity of rangelands. Increases in evaporation, reduction in snow cover, and fluctuations in precipitation are key factors contributing to the degradation of dryland ecosystems (ibid.). Similarly, the frequency and duration of snowfall in mountain areas has decreased over the last decade, as a result of which there is less grass in rangelands. The degradation of rangelands is affecting an increasing number of women and men. Pastoralist women and men in Sichuan report that poor quality grass has led to malnutrition in cattle, making them vulnerable to disease and death, which has resulted in a high winter mortality rate and longer gestation periods for yak.

Drought and erratic rainfall caused by unfavourable climatic conditions not only has impacts on grasses and water resources, but simultaneously and differentially affects men and women. The amount of rainfall directly affects the quality of grass in rangelands, with the quantity and quality in flat areas tending to be better than those on hillsides. When rainfall is abundant, the grasses in flat rangeland areas have the potential to meet the needs of livestock. However, when rainfall is low, women herders graze livestock on the sunny hillsides in order to provide adequate grass for livestock. Similarly, drought affects both the quantity and quality of grasses. Grasses dry too fast under drought conditions. As the Sichuan case study reveals, relatively wealthier pastoralists build warehouses to store grasses in August for use in winter. However, economically poor pastoralists have to graze their livestock in rangelands even during winter. The distance travelled by women herders to graze their animals has increased due to a decrease in the availability of grasses in nearby rangelands as a result of drought.

The time spent by herds on a meadow has decreased significantly due to insufficient grass. This has led herders to frequently change grazing areas, which can be difficult and time consuming. As mentioned earlier, yak dung is the major fuel used for cooking and heating in winter in the rangelands of Upper Mustang, Tibet Autonomous Region, and Sichuan. As

illustrated by the Sichuan case study, on average, a household consumes 30 kg of yak dung in summer and 50 kg in winter. As distance of herding has increased because of the poor quality of pastures, pastoralist women spend considerable and greater amounts of time collecting yak dung and fuelwood from remote rangelands. This increases women's already heavy workload. A study in Vietnam also demonstrates the hardships experience by women in rearing livestock because of the reduced availability of natural resources and fresh water (GIZ 2010a, p 29, in Skinner 2011, p 16).

As droughts have become more frequent in recent years, water sources in rangelands have become scarcer and their quality has decreased. Women in all of the case study sites reported an increase in water shortages, which has made the collection of water more difficult. Water shortages not only increase women's workload, but also have an adverse effect on household health. A woman in Da'e Village, Sichuan, reported that water springs were easy to find in the past, but, because of droughts, the number of springs has unexpectedly decreased. Not only is it more difficult to find new springs, but in addition, this woman reported having to walk further to collect water. The most notable change is in the water quality of the Moon-gulf River, which was clear in the past to the extent that the bottom was visible, but now is muddy and cannot be drunk directly.

Two settlements in Upper Mustang, Samjung village in Chhoser VDC and Dhyaya village in Sukhrang VDC, have been affected by droughts (Sharma 2012; Khadkathoki 2012), the impacts of which have been severe. More than 50 per cent of total pastoralist households in these villages have migrated to the district headquarters and cities (Pokhara and Kathmandu) and the remaining 41 pastoralist households (17 households from Samjung and 24 from Dhyaya) are in the process of displacement because of shortages in drinking water (Khadkathoki 2012).

Other drivers of change

In addition to climate change, there are other multiple drivers of change, such as globalization and development, which have gendered impacts in the HKH. The rangelands are no exception and such changes affect pastoralist livelihoods, cultures, and ways of life in different ways. Capitalism and neo-liberal economic policies underlie many of these drivers of change, sometimes leading to privatization and the sub-division of land and, in many cases, leading to land use changes. Patriarchal norms underlie both the theories that drive the change as well the way they are negotiated and contested by pastoralist women and men. In these rapidly changing contexts driven by neoeconomic policies that often neglect pastoralism, pastoralist women and men respond in different ways, including outmigration to urban centres.

Case studies from Nepal and India show that much of the work involved in managing animals and running farms has shifted to pastoralist women as a result of the outmigration of men for employment. Because of dominant gender roles, only a small proportion of women migrate to

urban and foreign countries. While women are generally responsible for household work, the education of children, and care of the elderly, men migrate to urban areas and foreign countries for income generation (Thieme and Wyss 2005). Men are viewed as the main earners of cash-income in rangelands (Chant and Radcliffe, 1992 in *ibid.*, p 71). Married women are constrained from staying away from home for long periods of time in many contexts (Thieme and Wyss 2005) and women migrate less in households with patriarchal norms (Thieme et al. 2005).

The outmigration of men has resulted in an increase in workloads for women in migrant households. On average, women in the sampled agricultural and pastoralist households in the western HKH, including Nepal, India, and Pakistan, work 16 to 18 hours a day (Hoermann et al. 2010). As a result of men's outmigration, women's working hours have increased on average by 2 to 4 hours a day (*ibid.*). A similar situation is observed in many parts of Africa (Kristjanson et al. 2010). More time is also being spent by women in collecting natural resources (e.g., fuelwood, water) in rangelands, which means they have little time to engage in political and decision-making roles within and beyond their communities. In many cases, the collection of natural resources carries with it risks, including, for example, exposure to injury from falls, splinters and cuts, as well as the risk of miscarriage (Ridgewell et al. 2007, p 2). Due to heavy workloads and gender-biased development efforts, which often ignore them, women have fewer opportunities than men to diversify their livelihoods.



Chapter 9: Understudied Gender Issues in Natural Resource Management

Although not part of the initial research design, several gender issues emerged in the case studies that are worth reviewing, including the responsiveness of development programmes, services and technologies to gender issues, and gender-based violence. As elaborated earlier, both statutory and customary institutions play an important role in pastoralist communities with regards to rangeland management and the delivery of development and social services. The extent to which these institutions are gender responsive and facilitate gender equity requires analysis. As gender equity is an approach intended to result in equal opportunity for men and women (Meinzen-Dick et al. 2011), it is important to understand the degree of pastoralist women's access to basic services, information, technology, and income generating opportunities. As all of the case studies reveal, women pastoralists remain disadvantaged in accessing training and extension services, rangeland management and development technology, and development services and resources.

Access to training and extension services

As a consequence of remoteness, isolation, and inaccessibility of public services in mountain rangelands, most pastoralists in the study areas rely on their own resources for survival and are disadvantaged in terms of accessing development benefits. Pastoralists have limited access to information, training, and extension services. For example, pastoralists in the highland areas of Bhutan use indigenous methods and technology for dairy processing and ethno-veterinary practices for treating livestock, which are valuable forms of knowledge and science in themselves. In remote areas, pastoralists are also disconnected from service-providing institutions, which can be valuable forums for the exchange of information and knowledge and from which to access development and government services and resources.

When pastoralists are targeted by development organizations, the approaches, methods of communication, and capacity building programmes tend to lack gender focus and consideration. As a result, many pastoralist women and men, especially those without formal education, are unintentionally excluded from accessing information, training, extension services, and other development services. Most often, training and extension activities are conducted in places and times that are not appropriate for pastoralist women, given their heavy daily work schedule. Furthermore, when women are included, training materials and delivery are often in languages that they do not understand. These factors limit the extent to which women benefit from technical skills, knowledge, and development resources related to rangeland production.

Data from Tibet Autonomous Region illustrates that 66 per cent of men in the study areas have participated in skill trainings and 14.8 per cent run businesses or participate in income generation activities outside their communities (field study in Tibet Autonomous Region, see Yangzong 2009). Other case studies highlight the absence of gender-disaggregated data regarding trainings and extension services in those institutions working with rangeland communities.

There are several barriers to pastoralist women's participation in training and extension services in the HKH region. These include heavy workloads, lack of access to formal education, the neglect of women's needs by extension agents and institutions, restriction of women's mobility due to gender norms, and the limited number of women extension workers in remote areas. Deep-seated patriarchal sociocultural norms in some of the case study areas are compounded by gender insensitivity, lack of awareness, resistance, and discriminatory attitudes and behaviours among extension workers, all of which aggravate the situation. This is because most extension workers are men with technical competencies in biophysical spheres, who tend to interact and make social contacts with men herders and pastoralists. In such a scenario, women typically have to rely on their husbands or relatives for information and knowledge gained in trainings. Research from other pastoralist regions suggests that such information and access to technology is not always shared and cannot be assumed to automatically and benevolently 'trickle down' (Verma 2007).

Access to rangeland management and development technologies

In general, technologies and technology adoption in rangelands are broadly related to five production and management activities: animal husbandry, crop farming, forest management, water resource management, and energy. For animal husbandry, technologies include new and improved varieties of livestock species, healthy and improved cattle sheds, and the management of forage and fodder. In crop farming, technologies include crop varieties, soil improvement technologies, crop processing, fertilizers, and improved farming methods. Technologies related to forest management include natural regeneration protection, forest pruning and thinning, the introduction of new species for fuelwood, forage, and fodder promotion, and biodiversity conservation. Water management technologies include rainwater harvesting techniques, water spring protection, water storage and distribution, and plantation around water springs. Energy generating and saving green technologies include solar panels, solar cooking stoves, and mini to small hydroelectric units for the supply of electricity.

In most of the case study areas, men have greater access to technology than women, as the former are more regularly included in trainings regarding new technologies and their management. The latter are either excluded from using technology because of gender norms (i.e., ploughs) or are regular users of technology, but without benefitting from information provided regarding their use. The gender analysis of crop farming and swine and chicken rearing in Yunnan indicates that women farmers have tremendous knowledge of livestock production. However, technology promotion approaches in the livestock, agriculture, and

forestry sectors in the study areas are gender-biased towards men. It is also useful to note that technologies are often designed and created by men, who are usually external actors, rather than by and for indigenous women. This is unfortunate, as it is generally women who use these technologies on a daily basis and, as a result, technologies are often not taken up or dis-adopted because they are socially or culturally inappropriate in terms of gender needs and requirements.

Access to development services and resources

Due to the harsh environment, severe climate (cold, dry), high altitude, difficult mountain terrain, and minimal rainfall characteristics of rangelands in the study areas, there is limited accessibility by pastoralist women and men to quality development and government services, such as formal education and healthcare. Access to such services has indirect, but important, relationships with the management of natural resources and pastoralist environments.

Compared to the lowlands, pastoralist communities in the study areas have limited access to education services for various reasons. Most nomadic children move with their parents and their access to formal education in permanent, stationary schools is limited. Eighty per cent of household members in Nima township, Tibet Autonomous Region, for example, have never been to school and lack access to formal education, a situation that is most marked for children and women. Limited or lack of educational opportunities is higher among pastoralist women and girls.

Education levels in rangeland communities can be broadly divided into four categories: lack of access to formal education; primary level; lower secondary level; and secondary and higher level tertiary education. In the study areas in Yunnan, China, literacy rates are higher among men (40.9%) than women (33.3%) (Table 11). For example, 25.8 per cent of all key informants interviewed in Yunnan lack access to formal education, most of them older people and women. The majority (67.2%) have basic formal literacy skills with primary to lower secondary school level education. As a result of their heavy workloads, care economy responsibilities, a lack of permanent schools in villages, lack of facilities for women, and gender-biased social perceptions (e.g., the belief that women don't need to be formally educated when they have entitlement to property through matrilineal inheritance, in the case of Bhutan), women pastoralists have minimal access to formal education. Lack of formal education sometimes limits women's confidence in speaking in formal settings such as extension programmes and local governance meetings.

Table 11: Education levels in rangeland community by gender in Yunnan, China

Education level	% of total key informants interviewed		
	Women	Men	Total
No formal education	15.0	10.8	25.8
Primary	19.9	20.6	40.5
Lower secondary	10.8	15.9	26.7
Secondary and above	2.6	4.4	7
Total	48.3	51.7	100

Source: Field study in Yunnan, China (Lun 2009)

Data from the case studies suggest that pastoralist areas in Nepal have a greater number of girls with access to formal education than Tibet Autonomous Region or Bhutan. Forty-one per cent of girls in Upper Mustang have access to education, which is greater than the national average for access to school by girls (35 per cent). Nonetheless, despite these promising findings, a wide education gap exists between boys and girls. While 61 per cent of men have had access to formal education, only 41 per cent of women received this opportunity. In many poor households, sons are sent to monasteries to live, study, and practise Buddhism, whereas girls are either mobilized for household, farm, and livestock work, or sometimes sent as domestic labourers to earn extra household income in the district headquarters of Mustang or large urban centres such as Pokhara. In Soe Yaksa and Nubri villages in Bhutan, the lack of a school nearby means that herders tend to send their children to Paro in the district headquarters, which is approximately a three-day walk.

In minority indigenous and pastoralist groups in China, children have higher dropout rates from school than children from dominant ethnic groups, such as Han, and, therefore, their formal education rates are generally lower (Kwong and Hong 1989, in Wang and Phillion 2009, p 4). However, women's formal education rates in China tend to be higher than other countries in the HKH. This is most likely the result of China's 'nine years compulsory education' policy implemented by the state government in China, which has played a role in improving girls' access to formal education. Moreover, the Chinese government has made considerable efforts to reduce gender disparities in education and increase women's access to higher education. As a result, women's literacy rates have increased considerably, as evidenced by women and men's adult literacy rates in 2010, which were 95 per cent and 99 per cent respectively (Asia-Pacific Cultural Centre for UNESCO nd). Despite this success, women make up the majority of those who lack access to formal education in China, in general, and in other study areas, in particular.

In China women had lower attainment in formal education than men because the school entrance rate for girls is lower than that for boys, and their dropout rate is also higher (Ming 1998, in Rong and Shi 2001, p 114; Zhaoli 1999). Access to formal education by girls in rural areas and among ethnic minority groups tends to be low (*ibid.*). Many rural areas and minority regions in China are unable to implement education policies because of lack of funding from both local and central governments (Kwong and Hong 1989, in Wang and Phillion 2009, p 4), and because of resistance from local populations to uniform curricula and the use of language that does not take into account and sometimes deny their unique culture and heritage.

In terms of access to health services in mountain rangelands, a shortage of village doctors, nurses, and veterinarians, compounded by remoteness, makes accessing healthcare centres difficult, resulting in illness in both humans and animals not being treated with modern medicine. However, access to indigenous medicinal herbs and plants and the practise of traditional medicine means that some ailments are treated locally. Given the harsh mountain

environment, pastoralist women and men in the case study areas sometimes suffer from dietary deficiencies and other health problems. The confidence in, awareness about, and accessibility of state-run healthcare facilities and doctors is low. People in the study area reported rarely visiting hospitals, unless their illness was serious and they have to be hospitalized. Opportunities for preventive healthcare are missed, which might also be because of the long distances to the nearest healthcare centre. For example, in Tibet Autonomous Region, pastoralist women and men have to walk at least two hours to reach the nearest healthcare centre.

Women, compared to men, suffer more from health problems in pastoralist communities because of their heavy workloads in sustaining everyday life, poor living conditions, lack of affordable modern healthcare facilities, and the neglect of the government, development organizations, and non-state actors in enabling access to healthcare. Several health issues arise in such a context, which make it difficult and challenging for women to carry out their work in managing natural resources, households, and community work.

In case studies from Upper Mustang, Tibet Autonomous Region, and Bhutan, pastoralist women frequently mentioned anaemia (iron deficiency) as a critical health issue. Around 60 per cent of women in Bhutan suffer from anaemia (WHO 2004). Lack of access to, time for, and awareness of the importance of prenatal and postnatal care also has negative consequences. Burdened with heavy workloads and multiple responsibilities, pastoralist women have little to no time to pay attention to less severe health problems, which can turn into serious illnesses if untreated. For example, in Bhutan, 54 per cent of pregnant women have never been to a hospital or healthcare centre for regular medical checkups. Although unproblematic unless a medical complication arises, 48.9 per cent of pregnant women in Bhutan deliver their babies at home. Early-aged pregnancy is another serious maternal health issue in rangeland communities, despite awareness programmes about adolescent reproductive health issues in pastoralist communities. For example, 11 per cent of all births in Bhutan are among 15 to 19 year old girls and women.

According to women interviewed in Sichuan, China, the morbidity rate for women is significantly higher than for men. Mortality from pregnancy and birth complications is twice as high in remote areas than in urban areas (Zhaoli 1999). All case studies indicate that pregnant pastoralist women continue to work until the last moments before delivery. Moreover, health hazards arising from the manual collection and use of yak dung in Upper Mustang, Tibet Autonomous Region, and Sichuan increase health risks for women. This is because yak dung contains a large number of parasites and harmful bacteria. Direct human handling of yak dung can lead to women being infected by bacteria at much higher rates than men. In the case of Tibet Autonomous Region, the smoke from burning yak dung is a health hazard for women who spend large amounts of time working and living in narrow tents, which become increasingly stuffy during the summer months.

The rapid changes discussed in the previous chapter, the resulting changes in land use practices, the sedentarization of previously nomadic pastoralists, and outmigration of men have also affected women's health. For instance, in Tibet Autonomous Region, new health risks such as HIV/AIDS, for which women patients outnumber men in local healthcare centres, are related to increases in tourism and the outmigration of men (see Xu et al. 2008). Furthermore, during the time when most of the men herders migrate seasonally to escape the coldest months of winter and earn additional income, it is mostly women, children, and the elderly who remain behind in the mountain rangelands to suffer from the cold temperatures. In Bhutan, gender-disaggregated data from Jigme Dorji Wangchuck National Referral Hospital reveals that depression and anxiety disorders are most common among women patients. Similar preliminary findings are reported in a recent study on the gender dimensions of Gross National Happiness in Bhutan, indicating that women experience more negative emotions and stress than men (Verma and Ura 2015). Increased dependency on husbands for economic assets in patrilineal societies, skewed gender power relations that advantage men, less leisure time and high workloads, and gender blind policies are some of the factors underlying this gendered problem.

Gender-based discrimination and violence

While pastoralist women are perceived as responsible for household reproduction, men are often seen as being responsible for livestock and community affairs. This is a problematic perception that has several implications. Women being perceived as being 'less capable' and confident than men often translates into their exclusion and marginalized status in local governance institutions and in meaningful interactions with external agencies. Further, women's heavy workloads limit their participation in local governance meetings, formal employment, and decision-making processes. This is further compounded by limited access to formal education and, therefore, limited awareness about their rights. Women feel that men do not appreciate their work and multiple responsibilities, and their efforts to enter public spaces, increase their mobility, and enhance income generation are often met with resistance, or worse.

Women's struggles and negotiations to expand their space to manoeuvre and benefit from development opportunities are pitted against strong gender norms and beliefs that generally work against them. In the worst-case scenarios, pastoralist women suffer from violence. Physical violence against women and conflict between men and women take place more often in economically poor households in Sichuan, China (Zhaoli 1999), although this is not always the case in other places where gender-based violence is not correlated with class and can occur irrespective of it. Gender-biased perceptions regarding the limits of women's agency and power perpetuates violence against them when they try to break these perceived 'limits'. Women experience different forms of violence such as physical abuse (e.g., slapping, throwing objects, pulling hair, burning, and worse), threats of injury, psychological and emotional abuse, and sexual assault at the household level. However, women don't always feel secure to report such abuse to the authorities or customary leaders or to make the violence public, for the fear of backlash, lack of support, and stigmas attached.

Alcoholism has a primary role in exacerbating violence against women in most of the pastoralist communities in this study. For example, alcohol intake is strongly embedded in the culture and daily life of people in semi-arid rangelands in Upper Mustang, Nepal. Local alcohol called 'chhyang' is commonly used for rituals, festivals, and social meetings among men in the evenings. After a tiring day's work, men usually gather in the evening and drink chhyang, which sometimes results in domestic violence against women.

Divorce is common when women suffer from multiple forms of violence such as physical and psychological abuse. Men can normally remarry after a divorce, but women are less likely to do so because of gender-biased stigmas. Furthermore, differences between indigenous languages spoken by pastoralist women and the language spoken by local district and police authorities make communication and reporting difficult, creating an added barrier in reducing the scale of gender-based violence against women.

In Bhutan, women in alpine rangelands also suffer from gender-based violence. Although systematic information is not available regarding the prevalence of gender-based violence in pastoralist areas in Bhutan, police reports and data from hospitals reveal increasing instances of violence, in which women are usually the victims. Despite laws that protect women against such violence, many cases go unreported due to a fear of social stigma, emotional and financial insecurity, and lack of support mechanisms.

The findings of the HKH case studies corroborate the findings of other studies. For instance, the majority of pastoralist women in the Indian Himalayan region are not free from threats and violence at the hands of their husbands (Bhasin 2011). The third Survey on Chinese Women's Social Status in 2011 revealed that gender-based violence occurs in 24.7 per cent of the total households surveyed (Yang 2011). In Nepal, women and girls are vulnerable to both domestic violence and public violence. A study carried out in the mountain districts of the Mid-Western Development Region of Nepal found that 81 per cent of women had experienced gender-based violence (SATHI 2008).

The causes of violence against women are manifold. Violence against women is a manifestation of patriarchy, women's disadvantaged position in power relations, social status, and social norms and discourses that give men a strong sense of superiority and power. It can also be a knee-jerk reaction to shifts in power relations where physical violence is the last desperate act of backlash against women.

As a result of changing responsibilities and political-economic circumstances, men feel their power diminishing in the context of patriarchal ideologies (Silberschmidt 2001; Verma 2007, p 39). What is most critical is how these perceptions are invoked in re-establishing authority, sometimes through violent means and a reassertion of sexually aggressive behaviour (ibid.). Based on a regional scoping study carried out in East Africa, Verma (2007) reports that shifts are occurring at the interface of customary and statutory institutions whereby:

...not only [are] customary laws transmitted and dominated by male elders, but gender roles and responsibilities are changing in the context of globalization, devolution of the state and political-economic changes, and because donors, organizations and government bodies are placing ever-greater emphasis and funding on gender issues. The negative side of all this attention and resources is that men perceive themselves as losing social value and status in society. It may mean that power relations may be changing in real terms, but also, it may be indicative that the reaction of men and other powerful actors to swing the balance back to the old status quo is through backlash – sometimes involving violence. (Verma 2007, p 6)

Although outside the scope of this study, the trafficking of women in the HKH is a serious issue and is often associated with household poverty, lack of awareness, lack of formal education, and a lack of understanding by women of their rights (Nellemann et al. 2011).



Chapter 10: Gender, Pastoralism, and Governance

Governance is closely related to decision-making processes and ‘rules of the game’. It has important implications for the ways in which men and women participate in, benefit from, and engage in rangeland management and mountain development. Governance decisions also determine how public resources are managed, used, and distributed and whether or not services take into account both women and men’s needs and interests (Brody 2009, p 1).

According to Agrawal (2012), governance related to natural resource management has three interconnected mechanisms: institutions, information, and incentives. Participatory, gender inclusive, representative, legitimate, and accountable institutional mechanisms are some expected features of natural resources governance (Agrawal and Verma 2016). Governance in rangeland management can be considered as gender inclusive when decision-making processes, institutional arrangements, representation, responsibilities, and accountability regarding the conservation, use, and management of a wide range of rangeland resources and goods recognize both women’s and men’s voices, rights, and needs on an equal basis. The process is often the result of interactions, relationships, and networks among different actors, both individual and institutional (e.g., government, civil society, private sector, community institutions, and men and women), with varying degrees of power, knowledge, and interests.

Participatory and gender inclusive governance can address multi-faceted emerging issues of rangeland management such as globalization, migration, climate change, the degradation of land resources, policy-driven change, and gender inequalities. Moreover, expertise, individual actors’ behaviour, organizational culture, and resources within institutions are important elements for achieving gender positive change (Goetz 1998). This chapter discusses the gender dimensions of rangeland governance with a particular focus on men and women’s inclusion in statutory and customary institutions and their decision-making roles in, and rights to, rangeland resources and management in the case study areas.

Interests and actors in rangeland resources governance

Rangeland management is governed by multiple actors at different levels and scales. Based on the institutional identities, these can be broadly divided into three categories: state and statutory institutions; community and customary institutions; and market actors (Agrawal 2012). State actors include government and statutory organizations responsible for providing public services, legal support, and conflict resolution in natural resource management and development. Community actors and customary institutions include civil society organizations,

NGOs, and community institutions. Market actors include the private sector and corporations, which wield a great deal of influence over governments and development.

While customary institutions function according to norms, laws, and values developed and practised by the people themselves, statutory institutions operate with a formal status as registered in government or semi-government organizations. In Nepal, there are strong customary practices in rangeland management and herders follow rules and regulations of pasture management that are made by the village 'mukhiya' (local village authority with the power to define and implement local development programmes, manage natural resources, and resolve local conflict). However, mukhiyas operate with a gender bias that favours men, and women are rarely mukhiyas.

The statutory institutions responsible for regulating and providing services to herders and farmers vary across the study areas. In Bhutan, the Department of Livestock and the Council for Renewable Natural Resources of Bhutan under the Ministry of Agriculture and Forests are responsible for the overall coordination and execution of rangeland programmes. The National Feed and Fodder Development Program under the Department of Livestock provides technical inputs for the development of rangelands at the district (dzongkhag) and block (geog) levels. Programmes are implemented in close coordination with the research and extension services for feed and fodder development. The Government of Bhutan is looking at development approaches that enable herders to continue pastoralism in their localities. The government has established a committee to recommend a set of Special Support Services for high-altitude area communities (Gyeltshen and Tshering 2011).

Some challenges in the provision of information and services to herders and farmers include the limited presence of the government to provide technical and institutional support to pastoralists in remote areas (Dervillé and Bonnemaire 2010), especially in mountain contexts. In Nepal, the Ministry of Forests and Soil Conservation is the lead agency and works jointly with the Ministry of Agriculture and Cooperatives on rangeland management. Two units in the Ministry of Agriculture and Cooperatives, the Department of Livestock Service and National Agriculture Research Council, are responsible for development and research on livestock and pastures, respectively (field study in Nepal, see Sherpa and Shrestha 2009). In China, the Department of Animal Husbandry of the Ministry of Agriculture works on rangeland management issues (field study in Yunnan, China, see Lun 2009).

The support and promotion of pastoralist issues in rangelands varies among actors and across the countries studied. The state government and authorities in China and Bhutan have a strong interest in supporting rangeland management beyond a resource-focused approach. The Government of China has initiated a massive development programme for the management of rangelands and to develop the livelihoods of pastoralists and combined mountain agriculturalists. The government has implemented a poverty reduction strategy and a modified rangeland policy. As a result, many herders and farmers have been resettled in new 'pastoralist villages' (Wu et al. 2012, p 291) in the countryside. By the end of 2009, a

total of 230,000 households with a total of 1.2 million farmers and herders had moved into their new houses and an integrated network of water, electricity, roads, telecommunications, and gas had been established in the resettled areas (Kreutzmann 2012c).

Several scholars, however, have pointed to a number of negative consequences of the policy-driven changes, both in rangelands and for people (Wu et al. 2012; Gruschke 2012; Ptackova 2012). As Wu et al. (2012, p 291) note, “China is spending significantly increasing amounts of resources on rangeland management, but the effectiveness of the programmes in achieving the two overarching goals of fair pastoralist development and environmental conservation are questionable”. The exclusion of pastoralists in local planning and the implementation of rangeland management and development is apparent, and weak monitoring and evaluation practices reinforce corruption in the administration of resettlement programmes (Gruschke 2012; Ptackova 2012).

In Nepal, the government recently formulated the ‘Rangeland Policy, 2012’ (Government of Nepal 2012) to protect indigenous knowledge and pastoralist practices and improve mountain rangelands and livelihoods. The various district livestock service offices provide technical support on livestock and forage management in the rangeland areas of the study area, but the presence of staff on the ground is limited and pastoralists mostly visit the district headquarters for extension services. In Bhutan, the government encourages pastoralist participation in grassland management in high-altitude areas. In some of the case study areas, the presence of government officials tends to be sporadic.

There are few NGOs and pastoralist organizations operating in the HKH rangelands, and they have not yet been able to combine their efforts to raise awareness and address pastoralist issues at the national levels (Sharma et al. nd). In some countries in the HKH that have well-established natural resource management civil society organizations and NGOs, such as Nepal, there continues to be a lack of vision or a collective strategy to support rangeland management, indigenous practices and knowledge, and pastoralist livelihoods. In China, new civil society organizations are emerging from customary institutions (Dong 2011), however, their roles in addressing gender equality and empowerment in pastoralist communities is weak. In general, while there is growing interest by government and community actors in the study areas in supporting rangeland management and pastoralist livelihoods, they lag behind in making programmes gender sensitive and responsive.

Plural governance institutions

State organizations and non-state actors, including customary institutions and market institutions, working in rangelands tend to operate in gender-biased ways. This is evidenced by the low representation of women in decision making and lack of clear strategies on how to include men and women on an equal basis in planning, implementation, and decision making. For instance, in Nepal, men dominate in key positions in the conservation management committees in Upper Mustang, which are formally registered and supported by

state-led conservation programmes. Supported by the Annapurna Conservation Area Project, the conservation management committees implement development programmes at local levels. However, the committees lack strategies and action plans for tackling gender issues associated with conservation and development. As a result, the issues identified and solutions implemented are men-centric, although the conservation programme mentions women's empowerment.

At the state level, the government institutions involved in natural resource sectors such as agriculture, forestry, water, and the environment in the HKH have low representation of women (around 3 to 5% of total staff) and many women are in low-level positions (see Gera 2002; Ghale 2008; Khadka 2010). Some departments, regions, and units in China continue to prefer men, to varying degrees, when recruiting staff or recommending promotions. In rural China, although women make up 65 per cent of total labour force, they occupy only 1 to 2 per cent of local decision-making positions (UN Women-China nd). In addition, private sector institutions fail to provide proper labour protection for women (Zhaoli 1999). In Bhutan, women's inclusion in local governance bodies is low and only one out of 205 'gups' (head of a group of villages) is a woman.

There are limited women technical experts in sectoral ministries and departments working on rangeland management in regions other than the HKH (e.g., Haidari and Wright 2001). The absence of women extension workers in pastoralist communities has serious gender implications. For example, technologies introduced by men extension workers can inadvertently increase women's workload, as they can end up spending time repairing machines, although men are trained on technology installation (*ibid.*). In the HKH region, governments lack gender-disaggregated data regarding various governance approaches to natural resource management such as community forestry, buffer zone forest management, and community-based conservation. In Bhutan, the civil service is relatively more gender representative than in Nepal and China, with women in Bhutan constituting 31.62 per cent of the total civil servants as of June 2011, but with proportionately higher representation in lower level positions (NCWC 2012). Women's inclusion in the public service in Bhutan has increased by 3 per cent from 2006 and 6.62 per cent from 2002, in a period of 9 years (*ibid.*, p 6).

Demonstrating a similar gender-bias, customary institutions related to rangeland management tend to be dominated by men. For example, in Nepal, customary institutions such as village 'mukhiyas' (customary village heads), which make decisions and control access to and distribution of pasturelands in Upper Mustang, are predominantly men (Khadka 2011b). In Sikkim, India, collective decisions regarding rangeland management are made through customary institutions called 'dzumsha' (village councils), which consist only of men. Similarly, animal grazing in the mountain rangelands of Changthang, Ladakh is governed by village headmen, called 'goba', who are usually men (Bhasin 2011).

Sociocultural practices in the case study areas, with the exception of Bhutan, are dominated by patriarchal norms and discourses (Bhasin 2011, p 3), which reproduce power relationships

that privilege men. Such cultural norms play an important role in reinforcing men's advantage in socioeconomic and political decision making, while having negative implications for women's participation and engagement in statutory institutions related to natural resources and rangeland management. In matrilineal societies in Bhutan, women are considered responsible for care economy activities, while men are referred to as herders, farmers, heads of households, and communities, even though women also play significant roles and expend a great deal of time in these activities. As Anand and Tshering (2004) highlight, even in matrilineal mountain communities women play roles that are considered 'subordinate' and continue to be excluded from apex decision-making bodies.

Participation, representation, and decision making

The participation of women and men in local governance institutions is significantly different, with wider gender gaps in representation, influence, and decision making over community activities. Men tend to take leadership roles in community affairs (e.g., attend meetings, interact with outsiders), religious ceremonies, construction activities (e.g., village road, schools), and guest management in villages. Most community meetings in rangelands areas are attended by men. When women attend such meetings they have few opportunities to speak and are not encouraged to do so. As a result of lack of exposure in community negotiations, leadership roles, and support from other women and men, women remain reluctant to express their opinions.

The type of problems discussed and decisions made at village level meetings tend to focus on issues such as the construction and maintenance of public infrastructure, natural resource management, and the establishment and implementation of village rules. Meeting times, venues, and the scope of discussions are framed from the perspective of men and suitable to their daily time schedule. In addition to the fact that meetings are dominated by men who make all of the decisions, such institutional governance practices do not encourage women's participation, unless the heads of these institutions are gender sensitive and take steps to make them inclusive.

In Upper Mustang, Nepal, pastoralist women's knowledge and work in carrying out community-based conservation practices is instrumental in conserving natural resources and sustaining landscapes. Although this is sometimes recognized in development efforts, there tends to be a lack of understanding and commitment to changing power relations between men and women in implementation processes. As a result, support for women's inclusion in decision-making bodies and processes in local natural resource management institutions is limited. For example, the Nepal case study illustrates the important role of local organizations in strengthening the capacity of local herder and pastoralist groups and customary institutions, including mukhiyas, in natural resource management. Although one local organization charged with conservation views women as responsible actors for natural resources conservation, it does so without defining any specific strategies or gender-focused programmes to support women's needs and ensure gender equitable access to benefits in rangeland management.

Community-based conservation area management committees (CAMCs) have been formed for decision making in each VDC. The CAMC is elected by the representatives from mothers and fathers groups established at the VDC level. Whereas the CAMCs plan and submit development programmes to the local government offices and the local conservation body, both mothers and fathers groups are involved in the implementation of these plans. Despite the high presence of women and their critical role in managing natural resources on the ground, they are minimally represented in the CAMCs, and their needs are seldom met. Women's representation fulfils quotas, but they are rarely involved in decision-making roles or capacitated in leadership.

In Bhutan, women tend to be absent from local governance institutions such as village councils or village authorities responsible for local planning and the deliberation on services to pastoralists. Both men and women equally vote for the head (gup) of the block administration and participate in village-level meetings. Yet, at the time of the fieldwork in 2009, there was only one woman gup out of 205 and few women worked as 'tshogpas' (village representatives in the block administration) and 'chimis' (members of the national assembly). Customary practices in appointing gups (Tshering 1999) might be influencing women's exclusion in the block administration. While women are active in village-level meetings, their participation decreases as the level of governance increases, and women rarely participate in meetings at the block level.

Dominant and patriarchal perceptions of gender roles are one of the barriers to women's leadership in local governance institutions. Both Soe Yaksa and Nubri villages in Paro district have men gups. Several discourses prevail that uphold men's advantaged position in leadership roles, including women's inadequate representation of their concerns during village (geog) level meetings and characterizations of women as 'quick to change their mind', 'unable to raise their concerns', and 'shy'. Similar discourses are also upheld by village women, who sometimes believe that important geog decisions should be made by men.

Similarly, in China, women have few decision-making roles at the community level, despite the fact that their labour in livestock production and rangeland management is greater than men, as illustrated earlier. Moreover, scholars and development practitioners (Wu et al. 2012; Wu and Richard 1999) have argued for the need to include herders in local decision making, planning, and implementation of rangeland management programmes such as nomad settlement programmes in China (e.g., rangeland restoration, ecosystem conservation, allocation of rangelands, and subsidies and incentives for pastoralists).

Findings from China, Bhutan, and Nepal emphasize gender inequalities in representation and decision making within governance institutions at different levels. Women's exclusion in community decision making leads to their needs being unaddressed by community and local government development initiatives. Gender differences in demand-driven practical and strategic needs between men and women pastoralists are, therefore, neglected. For instance, men in Lomanthang VDC in Mustang, Nepal, requested the construction of walls for farms,

roads, exposure visits in cities, irrigation, artificial river reservoirs, and wildlife conservation, whereas women asked for drinking water taps, threshing machines, community healthcare facilities, and improved technology for weaving, churning butter, stitching, refining wool, electricity, and cooking gas. Neither the government agencies nor the mukhiyas have tended to recognize women's needs.

Clearly, women's meaningful participation in customary and statutory governance institutions is limited or lacking in terms of decision making in defining rangeland management and livelihood improvement activities. Women are constrained by dominant patriarchal gender discourses that colour perceptions, norms, and roles. Policy, social norms, and institutional responses further exacerbate women's marginalization.

Gender inclusive and exclusive pastoralist policies

Significant gender gaps exist in terms of policy and institutional responses that recognize pastoralist women's knowledge and valuable roles in sustaining livelihoods, conservation, and managing natural resources. In general, limited access to financial services; poor access to development services such as healthcare, formal education, and extension services; insecure land rights; limited basic infrastructure; and policies and laws that are insensitive towards pastoralism (e.g., sedentarization, privatization, enclosure) are some of the critical challenges facing pastoralist communities (Rota and Sperandini 2009; Rota et al. 2012; Verma 2007). Women are affected disproportionately by most of these factors. For example, sedentarization increases women's workload in crop production, reinforces gender hierarchies, and makes women more dependent on men for cash (Gritli 1997).

In some nomadic contexts, women traded dairy goods in the past, but their access to markets has declined because of market-led sedentarization, which favours men's involvement in dairy marketing and sale decisions (*ibid.*). Those pastoralist communities with access to development and social services and infrastructure sometimes neglect women's inclusion and access issues. Many development interventions targeting pastoralists target men as the recipients of animal husbandry training, veterinary medicine, and other development benefits. As a result, men are able to reinforce their claim to 'control' and 'ownership' with discourses about livestock 'expertise' (Flintan 2006, p 226) and as the 'head' of the household.

In many contexts around the globe and at policy levels, pastoralists lack voice and influence (ICIMOD 2011; Kreutzmann 2012a) and many have been excluded from policy and development decisions (Rota and Sidahmed 2010, p 10). Pastoralists are often constrained by an unsupportive and unfavourable policy environment. In the HKH, for instance, while pastoralists contribute significantly to the rural economy and in sustaining fragile environments, much can be done in countries such as India and Pakistan to provide enabling institutional and policy frameworks for pastoralist women and men. Institutional and policy frameworks for pastoralist women and men can further enable and support indigenous practices and knowledge and help sustain complex and fragile ecosystems and cultures.

Most countries in the HKH do not have separate rangeland policies and forest legislation often governs the use of rangeland resources (Badola 2011; Phuntsho 2011). While China has been relatively active in modifying its rangeland policy framework over the past four decades, Nepal has recently developed a 'Rangeland Policy 2012', which is yet to be implemented. The policies in China and Nepal have many useful elements in relation to pastoralist livelihoods, although they tend to overlook and ignore gender issues.

The Government of Nepal promulgated its Rangeland Policy on 10 April 2012 with the realization that rangeland resources in mountain and high-mountain areas receive low priority in research, development planning, and budgeting, despite the fact that rangelands provide valuable ecosystem services and goods and critical natural resources (Government of Nepal 2012). They also support a vast and rich array of cultural diversity. While this policy places emphasis on the sustainable management of rangelands for environmental conservation and the livelihoods of dependent communities, the policy is gender blind. Biophysical perspectives dominate the articulation of problems and policy justifications. Furthermore, while the policy mentions various development issues and concepts (e.g., value chains, community-based rangeland management, resource users, carbon trading, livelihoods, biodiversity conservation, climate change) (Government of Nepal 2012), none of these concepts recognize the differentiated roles of women and men in rangeland management.

Bhutan has several natural resource management policies with specific institutional arrangements. Bhutan's government drafted the Pasture Policy 1985, which has not yet been formalized. The Forest and Nature Conservation Rules 2006 and the Land Act 2007 are associated with rangeland management. According to the Land Act 2007, all grasslands are reverted and maintained as government reserved forest. Livestock owners have the right to lease pasturelands to develop and use for grazing at least for 30 years with the possibility of extension (Chophyel 2009; Gyeltshen and Tshering 2011). The Act emphasizes the preparation of a native grassland management plan for leased rangelands. Government actors, specifically the Department of Livestock and Department of Forests, are responsible for preparing the plan. While the Forest and Nature Conservation rules of 2006 discourages the burning of woody species to regenerate rangelands (Chophyel 2009), the draft Pasture Policy of 1985 allows pastoralists to burn and clear bushes/shrubs for grassland regeneration. Bhutan's first Constitution of 2008 recognizes the need for environment conservation and states that forest cover must occupy at least 60 per cent of the territory (Dervillé and Bonnemaire 2010; RGOB 2008). Policies, however, are not explicit in terms of dealing with gender and social equity issues embedded in pasture access, use, and maintenance for livelihoods.

As discussed earlier, China has undergone several changes in terms of the conservation, restoration, and management of rangelands. The current 'Household Responsibility' system (e.g., the privatization of usufruct rights of rangelands) and 'Ecological Migration' policy (e.g., settlement of pastoralists and control of animal movement in pastures) focus on pasture management (Kreutzmann 2011a, p 214–218). However, a centralized and top-down

approach dominates decision making and policy implementation processes, in which local herders' voices are rarely heard (Dong 2011; Kreuzmann 2012a). The frequent changes in rangeland tenure and management practices at the government level have been a disincentive for pastoralist men to continue herding, which has marked a major shift in gender relations.

Emerging research in China points out that the government's policy on privatization of rangelands has resulted in an increase in women's workloads in livestock management (Xu 2010). According to this policy, livestock are maintained in fenced pastures, which are improved through forage plantation and hay making for winter consumption. As a result, men are no longer herding and have transferred their livestock management duties to women. As a result, men now have more leisure time. A study by Xu et al. (2008, p 109) in the Tibet Autonomous Region points out that young people manage more agriculture and less livestock because of rangeland degradation and increased government restrictions on grazing. This change will most likely further impact on gender relations and will be important to investigate through future research.

The institutionalization of resource management policies such as the privatization of livestock and rangelands in Tibet Autonomous Region has had significant impacts on people and their environment. Many rangelands are inequitably allocated because of their highly variable topography, productivity, and availability of water resources. While some groups of people are able to access social and economic services under the privatization scheme, others find it more difficult (Zhaoli et al. 2005, p 31; Wu et al. 2012). A person's ability to access such resources usually depends on their gender, class, and ethnicity. Furthermore, government policies and programmes related to the development of rangelands in China are not reliably informed and ignore the indigenous knowledge and skills of local herders on ecological management and animal husbandry (Miller and Craig 1997). Local herders have extensive



knowledge on the problems of pastureland management and measuring change in order to sustain rangelands according to geophysical conditions and climate change (Miller 1997; Miller and Craig 1997; Kreutzmann 2011a, 2012b, 2012c). Most of this indigenous knowledge has evolved over time from local herders' experiences and adaptation practices, but such knowledge receives little attention from scientists, policy makers, and development planners (Kreutzmann 2011a). It is worth noting that the rangeland policy in China neglects consideration of equality and equitable access to resources (Xu 2010).

Most of the rangelands in the study areas are within demarcated conservation areas that allocate limited usufruct rights to pastoralists. For example, 27 per cent of the total rangeland areas in Nepal are located in protected areas (Yadav 2011). Although some conservation programmes in Nepal have practised community-based approaches to conservation and development, such as the Annapurna Conservation Area Project in Western Nepal, the programme implementation is inadequately oriented towards equally addressing the needs of women and men pastoralists in a gender sensitive way, as discussed earlier. Similarly, in Bhutan, 50 per cent of the total country's land falls under protected areas, including most of the rangelands where the herders graze their yaks (Dervillé and Bonnemaire 2010). This indicates the tendency of governments in HKH countries to frame rangelands issues as 'conservation' issues, rather than gendered development issues.

Although central governments are attempting to connect pastoralists with development, this often tends to be done in a top-down manner, sometimes marked by a discouraging view of pastoralism and a somewhat extractive attitude towards rangelands. Kreutzmann argues that, "since colonial times, agriculture and forest departments have been challenging the space utilized by pastoralists, and revenue officials are keen on dues from cross-border trade" (Kreutzmann 2012b, p 325). Furthermore, disputes about pasture access, legal rights, and grazing fees in the mountain regions, such as those in the north in Pakistan and India, are common.

Lastly, despite their vast and valuable skills and knowledge about adaptation to environmental stresses, such as too much and too little water (ICIMOD 2009) and roles in conserving livestock genetic diversity, pastoralist women and men are still seen as 'backwards', 'less civilized', and 'problematic' in the eyes of development decision makers, politicians, and administrators (Okoth-Ogendo 2006, 2002; Verma 2007; Dong et al. 2009). Dominant development perspectives that conceptualize policy and legislative frameworks for natural resource management, in general, and rangeland resources, in particular, marginalize pastoralists and especially women. Terms such as 'poverty', 'backwardness', 'population growth', and 'degradation' are frequently used in articulating rangeland issues in policy documents (for example, Nepal's Rangeland Policy 2012, see Government of Nepal 2012). This terminology is both problematic and denies pastoralists the agency and knowledge they have. Moreover, policy goals and the roles of policy implementing actors are not explicit in terms of gender specific action and commitments, which is both a major oversight and challenge for development.



3

Conclusions and Recommendations



Chapter 11: Challenges in Realizing Gender Transformative Change

This chapter looks at the challenges that need to be overcome to bring about positive gender transformative change. The case studies make it clear that there are numerous challenges centred around skewed power relations that disadvantage pastoralist women in various ways. These marginalities focus our attention on the four cornerstones of gender transformative change – institutional change and strengthening, action-oriented gender focused and integrated research, capacity strengthening and women’s leadership, and gender inclusive policies and partnerships. Added to this, we look at challenges brought about by multiple drivers of changes and emerging gender issues.

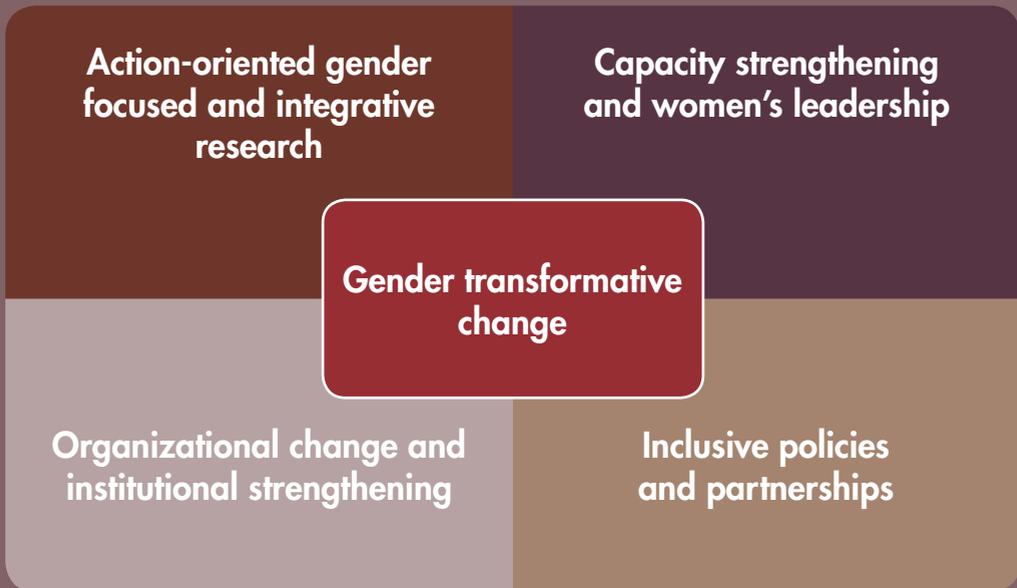
Four cornerstones of gender transformative change

While multiple marginalities make development in the rangelands challenging (as outlined in this chapter), important avenues and opportunities have the potential for gender transformative change (elaborated in the next chapter). Both chapters in this part engage with these issues through the four cornerstones of gender transformative change developed at ICIMOD by its gender and governance division, debated at the Bhutan+10 conference on ‘Gender and sustainable mountain development in a changing world’ (Verma and Gurung 2016; Verma 2014b; Verma et al. 2014a, 2014b), and further elaborated in ICIMOD’s mid-term strategic plan (ICIMOD 2010), strategic framework document (ICIMOD 2012), and gender equity policy (ICIMOD 2013). These four mutually-supportive cornerstones – institutional change and strengthening, action oriented gender focused and integrated research, capacity strengthening and women’s leadership, and gender inclusive policies and partnerships – are what is required to bring about real gender transformative change in the rangelands of the HKH. The cornerstones should not be considered in isolation: one without the others will lead to limited impacts, and counter-act gender transformative change. The four cornerstones are discussed below, with a longer discussion on research due the focus of the case studies in this area. Future research, however, should tackle all four in equal weight.

Gendered land, livestock, and labour challenges

Although women are often disadvantaged in terms of inter- and intrahousehold gender power relations (characterized by the unequal gender division of labour, ownership and control over land and resources, and access to opportunities), they are not ‘passive victims’, but negotiate and contest these power relations with creativity and agency. Quantitative methods cannot always capture this agency and depth of experience. Hence, qualitative methods become important in elucidating such struggles, negotiations, and resistance. This study illustrates how

Figure 6: Four cornerstones of gender transformative change



Source: Verma 2014b, 2013

both quantitative and qualitative methods can be engaged in an integrated way, as well as the way gender and pastoralism in rangelands can be integrated in terms of research and analysis. The findings point the way to action-oriented research in the future, based on challenges, gaps, and needs identified.

Skewed gender division of labour

Understanding gender roles and division of labour in the case study areas highlights the different ways women and men contribute to pastoralist livelihoods in highland rangelands in the HKH and its consequences for women's wellbeing, including mobility and participation in community spheres. The gender division of labour is highly skewed in many contexts and this has multiple ramifications for pastoralist women's rights, wellbeing, and health. Multiple drivers of change, including climate change, are exacerbating the situation. These same changes have led to an inadequate supply of fuelwood and drinking water in rangelands and women have to walk greater distances and expend more energy to fulfil their basic livelihoods needs. Increased labour burdens also pose added challenges in terms of women's ability to participate in customary, development, and statutory political institutions and the opportunities they provide. Moreover, the gender division of labour needs to be analysed within broader gender relations of power that move towards an equal division of labour, status, decision making and sharing of responsibilities and burdens between women and men.

Rangeland women have strongly expressed their need to access culturally and gender appropriate technologies for improving their access to energy and water and reducing their dependence upon biomass-based energy sources. However, development actors, organizations, and institutions working in the study areas lack systematic gender approaches, strategies, and resources to address these needs. One important initiative worth noting is the Royal Government of Bhutan's introduction of free solar lighting in households as an alternative and green source of energy. However, such initiatives need to be followed up with concerted maintenance and repair facilities in order to remain functional and, thus, reduce women's workloads in a sustained manner.

Gender rights, control, and ownership over land, livestock, and property

Important indicators of gender equality are the existence of secure rights, control, and ownership over land, livestock, and property. As the case studies demonstrate, in situations where land is communally owned and managed, other forms of property, especially certain types of livestock, take on material, economic, and sociocultural importance. In this sense, livestock are not only important sources of livelihoods and income generation, but are often used to store wealth, especially for times of crisis. Livestock also play a critical role in dowry and bride wealth transactions, which have direct impacts on, and implications for, gender relations. The case studies clearly indicate that, while women do have their own livestock, these tend to be smaller animals (e.g., poultry, swine), which are not associated with symbolic practices, meanings, and rites of passage, and, therefore, bestow less power and status on the owner. Thus, differences in the composition of the herds and types of livestock owned by women and men matter and are strongly correlated with gender decision-making power, divisions in roles and productive activities, and status within pastoralist communities. Within this scenario, men are privileged in their ownership of larger, higher value, and symbolically and culturally significant livestock.

The case study material from Bhutan touched upon matrilineal modes of inheritance. The findings demonstrate that inheritance rights on their own do not paint a full picture of women's power within households. Rather, ongoing as well as rapidly changing sociocultural and political-economic circumstances have created shifts in gender power relations, under which decisions in extended households are deferred to elder men. Powerful discourses override women's decision-making power, previously defined by ownership of land and property, thereby privileging men. However, the space that pastoralist women in matrilineal contexts in Bhutan have to negotiate resources is perhaps greater than in other places in the region. Across the HKH and, in particular, in patrilineal rangeland contexts, women have acutely limited ownership rights and security over property. This limits their capacity to negotiate and contest gender relations that disadvantage them. Such negotiations and struggles highlight both the symbolic and material importance of land, property, and livestock (Moore 1993; Verma 2001; Nightingale 2011). However, key institutions and organizations working on gender issues tend to neglect rights-based approaches that focus on land and property issues, and their cultural meaning and significance, thereby missing a critical challenge to gender equality in the region.

Gendered implications of multiple drivers of change

Multiple drivers of change in the study areas, such as climate change, globalization, development and its effects, including migration, and the institution of land policies aimed at privatization, sedentarization, and enclosure are having serious impacts on pastoralist women and men. These impacts include reduced capacity of pastoralists to sustain rangeland productivity, change from migratory herding to settlement-based livestock rearing (mostly in China), and increased interest by men in capturing commercial farming and non-farm work, which have intensified women's workloads and added to their physical hardships in collecting the natural resources required to sustain their livelihoods. With changing climate and weather patterns, the effects are more severe in high mountain rangelands, where pastoralists' economic risks increase with decreases in pasture, forest, and water resources. Inadequate supply of natural resources such as fodder, fuelwood, and water, for which women are responsible for collection, transportation, and use, has not only intensified women's labour, but also made their lives food insecure and intensified their everyday livelihood struggle.

As this study clearly indicates, women become disadvantaged not only because of their social and economic status, but because of other factors such as climate change, globalization, neoliberal policies, and other drivers of change. Scholars also argue that global, regional, and national actors and policy factors trigger socioeconomic, political, and environmental changes in pastoralist livelihoods in the HKH (Kreutzmann et al. 2011; Wu et al. 2012; Kreutzmann 2012a). Pastoralist livelihoods tend to be shifting toward other livelihood alternatives (migration, wage labour, and the collection and sale of high-value agricultural and non-timber forest products). How this transformation affects pastoralist communities, in general, and gender relations, in particular, should be central to any future research agenda. Much has been studied about the biophysical aspects of natural resources, including rangelands in high mountain areas. What is less known, however, is how gender relations are changing because of wider socioeconomic changes as they intersect with different drivers of change such as climate change, migration, the liberalization of markets, and new global environmental discourse on issues such as payment for ecosystem services (PES) and sustainable mountain development.

Pastoralism has been seriously affected by changes in weather patterns. Reduced snowfall and too little water in rangelands have affected the regeneration capacity of pasturelands. As a result the quantity and quality of grasses in the pasturelands has been reduced. This has led to an increase in women's workloads, as they often need to travel long distances to graze herds and collect fuelwood and yak dung. This finding corroborates the view that inadequate supply of natural resources from mountain ecosystems increases the workloads of ecosystem-dependent groups, especially women. Moreover, with changing climates, the effects are more severe in semi-arid rangelands, where pastoralists are losing their lands and indigenous livelihoods practices. As shown by the Upper Mustang case study, the majority of pastoralist men and women have migrated to the district headquarters and urban areas and remaining families, who are mostly poor, are in the process of being displaced as a result of shortages of

drinking water caused by drought. Other findings from the HKH indicate that the depletion of water sources such as springs and perennial streams, such as those in Chitral, Pakistan, has reduced the availability of water for domestic use, which has negative implications on women and children (ICIMOD 2009). Interventions in relation to drinking water can reduce women's burden involved in collecting water. For example, in 1999, the Royal Government of Bhutan improved water supply in Soe Yaksa, which has drastically reduced women's workloads in collecting water from streams.

Rangeland management and pastoralist livelihoods are also greatly influenced by globalization, climate change, and policy-driven changes in the HKH (Kreutzmann et al. 2011; Wu et al. 2012; Kreutzmann 2012a, 2012b). Institutional practices (e.g., knowledge, attitude, and skills) and rangeland management policy frameworks in the study areas are not equipped to tackle sociocultural, political, and gender issues in relation to rangeland ecosystem management. Institutions working on rangeland management in the study areas are not gender inclusive and lack gender expertise and rangeland policies do not give adequate attention to gender issues in Himalayan rangelands. The unresponsiveness of these institutions and policies to women's needs is related to women's increased workload, as well as to unequal power relations between men and women and the inaccessibility of services, knowledge, and technologies by women. Institutional and policy support is weak in focusing efforts on the effective participation of pastoralist women, especially those who are economically poor and lack equal opportunities and resources for rangeland management, development processes, and livelihood diversification. A lack of capacity for systematic gender analysis of rangeland policies and policy practices is another pertinent gap at the policy level, which, if filled, could help to make rangeland policies and programmes gender responsive.

Globalization and migration have been the driving force in men's off-farm economic activities in the HKH. While migration can be considered a strategy for poverty reduction (Hoermann et al. 2010), men's outmigration results in the engendering of agriculture and natural resource management, including the management of livestock, on unequal terms (Jain 2010; Lama 2010; Adhikari and Hogley 2011). To what extent the outmigration of men has affected pastoralist livelihoods, power relations between men and women, indigenous knowledge of pastoralist development, and natural resource management requires further systematic research.

Gendered research gaps and understudied subject areas

Research and the generation of knowledge provide evidence and data to capture women and men's lived realities, everyday struggles and gender inequities in managing rangeland resources. When this data is synthesized across different locales, it is possible to see trends and differences in gender equality within a regional context. The case studies undertaken as part of this study are an initial attempt to fill the urgent gaps in data and information on the gender dimensions of rangelands and pastoralist livelihoods. However, significant gender research gaps remain that need to be addressed in the future. Furthermore, understudied

aspects of gender and rangelands require greater attention, including gendered access to development resources, gendered access to development services, and gender discrimination and gender-based violence.

Gaps in gender research

Five case studies from three countries in the HKH region were undertaken to examine the gender dimensions of rangeland management, including policy and institutional responses to empower pastoralist communities and women. The research methodology, data type, analysis, and arguments presented in all case studies indicate an acute gap in research and institutional capacities for in-depth gender analysis of rangeland ecosystems and pastoralist livelihoods in the HKH region. While the case studies provide important knowledge on the way in which rangeland resources are gendered, they also point to the need for future research, both systematic scientific and action-oriented, to better inform policy makers, development practitioners, and pastoralist communities, as well as address institutional development and capacity dimensions. They also indicate the importance of balancing biophysical and sociocultural analysis within transdisciplinary research for development.

As shown by the literature review undertaken for this study there is a considerable lack of information related to the gender aspects of rangeland management in the HKH. Rangeland management programmes, policies, and practices are poorly documented and analysed from a gender perspective. Special attention is needed to systematically implement and integrate gender transformative change approaches, gender analysis, and gender methodologies into rangeland management research and to capacitate rangeland actors on gender analysis and gender-sensitive programming.

All of the case studies undertaken for this study highlight that pastoralist communities live in remote areas and reaching these communities is a challenge for governments, NGOs, development practitioners, and researchers. The harsh topography, climate, and inaccessibility are disincentives for service providers, including extension staff, to work in mountain areas (Gurung 1999; Leduc 2011). Although varied across the region, ineffective governance, uncritical yet dominant development thinking, and men-dominated institutions, organizational culture, and service delivery mechanisms further discourage gender transformative change in mountain regions. In this context, greater concerted effort is required in both policy and implementation spheres. Most importantly, making natural resource management policies and practices gender responsive requires human and financial resources and commitment at all decision-making levels (Verma et al. 2011; Leduc 2011). Natural resource management policies can and must support gender analysis, promote the implementation of gender-focused action, and influence the policy process at national, regional, and global levels. Strategies that focus on support and resources for pastoralist mountain communities, including the promotion of women's leadership, are valuable for empowering women and creating more equitable communities.

Gendered access to development services

The development problems and challenges that pastoralist women and men face in the rangelands of the HKH region are unique. In addition to the complexities resulting from diverse cultures, languages, knowledge, dialects, practices of communication, and learning, what are known as mountain specificities (inaccessibility, fragility, marginality, diversity, hazards, niche biological opportunities, and human adaptation mechanisms; see Jodha 1992) create additional challenges. Furthermore, very few governments and NGOs in the rangelands are capacitated to identify and respond to gender-specific needs. For example, rangelands meet only 11 per cent of the total energy demand of pastoralist families, and pastoralist women are the key collectors and users of energy resources such as fuelwood and yak dung. Pastoralist women's already heavy workloads are also exacerbated by shortages of water for drinking and household use. While focus is often paid to services that focus on natural resources, development services such as education and health, which nonetheless play an important role in the ability of pastoralists to sustain their environments, are often neglected. Pastoralist women have limited or no access to health services, formal education, and community meetings and rarely receive direct information, training, or extension services related to livestock, pastures, health and sanitation, and development opportunities. Some technologies might be valuable to women, especially those that could potentially and appropriately lessen burdens in collecting fuelwood, animal dung, forage, food, medicinal plants, and water. However, technology and extension are not always demand driven and are often gender blind, as well as culturally insensitive.

Gendered access to development resources

The rangeland policies in the study countries acknowledge the importance of community-based approaches to rangelands as sustainable paths to development. Community-based approaches assume that everyone in a community will benefit once resources and services are delivered to the community. However, in practice, not all members of a community or group are homogenous and are differentiated by caste, ethnicity, class, age, gender, religion, location, and social status, among other domains of difference. As a result, pastoralist women and men with limited individual resources and power are often marginalized from gaining access to benefits and services from natural resource programmes in the HKH (Lama and Buchy 2002; Paudyal 2008; Buchy and Rai 2008). A study in the mountains of Peru found that, despite the availability of access to roads, the unaffordable price of medicine discouraged women from using health services. Men had greater access to health services (17 per cent) than women (10 per cent), as men often have control over cash and women's health needs are not considered a priority (Bravo 2002). Therefore, policy and legislative frameworks that homogenize a 'community' or 'people' support the maintenance of gender inequality.

Gender discrimination and gender-based violence in pastoralist contexts

Some scholars point out that Tibeto-Burman women, a broad group comprising many different cultures and languages who live in the hill and alpine areas of the HKH countries such as Bhutan, China, India, Myanmar, and Nepal generally have higher social status and enjoy greater social and economic freedom than their Indo-Aryan counterparts in the lowlands (Bangladesh, Pakistan, and parts of India) (ADB 2001, p 66). However, studies from the region have found that gender ideologies rooted in religion and culture also discriminate against women in Tibeto-Burman societies to varying degrees (Gurung 1999), and these vary according to context-specific realities. These are highly debated arguments that future research needs to critically unpack and analyse, particularly focusing on Afghansitan, Bangladesh, India, Myanmar, and Pakistan, as well as gaps in research identified in this study.

While gender stereotypes and violence against women reduce opportunities for women to participate in, and benefit from, rangeland resource management in mountain regions, the responses from natural resource management institutions and natural resource management policy are not oriented towards addressing these critical social issues and tend to focus largely on 'giving services' with no attention paid to the processes of service delivery. There continues to be a lack of data on the extent and prevalence of trafficking and prostitution and their inter-relationship with the management of natural resources in pastoralist and rangeland areas.

Gender-biased policy making and governance

A growing area of concern for development research is policy. Research within the field of development that stands alone, or is undertaken in isolation solely for the sake of research alone, has increasingly come under criticism for its lack of impact. It can be argued that linking research to policy is more pertinent in the field of gender and development, which often focuses on marginalized sectors of society and development. It is even more so in the area of gender and pastoralism in mountain rangelands, which constitutes both a field of study and represents groups of people that are doubly or triply marginalized. Here, issues related to gender decision making and policies are highlighted.

Skewed gender decision making

Despite women's greater reproductive and productive roles and responsibilities in pastoralist livelihoods, they are often disconnected from rangelands governance. Men often become village leaders (e.g., mukhiyas) in northern Nepal and more frequently take part in public meetings and decision making. To some extent, women have become the de facto heads of pastoralist households as a result of men's outmigration to urban and foreign countries. However, they do not always have the power to make decisions on productive resources including cash crops and livestock, and their sale and trade. In some communities, pastoralist women experience psychological abuse from their husbands when they take decisions regarding high-value crops or larger livestock, which symbolize property ownership and status.

Gender-biased and unresponsive policies and governance

Community-based rangeland resource management practices are shaped by both customary and statutory laws, which overlap in interesting ways in a situation of legal pluralism in the study areas. However, the case studies demonstrate that almost none of these laws attempt to ensure gender equitable access to productive resources such as land, technology, and livestock. Furthermore, both customary and statutory laws are not free of bias as a result of complex, but distinctly patriarchal, sociocultural and gender relations in most of the study areas. The study from Bhutan indicates that patriarchal discourses and interpretations are impacting on matrilineal communities in ways that increasingly disadvantage women. These changes in women's rights to land and decision making require urgent research and policy attention in the near future.

The region is characterized by intensified control over rangelands and pastures in some places and weak governance in others. On the one hand, the growing interest of some governments to oversee and manage rangelands through conservation-oriented policy approaches has created limits and exclusions in the way pastoralists sustainably manage rangelands and sustain their own livelihoods. Although only a few countries (Bhutan, China, and Nepal) in the HKH have rangeland policies, the extent to which such policies recognize the interconnected linkage between gender, development, and natural resources in rangeland ecosystems and the implications for local livelihoods and gender impacts is yet to be systematically studied. On the other hand, weak rangelands governance constrains pastoralist women's meaningful participation in public meetings and their engagement in local development processes. Despite women's heavy involvement in rangeland production, their exclusion in rangeland governance is evident across the study sites. Women's representation and participation in decision making in customary and statutory institutions is low. While men-led customary governance institutions have the power to make decisions on rangeland management, resource distribution, and development processes that affect whole communities, their dominance and influence is also apparent in statutory institutions for rangeland management in the study areas.

Women's exclusion from rangeland governance institutions is reinforced by skewed gender power relations and patriarchal discourses that relate certain gender roles, responsibilities, and ownership rights to decision-making identities. Such a link disadvantages women, who are rarely owners of land and property, seldom responsible for making key decisions, and excluded from key social, cultural, and economic responsibilities, which are relegated to the 'head' of the household. Various forms of gender-based violence (physical, sexual, and psychological) reinforce these relations, and are reported in the case study areas. Dominant perceptions and problematic dichotomies regarding gender roles (e.g., women/care economy versus men/cash economy) reinforce and limit women's decision making and freedom to manoeuvre. Both Tibeto-Burman and Indo-Aryan gender relations reflect such biases. For example, many of the communities in Bhutan, India, and Nepal indicated a bias and preference towards sons, including some matrilineal communities in the study.

Weak leadership skills and capacity strengthening

Gender transformative change depends on the capacities of pastoralists to promote, sustain, and advocate for gender equality within social and governance institutions, and within organizations that are gender imbalanced, biased, or men-centric. Knowledge and leadership skills are key for the realization of gender transformation. Although there is growing recognition of the importance of the capacities and skills of women researchers, development practitioners, and pastoralists to address natural resource management issues, they are often neglected in development projects that focus solely on technical issues.

Diversifying livelihoods and strengthening women's leadership

Livestock are key to pastoralist livelihood strategies, as well as for food security, wealth accumulation, dowries, and other economic, cultural, and spiritual purposes. Rangelands also offer other income opportunities, such as ecotourism, and financial incentives for the conservation of ecosystem services and green economic activities. Pristine natural landscapes, indigenous land use practices, and the cultural diversity prevalent in rangelands offer various opportunities, as well as potentially dangerous challenges. Land grabbing by outsiders and elites is an emerging issue in many pastoralist communities around the world (Verma 2014a). Although not within the scope of this study, it is an important topic for future research.

Women's limited exposure and experience in leadership positions and in negotiating with powerful external development actors, markets, and brokers, places them at a distinct disadvantage. Although indicative of skewed power relations, such limitations also skew their income and negotiating options in terms of dairy products, handicrafts, and ecotourism. The lack of entrepreneurial and leadership skills among pastoralist women and their limited participation in the value chain of high-value products and ecotourism can also be barriers to diversifying income sources. However, given their already heavy workloads, such diversification needs to be carefully weighed so that it does not negatively impact on their lives.

Capacity strengthening

In addition, access to basic services such as education, healthcare services, extension services, training, and information by women is very low compared to men. NGOs and government service centres have not been able to adequately address gender issues at the implementation and policy levels. Development organizations tend to be gender discriminatory in their capacity strengthening approaches, as training and extension activities are conducted in places and at times that are not suitable for women. Training materials and delivery are often in languages that are not understood or readable by pastoralist women, especially those who lack access to formal education. In addition to being disconnected from extension services because of language barriers and remoteness, pastoralist women in the study areas are also affected by the dominance of men in local government agencies and development service centres, which indirectly promote gender insensitive extension delivery practices. In some situations, the lack of social development facilities in remote rangeland areas, such as healthcare, also leads to higher mortality rates (Bhasin and Nag 2002).

Institutional challenges

An often over-looked cornerstone of gender transformative change is organizational change and institutional strengthening, which are vital to achieving gender equality. Many organizations strive for gender equity in their projects and expect it from their partners, but don't always strive to ensure gender equality within their own organizations and institutional policies. This is referred to as 'talking the talk' or rhetoric. What is preferred is 'walking the walk', which is a more empowering avenue for gender transformative change. Some institutional challenges in the HKH includes limited gender focus and integration in development, the existence of men-centric organizational culture, and resistance and lack of commitment to gender equality.

Limited gender focus and integration in development

As the case studies reveal, pastoralist development in highland rangelands is not only about focusing on the relationships between 'livestock and the carrying capacity of rangelands', which conventional perspectives often emphasize. Pastoralism is a holistic process that recognizes a dynamic relationship between people, culture, and rangeland resources, including livestock and small farm plots, and aims for positive socioeconomic goals (Moritz 2008, p 2,245). Many pastoralist communities in the study areas follow an integrated crop-cattle system, in which pastoralists practise subsistence agriculture to some extent and animal husbandry to a greater extent. Women's labour contribution in rangeland management is higher than men's. However, veterinary services, agricultural inputs (e.g., seeds, pesticides, organic fertilizers), and training related to pasture development, livestock management, and agriculture cropping tend to be limited and weak in ensuring that training approaches, content, and monitoring are gender sensitive. If development organizations, government agencies, and others providing services are to promote equitable, context-specific, and culturally-appropriate pastoralist development, more effort is needed to systematically strengthen and ensure capacity in gender-sensitive approaches.

Men-centric organizational culture

Development organizations and programmes are highly gendered. Often, a male culture exists in many HKH contexts, which discriminates against and is unsupportive of women in leadership positions. Women currently hold 20 per cent of senior management positions globally (Grant Thornton 2012). In research-based institutions, women represent approximately 15 per cent of the total leadership (ibid.). In the HKH region, nominal representation of women in leadership and management positions both in governance institutions and bodies, including the private sector, is widely evident. For example, women represent only 3 per cent of the total staffing in the Nepalese forest ministry and its five departments. All departments, regional directorate, and functional divisions within the forest ministry and its departments, and 73 (out of 74) district forest offices (DFO) are led by men (Khadka 2010). These skewed gender relations negatively impact women within institutions

(e.g. in terms of staffing, job satisfaction, promotion, visibility, networking, leadership and influence), and require proactive gender transformative policies and initiatives. Women have to additionally prove themselves as leaders in comparison to men, who don't always face the same challenges. For instance, women professionals receive minimal mentoring, and are often excluded from important informal professional networks.

The absence of women in decision-making positions and networks means that women's needs, concerns, and opportunities with regard to the management of and access to mountain resources are rarely represented in strategic and operational decisions. From a development perspective, the underrepresentation of women negatively impacts development effectiveness and diversity goals. This is because the glass ceiling, "the unseen, yet unbreachable barrier that keeps minorities and women from rising to the upper rungs of the corporate ladder, regardless of their qualifications or achievements" (Federal Glass Ceiling Commission 1995) reinforces the stubborn maintenance of gender hierarchies and gender-biased perspectives in development planning, implementation, and organizational change processes. To ensure successful science and research, diversity and gender-balanced institutions are vitally important (Goh and Recke 2008). Leadership training for women scientists and professionals provides an environment to learn, express themselves, and obtain skills and techniques required for effective leadership and management. This would also support greater workforce diversity.

Resistance and lack of commitment to gender equality

Serious challenges facing the achievement of gender transformative change are resistance and lack of commitment to gender equality. Resistance varies from outright backlash to more subtle forms, such as when gender is neutralized of political intent, and when it is diluted, depoliticized, marginalized, and relegated to an afterthought (Cornwall et al 2004). Resistance also manifests in the lack of commitment demonstrated in development organizations, and has several consequences, including failures or barriers in promoting equitable wellbeing of pastoralist women and men. Consequences can be defined in terms of challenges, or the 'three Bs', associated with advancing gender transformative change within development institutions: backlash, backsliding, and burnout (Verma 2014b). Backlash is characterized as the cost of advancing gender equality, and the manner by which those who are privileged in terms of power resist changes that they see as being professionally threatening, destabilizing, or disadvantageous (ibid.). Backsliding refers to advances made in policy, laws, research findings, or the status of women being followed by attempts to dismantle and override these gains (ibid.). Burnout often results from resistance, backlash and backsliding, when gender experts and practitioners are compelled to abandon gender research and activism due to experiences of hostility, barriers, and indifference (ibid.). These resistances, lack of commitment, challenges, and their consequences are perhaps the greatest obstacles for working towards, and potentially achieving, gender transformative change that is urgently required for pastoralists in the rangelands of the HKH.

Chapter 12: Opportunities for Gender Equality and Change

This study illustrates a strong link between gender, rangeland management, and pastoralist livelihoods in Bhutan, China, and Nepal. This relationship is further nuanced by culturally-specific factors (e.g., patrilineal and matrilineal marital and kinship relations), the physical environment (e.g., remote and harsh mountain environments), livelihoods (e.g., pastoralism, transhumance, mixed), and various domains of difference (gender as it cross-cuts with class, caste, age, and marital status, etc.), which shape gender roles, responsibilities, power, knowledge, access to resources, and opportunities for sustaining mountain environments. The study illustrates that, compared to pastoralist men, pastoralist women are disadvantaged in socioeconomic, environmental, and political spheres. Pastoralist women struggle with high workloads, limited access to, control over, and ownership of resources, and gender exclusionary development policies and institutional practices, which undermine their ability to sustain their environments. Most importantly, gender-differentiated roles, responsibilities, and rights are based on socioculturally constructed and context-specific discourses and patriarchal norms, which shape, and are shaped by, unequal gender power relations. For instance, governance policies and extension services have elements that discriminate against women, ignore women's agency in development processes, and allocate limited resources to overcoming constraints for women in accessing natural resources and participating in decision making.

As this study shows, if pastoralists are at the margins of dominant development processes in many parts of the world, women are at the margins of the margins. Gender-blind development approaches and interventions together with an increased push towards non-pastoralist and agriculture-centric livelihoods problematically undermine and under-value pastoralism as a sustainable way of life. Multiple drivers of change such as climate change, globalization, the liberalization of markets, and the privatization and division of common lands negatively impact pastoralist women, leading to the outmigration of men to urban centres and foreign countries for employment, among other impacts.

From a broader political ecology perspective, the study argues that rangelands in mountain contexts are not only important spaces for conservation, development, ecosystem services, and environmental sustainability, but also for rich and complex mountain-specific social, cultural, spiritual, and gender practices. However, much of rangeland research in the HKH has focused on natural resources, technology development, ecosystems, and livestock production. Some studies that examine institutional aspects of mountain rangelands are embracing the fact that natural resources in rangelands are better managed and benefit both women and men more when pastoralist communities are meaningfully involved. However, few studies systematically investigate gender as a critical dimension.

Although natural landscapes and sociocultural and political-economic institutions in the rangelands of the HKH are unique, this study argues that development interventions, including new environmental discourses, approaches and policies, affect pastoralist women and men in different ways. It also suggests that any interventions related to rangeland management will not effectively improve people's livelihoods and the sustainability of the environment unless they meaningfully address gender issues. Often, the best-intended projects fail because they lack an integrated approach that gives equal weight to both biophysical and sociocultural issues. However, before such integrative efforts are considered, it is important for development practitioners and researchers to ask if broader interventions are appropriate to begin with – culturally, socially, and in terms of the potential for gender transformative change.

The following recommendations are suggested as possible ways forward towards gender transformative change in the rangelands. They follow the four cornerstones of gender transformative change outlined in the previous chapter (Figure 6), but here are more focussed on research, policy, institutions, and action-oriented opportunities.

Recommendation 1: Fill urgent gender research and methodological gaps

There are considerable gaps in information and data related to the gender dimensions of rangeland management and pastoralist livelihoods in the HKH region. Besides some notable exceptions discussed earlier, research programmes, policies, and development practices rarely document and analyse the gender-rangeland management-pastoralism nexus. Despite the fact that sophisticated and rigorous gender conceptual frameworks of analysis have been developed over the past few decades (Chapter 3), they have not always been taken up by research and development initiatives. Furthermore, when rigorous frameworks are taken up, they often lack the political transformative potential that is required to work towards gender equality. Concerted efforts and renewed commitments are required to carry out both in-depth integrative and focused gender research on rangelands and pastoralism in the HKH, as well as to systematically probe why gaps continue to exist (Verma 2014b; Verma et al. 2014a, 2014b).

Although important, instead of focusing only on women's workloads and roles, gender research needs to focus on gender power relations that underlie and shape rangeland production, governance, property ownership, livelihoods, collective action, and gender relations. Future studies might consider paying greater attention to indigenous knowledge, including gendered roles, knowledge, and agency in the identification, use, access, and control of plants and livestock (Rocheleau and Edmunds 1997). Such studies might also consider more rigorously engaging in gender political ecology and post-structural analytical perspectives, in which substantial emphasis is placed on understanding the complex relationships between gender, rural livelihoods, rangeland ecologies, and mountain development within the context of rapid and multiple drivers of change in mountain regions. Such an approach sheds light on the emergence of new global policy discourses such as the

'green economy', as well as land policies aimed at privatization, sedentarization, and enclosure. This approach is interested in what impacts global discourses and national rangeland management policies and interventions have had on local people's livelihoods on the ground from a gender perspective, including the way opportunities and constraints are negotiated. In this approach, the global and the local are mutually constituted, with women often losing out (Mackenzie 2010). Research is also needed to examine different histories and trajectories of national policies and interventions that shape contemporary pastoralist practices and gender power relations.

It has been suggested that supporting natural resource-based income generating activities has the potential to enhance pastoralist women's socioeconomic position in the household as well as strengthen their status and role in the community (Rota and Sperandini 2009). This, in addition to the diversification of livelihood strategies through ecotourism, indigenous handicraft production, and high-value product-based enterprise, are considered strategies for reducing women's dependence on men for financial support and increasing their access to income, social networking, and community leadership. However, some attention needs to be given to the difference between income generation and control over the proceeds of women's labour (Mackenzie 1995; Verma 2001), as these cannot be assumed to be the same. When there is a disconnect between the amount of energy, labour, and time spent on income generating and productive activities, and the degree of control and benefit received, women often withdraw their labour from such activities (Carney and Watts 1990; Schroeder 1995; Verma 2001). Therefore, a simple focus on increasing women's income generating opportunities, without paying attention to the way this may negatively increase their workloads and undermine their control over the proceeds of their labour, and to the way these tensions are negotiated, is problematic. Although the case studies focused on women's workloads and labour time, they did not focus on the way gender identities are negotiated, contested, and reworked as women seek to gain greater control over the fruits of their own labour in response to development interventions. Future research will need to pay closer attention to these dynamics.

In terms of methodology, in societies where there is a high degree of mobility or where cultural norms restrict women from leaving their homestead unaccompanied or from appearing in public meetings, undertaking gender-sensitive research can create interesting challenges (Tibbo et al. 2009). For example, in pastoralist regions of Afghanistan and Pakistan, women are restricted from being interviewed by women interviewers without strict approval from a husband or male elder. Women researchers cannot travel on their own without an accompanying 'mahrammat' (acceptable men guardians such as father, brother, son or other man with whom a woman cannot marry) (Tibbo et al. 2009, p 2). Carrying out research with mobile pastoralist communities requires innovative methods. It is important to address and reflexively make transparent such methodological gendered challenges. This study engaged in some feminist methodologies, such as the use of qualitative descriptions to nuance and write against 'generalizations' about pastoralist 'culture'. However, this aspect needs to be more extensively engaged in future studies. It is also clear that future action research needs to focus

on shifts in gender power relations, paying attention to the violence, backlash, and changing gender identities that may result from such shifts (Verma 2011, 2007, p 23).

Recommendation 2: Carry out gender transformative institutional and capacity strengthening

Exploring the linkages between rangeland governance and gender issues raises questions regarding women's and men's differential access, rights, ownership, decision making, and control over rangeland resources and incentives. This is a critical area for research and investigation. It points to the way rangeland management issues in the HKH are complex, multidimensional, and transdisciplinary, beyond the physical characteristics of pastures and livestock. It will be important for future research to move away from a technocratic perspective that currently dominates natural resource management research, policies, and programmes, with a focus on the productivity of livestock. Integrated approaches to the management of the rangeland environment that highlight the human-environment linkages and community resilience to climate and other drivers of change are often sidelined. However, none can be effective without paying attention to gender and sociocultural issues, as outlined in the case studies.

In order to address the biophysical bias within research for development programmes, critical issues around institutional and capacity strengthening need to be addressed (German et al. 2010). One critical issue is the lack, or limited number, of organizations working directly on gender and pastoralism. Similarly, focused attention on the gender dimensions of pastoralism has been limited in livestock, rangelands, and pastoralist organizations. This is also reflected in the limited published literature available in the region. Future initiatives might consider a focus on enhancing the capacity of service providers in gender analysis, gender integration, and gender awareness to build and strengthen institutional capacity. For instance, there is scope for supporting customary (e.g., mukhiyas, herders groups, village elders, women's groups) and statutory institutions (e.g., conservation management committees, water users groups, rangeland committees, land use committees) on gender equity, empowerment, and representation in ecosystems management planning and implementation. Support and demand-driven capacity strengthening of both men and women at various levels is necessary to tackle the multifaceted gender issues of rangeland management.

Focusing only on women to address gender issues is important in some contexts, but means that men sometimes feel alienated from for the process of gender positive change. For example, ICIMOD's experience has been to encourage and reward gender champions, both women and men, who are working towards gender transformative change within the Centre and the region. This has proved to be a positive practice for increased awareness, interest, and the championing of gender issues. However, such an approach needs to raise awareness, while promoting and ensuring acceptance from men about the need to fast-track women leaders to achieve gender balance and equality within organizations. Greater strides can be made when individual researchers and programmes are given greater responsibility and held

accountable for ensuring gender analysis and empowerment, for example, through gender audits, and individual performance and project evaluations.

Local organizations, groups, and institutions are the closest to the actual, lived, and everyday challenges faced by pastoralist women and men. They are an important mechanism for supporting pastoralist women (Valdivia 2001). The mobilization, support, and demand-driven capacity strengthening of women-led natural resource organizations in remote mountain areas is important in itself, as well as a useful way of facilitating networking between grassroots women leaders, women professionals, government agents, and policy and decision makers. Breaking down the barriers between such groups will help to communicate the needs as impacts and lessons learned from past development and policy interventions.

Acknowledging and supporting pastoralist ways of life, and valuing of pastoralist women and men as crucial landscape managers, holders of knowledge, and adapters to change in mountain regions is critical in tackling global problems such as climate change – we need to listen to their voices (Nellemann et al. 2011; Kreuzmann 2012a).

Perhaps the greatest barrier confronting the recognition and integration of gender in pastoralism and rangelands is resistance and lack of commitment (Chapter 11). One example of such resistance is the lack of acceptance to central concepts such as ‘gender’ and ‘feminism’, which are sometimes received with disdain, hostility, or regarded as being ‘too political’. Gender transformative change, at its very core, is about bringing about transformations in power relations. In order to counter-act such acute challenges, it is necessary to ensure genuine and strategic support for gender transformative change initiatives from the very top leaders of organizations. Leaders will need to enforce zero tolerance to gender discrimination, as well as take positive steps to ensure they themselves are ‘walking the talk’, thereby setting a good example for their institutions. This means ensuring that boards and senior management and leadership committees are gender balanced, as well as supported conferences and events. The fact that the HKH lags behind in this area, as evidenced by the lack of balanced leadership in development organizations and within regional conferences and events, is problematic for institutions that are charged with promoting and implementing sustainable and equitable development in the region. Gender equality must permeate all aspects of organizations, not just technical projects and programmes, but also institutional structures, policies, budgets, culture and leadership.

Recommendation 3: Ensure gender-responsive, demand-driven and culturally-appropriate development

As this study demonstrates, women in rangelands spend a significant amount of their total labour time collecting basic natural resources to meet their energy, water, and fodder needs. Inadequate supply of quality natural resources from rangelands and limited sharing in household work by men exacerbate women’s workloads. Timesaving opportunities for women are important, particularly given the increase in already heavy workloads caused by the outmigration of men in many places (Rota and Sperandini 2009 p 11). More attention must

be paid to increasing the livestock feed and fodder resource base by promoting summer fodder and forage in order to produce hay for winter feeding, which will reduce the time spent by women collecting fodder.

In addition, when selecting technologies, efforts should be made to assess the impact of the technology on women's time use, its cost, the availability of financial resources to purchase it, and its appropriateness in terms of culture and to the level of education of the women involved (Meinzen-Dick 2011 et al., p 76). Labour-reducing technologies related to energy and water supply are useful when they are demand-driven and do not inadvertently reduce labour time that women otherwise value (i.e., time spent collecting water, which is also important social time for sharing news, information, networking, and bonding, etc.).

A focus on reducing women's labour burdens and work time is inadequate without considering the social and cultural context in which the work is situated and without paying attention to gender divisions of labour, in which men also play a role. Hence, progressive shifts in skewed intra-household power relations and gender divisions of labour are critical. Wider awareness is needed to shift conventional gender roles in more equal direction and to enhance income generation land and property ownership, and development opportunities for women. Development service providers might consider increasing women's access to vocational training and social and technical education in areas such as forestry, agriculture, water, ecotourism, gender studies, and development studies, as well as their access to formal employment and credit facilities in rural areas. However, as argued earlier, this needs to be undertaken in a sensitive way that balances and weighs women's currently heavy workloads with opportunity costs, so as not to increase women's workloads without increasing their direct and strategic benefits. Given the central importance of livestock in pastoralist communities, identifying and supporting the roles and agency of women as livestock owners, processors, and users of by-products are key elements for increasing women's financial and social capital (Rota and Sidahmed 2010), as well as expanding their room to manoeuvre and negotiate over key decisions.

Inadequate public services and development support to pastoralist communities make women's access to development resources such as information, credit, training, extension, legal support, and other services challenging. Government and development agencies need to consider innovative ways for service providers to make development and social resources available in remote areas. In addition, in order to ensure rangeland management development programmes benefit pastoralist communities in a holistic and demand-driven way, it is important to encourage the meaningful participation of pastoralist women and customary leaders from inception to implementation and evaluation. When gender is added to projects and programmes as an afterthought, it rarely contributes to gender equality agendas, but rather remains weak as rhetoric and 'window-dressing'.

Data emerging from other regions illustrates that the delivery of extension messages through women's groups and women extension workers is effective (Kristjanson et al. 2010 p 12).

Within gendered sociocultural relations, pastoralist women prefer to work with women extension agents and attend demonstrations and training courses when these are conducted in their villages (*ibid.*) or homesteads. Trained women extension workers in the dairy cooperatives are playing a crucial role in disseminating information and technologies that reach women pastoralists and farmers (*ibid.*). The development and mobilization of women rangeland extension agents can, therefore, be an important strategy for the capacity building of women pastoralists and their organizations in a gender-sensitive way. Similarly, local government and development offices might consider the allocation of 'gender desks' where women can feel safe and confident that they will receive fair, unbiased, and harassment-free services, information, and support (Verma 2009).

Several other development issues have been raised in the study. A strong need was identified to promote 'in-community' formal education, to avoid the practice of sending children to urban areas. The Himalayan Herbal Medicine School is a good example of a private initiative in Upper Mustang, Nepal, that has retained students in the village while preserving indigenous Tibetan healing practices at the same time. With the rise of tourism activities in the region and the already high involvement of women in the sector, the necessity to educate both boys and girls at a local level should be seen as important in sustaining economic activities.

Lack of access to information by women is another constraint in pastoralist contexts. Similar to other regions of the world, men often participate in development meetings and trainings in which information on the management of ruminants and pasture is usually provided (Kristjanson et al. 2010). Agricultural service and input-delivery systems tend to neglect and exclude women, despite the fact that women play a critical role in rangelands productivity and animal management (Singh 2002; Upadhyay 2005; Paudel et al. 2009). One issue reinforcing this bias is that within development and government institutions men greatly outnumber women, especially in livestock services and extension, and they are often not sensitized or trained in gender issues (Paudel et al. 2009). While ignoring gender issues in technical training delivery can have negative implications for women (see Haidari and Wright 2001), a lack of trained women technical experts working in rangeland management institutions further institutionalizes gender biases that advantage men's access to technical knowledge, skills, information, and services in rangeland communities. While the case studies mentioned some gender differentiated priorities of women and men, future action-oriented research will need to more explicitly focus on gender-specific and culturally-appropriate priorities for change, including, for example, women's leadership training and appropriate, locally designed, and demand-driven technologies.

In situations where sociocultural and gender relations restrict women's interactions with external development actors, especially men, the role of women staff is crucial. However, unless designed to do so, women are generally forgotten as key pastoralist actors and, instead, development resources and opportunities are channelled through men. It is assumed that women receive information through their husbands (Kristjanson et al. 2010). However, given the negotiations, contestations, and conflicts that exist within households (Carney and

Watts 1990; Moore 1993; Mackenzie 1995; Hodgson 1996a, 1996b; Verma 2001), it may be problematic to assume that information, resources, and assets are shared equally. In short, although the case studies focused on both intra- and interhousehold gender issues, future research must strengthen the analysis in ways that move away from a simple conceptualization of the household as a 'black box' with its internal wiring and complexities reduced to aggregations and its dynamism fixed (Whitehead 1981; Carney and Watts 1990; Kabeer 1994; Verma 2001). The household is a useful point of departure for gender analysis and an understanding of how women and men might be supported in light of the negotiations, bargaining, and resistance that often characterize even the most skewed gender power relations. Development interventions must also be sensitive to the fact that interventions sometimes intensify conflicts within and between households over resources and changes. Hence, longitudinal and reflexive studies that take into account and try to mitigate against any unintended consequences of development interventions are important to build into the design of projects.

Recommendation 4: Formulate and implement gender transformative policies

Looking at rangeland management and pastoralist livelihood practices from a gender perspective would contribute to holistically addressing the problems pastoralists are experiencing within and beyond the Hindu Kush Himalayas and to the design and implementation of ecosystem management policies, strategies, and programmes in highland rangelands in the HKH (Steinmann 1998; Verma 2001; Flintan 2006; Kristjanson et al. 2010; IUCN 2011). Gender, development, and rangelands are interconnected elements, each supporting and addressing the needs of women pastoralists and farmers and empowering them in high-mountain regions of the Hindu Kush Himalayas. These dimensions are important to ensure that women's agency, knowledge, and gender issues are properly addressed given the different drivers of change in the region.

This study adopted the view that policy and institutional practices in natural resource management have a significant role in women's empowerment, ensuring the equal rights of pastoralist women, and recognizing their key roles in pastoralism (Rota et al. 2012). Institutional practices of natural resource management and rangeland institutions should focus on women's empowerment looking not only at how to enable pastoralists to become more market-oriented, but also at how to ensure that women capture the benefits of economic empowerment (noted by Rota and Sperandini 2009, p 4). In addition, policy and institutional measures should support women's access to productive resources (land, fuelwood, water, technology, markets, knowledge), promote their participation in small-scale animal husbandry, and strengthen their role in decision-making processes. This study looks at these dimensions while analysing policy and institutional responses to gender equity.

The condition of natural resources in rangelands, the regulatory and policy framework, and institutional responses to gender equity can affect differently positioned women and men in different ways. Although there are strong linkages between gender, rangeland ecosystems, and pastoralist livelihoods, further research is needed to explore the impact of policy reforms on pastoralist livelihoods with greater attention to gender divisions of labour and gendered access and ownership of resources, decision making, representation in governance institutions, food security, indigenous knowledge, and power relations.

In many contexts, women pastoralists are marginalized in decision making and by national development frameworks (Rota et al. 2012, p 4). Gender strategies in the rangelands sector need to encourage strong gender equitable inclusion, as well as women-focused leadership development and the meaningful participation of women in institutions, programmes, and policy making. For instance, the inclusion of women extension agents in policy making, planning, monitoring, training, extension activities, and impact assessment will ensure greater diversity and the inclusion of a range of perspectives. It will also increase the likelihood of rangelands strategies and services being responsive to women and men's needs. Similarly, the inclusion of women in board and senior management and leadership committees tasked with pastoralism and rangelands is important.

Although a few countries in the HKH have rangeland policies, they are not clear on how to integrate gender issues for sustainable rangeland management and to ensure equitable access and decision-making rights over natural resources. Women's access to basic services; gender-friendly, culturally-appropriate technologies; training and extension services; service delivery; and decision making can be strengthened through gender-sensitive programmes that integrate and balance social, cultural, economic, and biophysical requirements. Natural resources found in rangeland ecosystems can enhance women's livelihood options if policy and development guidelines are gender and socially sensitive and translate into meaningful, culturally appropriate, and demand-driven action.

Although in many pastoralist communities men have mostly migrated for trade and work, a special policy focus is required by governments to prevent the increased and unsustainable outmigration of men in the HKH to urban areas and foreign countries. This could be achieved by making highland livelihood strategies, such as animal husbandry, farming, and ecotourism, more attractive and rewarding. Potential interventions could include the encouragement and intensification of ecotourism activities; the provision of incentives, social services, and development resources for mountain people living in harsh environments; greater acknowledgement of mountain people's valuable contribution to conserving their pristine environments; and targeted programmes on gender-sensitive education and health services. Lastly, increasing women's access to, and control over, common property resources such as community grazing areas, pastures, forests, wetlands, and watersheds can go a long way towards strengthening their status, position, and negotiating power.

Recommendation 5: Research gender responses and adaptation to multiple drivers of change

Much research has been conducted on the biophysical aspects of rangelands in high mountain areas. What is less known is how gender relations in pastoralist contexts are changing in response to new drivers of change such as climate change, globalization, geopolitical shifts, migration, the liberalization of markets, privatization and the enclosure of land, and the emergence of new global environmental discourses such as the 'green economy'. Gender gaps exist in our knowledge of pastoralist women's coping strategies, adaptation responses, resilience, and vulnerability in the face of these changes, as well as their impacts on gender relations, divisions of labour, ownership rights, decision making, and representation in governance institutions. Do such changes reinforce patriarchal discourses and norms or create new spaces for negotiations, contestations, and shifts in gender relations – or both? Are these changes products of recent interventions and influences or are they the continuation of ongoing historical processes of gendered power relations that increasingly privilege men?

One gap is the way such drivers and changes affect masculinity and gendered identities in the HKH and are historical products of recent changes, rather than embedded in what is usually constructed as the 'customary', as studied in other pastoralist regions of the world (Hodgson 1999a, 1999b). Another gap is the way the effects of climate change can be exacerbated or mitigated by state policies and development interventions. Of particular interest to political ecologists will be the interactions between pastoralist practices, gender relations, and policies that have promoted land enclosure, privatization, land grabbing, and a neoliberal push towards more 'productive' activities, including forced settlement, agriculture, and sedentarization (Verma 2007). Central to gender analysis is the exploration of how such changes in policies and their impacts intensify economic and political power, and consolidate gender inequalities in favour of men. Future research in the area of gender and pastoralism needs to make greater concerted efforts to consider issues concerning land, property and livestock rights, and not only what are considered 'safe' issues of women's 'drudgery', as the tendency has been.

Gender-focused research in rangelands and on pastoralism is urgently required, including the collection and in-depth analysis of gender-disaggregated qualitative and quantitative data. Based on rigorous research and systematic analysis over long periods of time, it will be possible to identify best practices in terms of culturally-appropriate opportunities for women for sustainable income generation, food security, environmental management, livelihood options, and expanded room to manoeuvre. While some research has been undertaken on gender and pastoralism in rapidly changing contexts in different regions of the world, there is comparatively less available in the HKH. This, in addition to the fact that research often remains in the sphere of academics and researchers, means that what research is available is not always shared with pastoralist women and men for feedback and debate. When research is translated to reach out to pastoralist women and men, the dissemination of knowledge

products should consider distribution in local languages and in modalities that reflect the often mobile lifestyles of pastoralists. For instance, in such cases radio, rather than written materials, may be more appropriate. Gender-sensitive outreach is critical, especially in order to share knowledge and raise awareness of critical development debates and challenges in response to geopolitical shifts in the region and the gender-differentiated impacts of climate change. The inclusion of men as recipients of outreach, as well as gender champions, is essential.

Research can play an important role in highlighting the everyday struggles and experiences of pastoralist women and men in negotiating and contesting multiple changes in a rapidly evolving world. Gender research and qualitative methodologies are well placed for elucidating the everyday lives of women and men and the relations of power between them that shape their lives as well as their environments. Beyond a projection of numbers, which can nonetheless be powerful, they provide an in-depth understanding of the kind of day-to-day challenges pastoralists are up against in the face of development policies that problematically prioritize privatization, sedentarization, and the enclosure of rangelands. Such policies discount complex and well-adapted modes of pastoralist life, knowing, and acting in fragile environments, while ignoring sociocultural, economic-material, gender, and spiritual aspects. Other emerging areas of research are gendered dimensions of wellbeing, sociocultural relations, psychological contentment, and the counting of aspects of women's work that normally remain invisible, ignored, or not counted (e.g., care, community, and reproductive work).

While problematic terms such as 'gender mainstreaming' and 'women and development' are often used in development organizations to varying extents and for divergent purposes, they can seem hollow and far-removed from the stark realities of pastoralist women as they struggle to eke out a livelihood within skewed gender power relations. Gender transformative research that places at its centre women's voices, lived experiences, and agency in reconfiguring gender roles, negotiating resources, and resisting patriarchal norms and relations is urgently needed to fill gaps in knowledge as well as influence gender positive policy shifts. We began this study by stating that if pastoralists are at the margins of development, then pastoralist women are at the margins of those margins. Real gender transformative change cannot be achieved without valuing and respecting the ways of life, agency, and knowledge of pastoralists in sustaining precious, yet fragile, mountain environments. Pastoralist women, in particular, face acute and complex challenges across the region, in the face of rapid change, gender-biased development interventions, and gender blind policies. However, they do so as strong, powerful agents of change who adapt to an ever-evolving world in creative and innovative ways. Moving forward, researchers, development actors, and policy makers must challenge themselves to move beyond hollow gender terms and initiatives to more effectively, consciously, and meaningfully support pastoralist women as they proactively move from a position of being at the margins of the margins.



Annex A: Case Studies

Case studies commissioned by ICIMOD and synthesized in this study

Bhutan – Soe Yaksa and Nubri

Dorji, Yeshey, (2009) *Gender assessment in alpine rangelands of Bhutan, Soe Yaksa and Nubri, Paro Dzongkhag, Soe Yaksa and Nubri, Paro Dzongkhag*. Unpublished field study report submitted to ICIMOD, Kathmandu

China – Sichuan

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China – Yunnan

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Annex B: Checklist for Qualitative Methods

Checklists for focus group discussion, in-depth interviews and observation for studying gender dimensions of rangelands and pastoralism in the HKH

Background information: Name of study village, county, district/province; total households in the village, population of men and women, literacy by gender, basic livelihood strategies, caste/ethnicity, types and number of livestock, types of crops production, etc.

Gender roles, responsibilities, labour, and migration:

- What are the productive and reproductive activities (farm production, livestock tending, household level and community level) done by women and men in the study areas?
- What is the division of labour and responsibilities between women and men for the different productive and reproductive activities?
- What are seasonal or yearly migration patterns of men and women in pursuing their daily activities and livelihood strategies? How has migration impacted on the workload of people left behind?

Livelihood diversification in rangelands:

- What are the major livelihoods strategies practised by pastoralist communities in the HKH rangelands?
- What are the sources of income for pastoralist women?

Access, use, ownership and control over resources:

- To which natural resources do men and women have access?
- Who owns the land and livestock within a pastoralist family (women or men members)? Who has control over the land?
- Which decisions within the household related to the management of small livestock/big livestock are taken by women and which ones are taken by men?
- Which decisions within the household related to the production of crops (high value crops and crops with low economic value) are taken by women and which ones are taken by men?

- In the case of transhumant and nomads communities, who takes the decisions within the household when it is time to move? (in the case of transhumant and nomads communities)
- Which decisions within the household related to the utilization of incomes are taken by women and which ones are taken by men?

Condition of rangelands and gender needs assessment related to water, energy, and forage/fodder:

- What is the main source of water, forage/fodder, and fuelwood for cooking, heating, livestock, and small irrigation for pastoralist communities?
- Who mostly participates in collecting and transporting these resources for household needs?
- To what extent does natural resources (water, forage, fodder, fuelwood) availability in the rangelands meet the needs of women pastoralists? What are the difficulties women are facing in accessing these resources?
- What would address women's problems in relation to accessing natural resources?
- What changes have taken place in terms of the availability and accessibility of these resources over the past two decades?
- To what extent has the availability of resources impacted on women's workload, drudgery and health?

Gender-based violence and social perceptions of gender roles and women's empowerment:

- Do men and women experience any gender-based violence in the study area? If so, what type of violence and why does it occur?
- What are the social perceptions of women and gender roles in the study area? Do communities in the study area recognize women as equal to men? If no, what are the gender stereotypes and sociocultural practices that discriminate against women?

Rangeland governance and access to development and extension services:

- What are the formal and informal institutional arrangements for the management and control of rangeland resources? How do women and men participate in these institutions? Are women and men equally represented in these institutions? Who has decision-making power in these institutions?
- What type of support (e.g., extension services, knowledge transfer, technology, credit, etc.) have pastoralist communities received from external institutions (NGOs, GO, project etc.) in their efforts to cope with hardship and poverty in rangelands?
- Do women and men have equal access to information related to agriculture and other natural resource management?

- How do women and men get information related to government services?
- How do women and men have access to information related to environmental changes, including early warning systems, new technologies, etc.?
- To what extent are the formal and informal institutions aware of the differential needs that women and men may have and are they addressing those?
- How do women and men have access to information related to government services?

Perception of changes

- What changes (climatic and socioeconomic) have been observed by women and men over the past 20 years?
- What are the implications of these changes on their lives (positive and negative) – including climatic changes and others?

Policy analysis

- Which policies on the management of rangeland resources exist in the study area?
- How have these policies articulated gender issues of rangelands and mountain development?
- Do these policies have gender specific objective, strategies and programmes that would address the gender differential needs of men and women pastoralists?

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