

# Neglected High Altitude Rangelands of Nepal: Need for Reform

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## Abstract

High altitude (HA) rangelands (e.g., grasslands, pastures, and shrublands) are important resources for the livelihoods of transhumance pastoralists. Transhumance pastoralists have developed and used unique institutional practices of using and managing HA rangeland resources that better suit their local context. However, several issues have emerged regarding the use and management of such rangelands. Using secondary information and our own experiences, we analyse the resource tenure situation and the political ecology of the HA rangelands. We found that the current management of these resources is largely neglected from both legal and programmatic point of view. Legal instruments and programmatic interventions have not only failed to recognise historically held indigenous knowledge and long practiced resource conservation, use and management but have also limited the access of pastoralists to the resources, and thereby, inducing conflict among stakeholders. As a result, the livelihoods of the transhumance pastoralists have been threatened and several socio-cultural, economic and ecological consequences have also been experienced. We suggest developing a separate policy and management plan for HA rangeland resources considering the customary rights of transhumance pastoralists, resource conditions and appropriate management practices. We also suggest incorporating such perspectives in revising ongoing community forest and protected areas management.

**Key words:** Customary practices, high altitude, indigenous knowledge, pastoralism, transhumance

## INTRODUCTION

The forests and pasture of high altitude (HA) of Nepalese Himalayas are not only important resource base for the livelihoods of people living in the regions but also valuable assets and attractions for a wide range of people and stakeholders. These resources are highly appraised for pasture by the transhumance pastoralists; they are the sources of incomes and agricultural inputs for distant and transient users from the Mid-hills; they are reservoir of water for hydropower developers and promoters; they are the sources of revenue for the state; they are the pools of ecological goods and services for conservationists and ecologists; they are the places of fresh air, natural beauties, peace and tranquility, and

adventures for trekkers, travelers and city-dwellers.

People from nearby villages as well as far away distances have been using these resources by practicing many site-specific indigenous practices<sup>1</sup>. Indigenous practices are developed through mutual trust and reciprocity among the users delineating property rights of users, and are administered and governed by culture-specific institutional mechanisms. The nationalisation of forests in 1957

1 We have used the term 'indigenous practices' to capture both traditional and customary practices of natural resource management, utilisation and conservation in the high altitude areas of Nepal.

and that of pasture in 1974 exacerbated conflicts between the government and the communities that have been exercising and enjoying various tenure rights over the forests/pasture resources as provided by their indigenous systems (Baral 2015; Baral *et al.* 2012). However, recent state interventions using blanket approach of expanding protected areas and community forestry (CF) have failed to understand century-old indigenous practices of natural resource use and thereby, affecting the livelihoods and also creating social tension among people of diverse cultural and social backgrounds. The highly praised and successful CF practices have not been able to recognise the traditional grazing practices of transhumance herders, who used to move their animals to different geographical locations as a means to cope with the harsh climatic conditions of the HA areas. This not only curtailed the indigenous rights of transhumance pastoralists and dry land farmers but also invited a widespread marginalisation of communities, whose livelihoods are dependent on such indigenous practices. As a result, a number of visible adverse impacts on both socio-economic and ecological aspects of HA have been observed (Baral *et al.* 2012; Baral 2015).

We explore the resource tenure situation and political ecology of HA rangelands, grasslands and pasturelands (Box 1) using secondary information and the authors' own experiences. We briefly introduce the socio-economic and ecological environments of the HA, and examine the resource tenure situation in terms of both *de-jure* (legal) and *de-facto* (customary) tenure rights. More specifically, we attempt to answer: (i) what are the rules, conditions and formalities that are built in the indigenous practices to define the access to the resources?; (ii) how are the customary laws, institutions and

communal ownership taken up or adopted by the formal legislations?; and (iii) what could be the potential ways forward to restore the harmony of HA people with their Mid-hill neighbors and emerging new users that could resolve conflicts of forest and pasture tenures?

### **Box 1: What are Rangelands, Grasslands and Pasturelands?**

The rangelands, grasslands, and pasturelands have different definitions; however, they are collectively understood as grasslands in Nepal. In simple terms, grasslands are naturally occurring areas dominated by herbaceous plants (e.g., grasses, herbs, shrubs and thin stand of trees), which are grazed/browsed by ruminant animals without reference to land tenure. A pastureland is a piece of enclosed farmland, where introduced or domesticated native forage species are planted and managed for grazing purposes of domesticated livestock (FAO 2005; Pariyar 2013). Rangeland is, however, an open region of natural grassland, on which the native vegetation (e.g., grasses, grass-like plants, herbs or shrubs) is predominant and includes natural grasslands, savanna, shrub lands, tundra, and meadows (Pariyar 2013). The Rangeland Policy 2012 has defined rangeland as a natural pastureland that includes grasslands and shrublands. In this paper, we use the term 'rangelands' for natural area(s) comprising of grasslands, pasturelands, shrublands and other grazing areas that are either inside or outside forests.

## **BIOPHYSICAL AND SOCIOECONOMIC FEATURES OF THE HIGH ALTITUDE AREAS**

### **Physical Features**

HA areas encompass the area between Northernmost part of the country, bordering Tibet and North of the

middle mountains at elevations between 2000 to 5000m (*see Map 1*) (Baral 1996; FAO 2010). The definition depends on site-specific characteristics, while the terminologies often used in literature are: “High Altitude”, “High Mountain”, “Highlands”, “Upperslopes”, and “Lekh” (Acharya 2003). Generally, people from middle mountains call these areas “Lekh”,

whereas the people from high mountains call them “Kharka” (temperate pasture); they are also referred to as “Siddhi Kharka” (summer pasture or the subalpine and alpine pasture) in the Eastern and Central regions, and “Patans” in the Karnali region and its West (Baral 1996, 2005, 2015). HA areas exhibit some (or all) of the unique characteristics (Box 2).

#### Box 2: Characteristics of HA areas

- Inaccessibility
  - Contagious forests located in remote areas that are inaccessible for daily use;
  - No permanent settlements in between these forests;
  - Long distance to reach from settlement, seasonality of intense cold weather and snow;
  - Steep terrain;
- A unique set of natural resources
  - Distinct tree species or forest types with combinations of:
    - Broad leaved trees species (e.g. oak, rhododendron), conifers (Hemlock, Fir, Spruce, Cedar), mixed forests, and associated trees and shrubs.
    - High forest, high value non-timber forest products (NTFPs) and alpine pastureland.
    - Greater number and diversity of wildlife species as compared to the Mid-hills.
    - Rich in aesthetically pleasing sites, glacier lakes and mountains.
- Livelihoods and resource utilisation
  - Transhumance pastoralism, which is a cyclical migratory pattern of livestock from lower temperate warmer region in winter to temperate, subalpine and alpine meadows and high land valleys in summer to exploit seasonal availability of forests and rangelands resources;
  - Livelihoods dependent on livestock husbandry (e.g., Yak/Nak/Chauri, sheep and mountain goat), NTFP collection and trading, tourism, trekking and mountaineering;
  - Seasonal users of forests and pasture resources due to seasonal availability of resources.

(adapted from: Messerschmidt and Rayamajhi 1996; Acharya 2003; Baral 2005)

## Land Use and Land Cover

As per the above definition, HA areas comprise most parts of the High Mountain, the High Himal and the part of the Middle Mountain. Baral *et al.* (2012) has estimated about 6.2 million ha of HA area lies in 55 districts; with approximately 97 per cent of the HA areas concentrated in 25 districts. The Department of Forest Research and Survey (DFRS) gives a general land use scenario of the country as

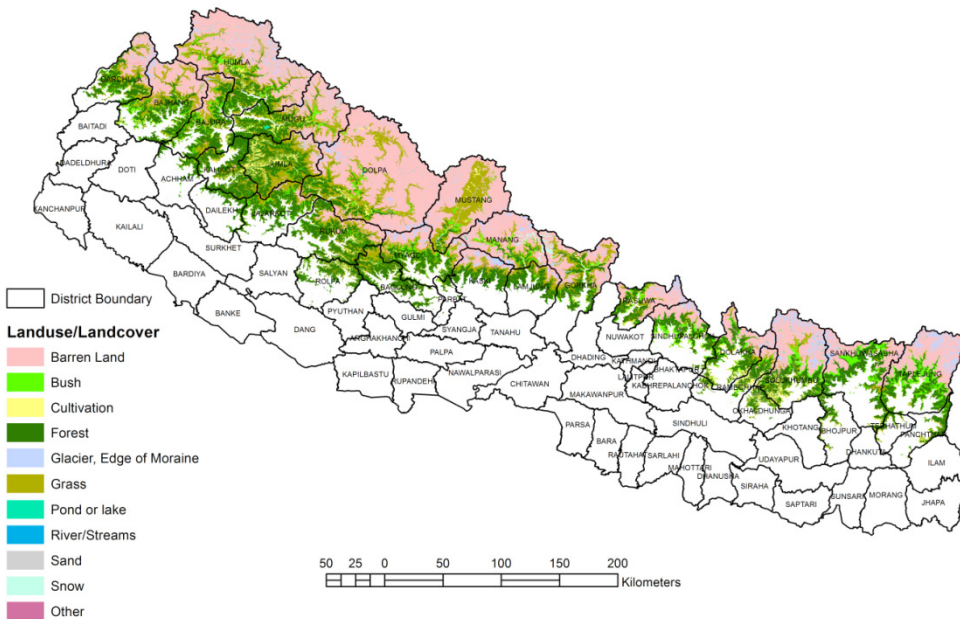
forest, shrubland and other wooded land (OWL)<sup>2</sup>, with these constituting for 44.33

2 The DFRS (2015a, 2015b) have defined the other wooded land (OWL) as “The land not classified as forest spanning more than 0.5 ha, having at least 20 m width and a tree canopy cover of trees between 5 per cent and 10 per cent” Or “The canopy cover of trees less than 5 per cent but the combined cover of shrubs, bushes and trees more than 10 per cent; includes area of shrubs and bushes where no trees are present.”; and Shrub as “An area occupied by woody perennial plants, generally 0.5–5.0 m height at maturity, and often without definite stems or crowns.”

per cent (6.5 million ha) of the total land mass of the country (DFRS 2015a, 2015b). Out of the total 5.96 million ha of forests (except OWL), the High Mountain and High Himal regions together account for 32.25 per cent. Similarly, 85.42 per cent of the total 0.68 million ha of shrubland and OWL lie in the High Mountain and High Himal regions (DFRS 2015a, 2015b). The survey has also estimated 8.16 million ha of *other land* in the country, out of which the

High Mountain and High Himal contains almost 50 per cent (DFRS has classified other land as the “land that is not classified as Forest or OWL” (DFRS 2015a:x), which also contains many areas of alpine pasture). All these figures demonstrate that the HA areas contain substantive areas of rangelands as it includes almost all areas of shrub and OWL and parts of *other land* in the High Mountain and the High Himal.

Landuse/Landcover Map (Above 2000 Meter Altitude)



Map 1: Land-use Map of Nepal Showing Area Above 2000 m Elevation (Baral *et al.* 2012)

## Biodiversity and Endemism

Rangelands are reservoirs of enormous diversity of genetic resources. Out of Nepal's 5,160 recorded flowering plant species, 246 species are endemic to Nepal of which 131 species are known to occur in subalpine and alpine rangelands (Shrestha 1998). Of the 700 species of plants that have medicinal and aromatic properties, 41

species have been identified as key species of which 14 (34%) are known to occur in the HA rangelands (BPP 1995; MoFSC 2005). Out of 8 endangered and vulnerable major wildlife species, four (e.g., Snow Leopard (*Panthera uncia*), Himalayan Musk Deer (*Moschus chrysogaster*), Tibetan Antelope (*Pantholops hodgsonii*) and Grey Wolf

(*Canis lupus chanco*) are from the HA (DNPWC 2011; IUCN 2015). Similarly, out of 840 birds species found in Nepal, 413 are reported to occur above 3000 m altitude (Inskipp 1989).

Historically, HA people and communities have a very special relationship with natural resources, particularly with land, forests and pastures. These natural resources are not only the basis of their livelihoods, but are also interlinked with their cosmology and life systems and have deeper cultural meanings for them. HA people derive their sense of identity by living in certain areas and using location specific natural resources. The ownership of natural resources, especially land and forests, has always symbolised wealth, power, social prestige and security for most of the indigenous people (Sherpa *et al.* 2009; Baral *et al.* 2012, 2015; Ning *et al.* 2013). Rangelands in the Nepalese HA do not only serve as animal feed resources and major source of livelihoods, but also catchment areas for a number of river systems that flow down to the Middle Mountains and Terai.

### **Population, Lifestyle and Livelihoods**

HAs are sparsely populated and are inhabited by different indigenous, ethnic groups dominated by Tibeto-Burman origin such as the Sherpa, Bhote, Rai, Limbu, Tamang, Jirel, Gurung, Thakali and Magar, and also by Khas (Brahmins/Chhetris) and Thakuris in the Karnali and Far-Western region. The 2011 census recorded that the population in the HA region is 4.2 million i.e., 16 per cent of the countries' total population. According to the most recent livestock census, Nepal has 7.2 million cattle, 4.8 million

buffaloes, 0.8 million sheep, 9.2 million goats (AICC 2012). Baral *et al.* (2012) reports the population of livestock in the HA is about 48 per cent (8.92 million) of the total livestock population (18.21 million). The HA host about 26 per cent of cattle population, including 80 per cent of Yak/Nak/Chauri and 65 per cent of sheep population (*ibid*).

HA people derive their subsistence needs from a combination of animal husbandry, agriculture, NTFP trade, tourism (trekking, expedition and hotel business) and seasonal migration. Animal husbandry and agro-pastoralism are central to the economy of the HA people. Transhumance pastoralism (for example, Yak/Nak/Chauri, sheep and mountain goat herding) is an intrinsic part of the identity of the High Mountain people. Being food-deficit areas, livestock raising, barter and trade system, dependency on NTFPs and wild edible plants, and seasonal migration have evolved as alternative strategies over time (FAO 2010). HA people of the Karnali region such as in Humla and Dolpa derive up to 50 per cent of their annual income from the sale of NTFPs (Acharya 2003; Baral 2015). In recent years, NTFPs (including medicinal and aromatic plants) trade dominates as the major source of household income.

## **MANAGEMENT OF HIGH ALTITUDE RANGELANDS**

### **Indigenous Management System**

To protect resources of forest commons and pastures, and regulate access to these resources, local people of HA have developed norms and procedure by themselves without outside guidance (Gilmour and Fisher 1991), which shapes their actions and practices in



using and managing the resources. Such norms and procedures developed and maintained overtime by the communities are the forms of customary institutions. Customary institutions are responsible for the continued productivity of forests and pastures, and are recognised as the protectors or stewards of the natural ecosystems. Some of the successful examples of the customary institutions of forest management include *Nogar* of Gurung Community (Messerschmidt 1992). Uprety (1994 cited in Uprety 2008) reported the influence of traditional *Kipat*<sup>3</sup> legacy in most pastures of Mahamangkhe and Yamphudin village development committees (VDCs) in Kanchenjunga area. In addition to the *Kipat* system, Brown (1994) reported a number of community-managed pasturelands in the HA villages of Kanchenjunga areas (e.g., in Ghunsa, Gyepla, Pholey, Wonagchung Gola, and Yangma). Informal institutions commonly known as *Kiduk* and *Gothala Kiduk* also existed in upper Tamor and Wolangchung Gola areas. The Bhote and Tibetan refugee communities in upper Tamor practiced the *Kiduk* system, where donation management, local credit systems and informal local governance systems were practiced (Brown 1994). The government

apparatus later replaced such indigenous systems, leading to open access resource.

Various kinds of transhumance system of grazing have been in practice in the HA pasture where winter is very severe and animal feed is scarce. Mountain cattle (e.g. Yak, Chauri, sheep and goats) are moved up to the alpine pasture at 4000-5000 m elevation during summer and brought down to 1600-2100 m during winter. Sheep and goats are moved further down to the Mid-hills in the winter. Until 1957, most of the transhumance farmers (e.g., in Dolkha, Sindhupalchowk, Humla, Mugu and Dolpa) had access to Tibetan pasture during the winter season where they would keep animals for about two and half months (Baral 1996; Baral *et al.* 2012).

The HA resources (land, forest and pasture) are subject to various customary resource tenure systems. Such tenure systems consist of a set of rights governing resources that are derived from customs or practices handed down from generation to generation. In such customary tenure arrangements, the rights to use or to dispose of use rights are recognised as legitimate by the community. The rules of such tenure system are usually explicit and generally known but not recorded in writing. The rights to use forests and pasture resources are mostly guided by the purpose of using the resources, resource availability and lifestyle of the dominant population. Such rights are guarded by delimiting the forests/grazing areas with well-defined rights of households to a particular forest or grazing area. A glimpse of customary forests and pasture management in the HA are presented in Table 1.

3 Kipat is a type of communal land ownership historically prevalent among certain ethnic groups although Land Reform Act, 2064, abolished it. Under this system, the members had the usufruct rights to use community land and pastures, but no power to sell it. Regmi (1978) lists the following groups as possessing Kipat system: Limbu, Rai, Majhiya, Bhote (the residents of the upper Tamor and other areas), Yakha, Tamang, Hayu, Chepang, Barmu, Danuwar, Sunuwar, Kumhal, Pahari, Thami, Sherpa, Majhi and Lepcha (Brown 1994).

**Table 1: A Glimpse of Customary Forests and Pasture Management Systems in the High Altitudes**

Indigenous system(s)	Area(s) of practice	How is/was the system formed? (and important rules)	Who enforces and who monitors?	Benefit sharing and equity <sup>4</sup>
The transhumance grazing systems	Kalinchowk and Bhairabkunda area	A village council comprising 9-15 members is formed democratically by the local community; Transhumance herders are assigned the pasture based on the quality of pasture, and size of herds; Grazing schedules to move (upwards and down wards or during summer/winter) are pre-set; Rules for wood and NTFPs harvesting is made; Livestock taxes are defined.	The Chief of the councils or a person or group of households are elected by the council for specified period (usually one year) to act as the “Enforcer”; The Chief of the councils enforces the rules, while the other members of the councils are responsible for supervision, monitoring and reporting	Fair and equitable benefit sharing irrespective of gender and wealth status.
<i>Shingi Nawwa</i> system of forest and pasture management	Khumbu Region	<i>Nawwa</i> <sup>5</sup> elected democratically by the community on a rotational basis; Norms or rules on timings, areas of pastures, size of herds and sequence of rangeland for grazing and forest use (quantity by types and uses) and other accessory norms/ rules required for sustainably managing natural resources are made.	The head of local institution - the <i>Shingi Nawwa</i> - enforces the rules and regulation and 3-4 men are especially appointed to monitor rules and regulation and also the assist the chief <i>Nawa</i> .	No discrimination for benefit sharing; Inclusive and equitable.
<i>Gumba</i> system of forest and pasture management	Pungmo, and Gumba Area of Dolpo	Chhabu Lama -the chief Lama of Gumba danda monastery <sup>6</sup> manages the system. Rules are related to ban on hunting and killing of wildlife including birds; Forest management/conservation and harvesting including NTFPs, managing and regulating grazing of pasture lands; Local norms related to agriculture system or crop management; and Laws related to offenses and punishment upon breaches of the customary law.	The Chhabu Lama is responsible for the enforcement of laws while his assistant Lamas are responsible for the overall implementation, monitoring and reporting of the local rules and regulations; The decision making process is democratic and bottom up and often held at community and household level depending on the types and sensitivity of the cases related to the breaching of customary laws	No discrimination for benefit sharing. Inclusive and equitable.

- Most indigenous systems of forests and pasture management are biased towards women in terms of their participation in law making, decision making, and representation in various councils and committees. In many Indigenous system, such as indigenous forest and pasture management in Kalinchowk regions rights of transhumance pastoralism is limited to male-headed households only.
- Two types *Nawa* exists. They are: *Osho Nawa* and *Shingi Nawa* (*Shingi* stands for timber or wood and *Nawa* stands for people who look after forest). *Osho Nawa*'s responsibility is to coordinate the villagers' agricultural activities and to prevent damage to crops. *Shingi Nawas* are responsible for *NRM* but also look after agriculture and livestock management.
- The *Gumba* System of pasture management is administered by the *Gumba danda* monastery and follows a *Lama*'s hierarchical system of institutional structure. The chief *lama* known as *Chhabu Lama* is supported by a set of assistant and junior *lamas* (*Lajung* and *Kerkha*) and a number of beginners or student called *Tabas*

Transhumance grazing system	Humla, Jumla, Mugu	Rules and decision making are democratic, transparent and bottom-up and are carried out at the time of village councils before moving to summer pasture; Rules related to grazing cycles, harvesting of forests products and merging of animals and forming herd size; and Fixing annual wages to Noras are made.	The <i>Rokya</i> or <i>Mukhiya</i> are the main enforcers and <i>Nora</i> are responsible for implementing, monitoring and reporting; Rules and norms are revised at the time of village council while decisions against pasture/pasture offense or conflict between villagers are settled either at community level or at individual household level.	Fair and equitable but restricted to those who do not accept polyandry in Limi VDC of Humla.
Transhumance Pasture Management in Manang	Nar and Phu Valley of Manang	<i>Ghampa-Ngerpa</i> and <i>Gamba-Lhenjing</i> locally known as Village councils. <sup>7</sup> Rules are mainly related to regulation of forest harvesting, grazing and protection of forest and cultural and religious sites; Revising grazing taxes mainly on the basis of herd size and their age;	<i>Ghampa-Ngerpa</i> in support of <i>Gamba-Lhenjing</i>	Fair, equitable and no outsiders are allowed to use forests and pasture falling within their territory.
Sat Thari <i>Mukhiya</i> System of Forests and Pasture Management	Baglung	Chief of the Village Council is the <i>Mukhiya</i> ; Rules are mainly related to the regulation of forest harvesting, grazing and protection of forest from encroachment and fire; Membership eligibility is based on residence (villagers only), age (15-60 years and, open to married men only);	Overall responsibility of enforcing the laws lies on the <i>Mukhiyas</i> ; however, each other members are also equally responsible for the implementation, supervision and monitoring of activities. Decisions are democratic in nature and are made at the time of annual village council's meeting;	Fair and equitable
The <i>Kipat</i> or <i>Subba</i> system of forest and pasture management	Far Eastern Region	<i>Amali Subba</i> or <i>Pagari Subba</i> and a number of other informal social institutions manage the system. Rules and regulations required for the management of land (agriculture), forests, pasture, and biodiversity ( <i>declaration of Ranivan</i> ), including rules for wild life poaching and hunting; forest harvesting; Setting fees for use of forests/pasture and forest products for non-kipatayas.	<i>Amali subba</i> in support of the informal social institutions forests, pasture and biodiversity conservation) implements; Decision making process are democratic and bottom up. Issues presented orally before community members and witnesses, discussions, verification of facts, submissions, vows, and oaths are taken; Experienced and elderly persons from the communities are invited as a symbol of fairness and justice.	Fair, equitable and inclusive

Source(s): Ailrol 1979; Baral 2015; Furer Haimendorf 1984; Kharel et al. 1996; McVeigh 1994; Parajuli 2001; Regmi 1978; Stevens 1993.

7. This institution is made up of two types of members, decision makers called "Ghamba" and decision implementers known as "Chow" in Nar Phu and "Lenjing" in Phu. These are clan based institutions and rotational in membership i.e each household heads (men only) hold both types of posts at least once in their life time.



## Interventions of the State and Aid Supported Projects

The management of HA rangeland started in the early 1950s with the establishment of cheese factory, and the forage production program in the central and eastern Nepal (FAO 2010; Pariyar 2013). Later in the 1960s, an integrated project called Jiri-Multipurpose Development Project (JMDP 1964-1971) promoted the cultivation of exotic grasses such as clover and ryegrass in the pastureland around the Jiri Valley. All the pastureland belonging to private individuals and institutions (e.g., *Jamindar*, *Mukhiyas* and *Shubbas*) were nationalised in 1974 and pasture development project was established in 1978. Also, the Nepalese government entered into an agreement with China in 1983 (after the takeover of Tibet by China in 1959), which completely stopped the traditional use of Tibetan land by Nepalese herders. A northern belt pasture development programme was launched in 10 HA districts<sup>8</sup> in 1983, which culminated in 1992 with very limited achievements. Other efforts at subnational levels include: (i) establishment of cheese factories and cattle farms, and implementation of integrated hill development project to improve pastureland from 1975 and 1990 in Dolkha and Ramechhap districts; (ii) establishment of the pasture and fodder development farm in 1971/72 in Langtang valley, and (iii) implementation of pasture, fodder and livestock development project in the Trishuli watershed area in Nuwakot and Rasuwa districts.

In addition, three bilateral forestry projects (e.g., Nepal Swiss Community

<sup>8</sup> Humla, Mustang, Sindhupalchowk, Dolakha, Manang, Dolpa, Gorkha, Mugu, Sankhuwasabha and Taplejung.

Forestry Project, Livelihoods and Forestry Program, and Nepal Australian Community Resource Management and Livelihood Project) in the 1990s and mid 2000s carried out several studies and raised the issues and challenges of HA natural resource management (Messerschmidt and Rayamajhi 1996; NACRMLP 1997; NACRMLP 2003; Baral, 2003. Baral 2006). These studies strongly recommended a separate strategy of managing HA resources such as forest, pasture and NTFPs. However, such government and project efforts have not been successful and the HA rangelands continued to degrade. Once the CF took momentum in the mid-1990s, most the of the HA forests and pastures were continually handed over to upper Mid-hill communities as CFs by neither developing any separate strategy for HA rangeland management nor considering the need of secondary users, particularly the transhumance herders. Almost all CFUGs then banned the grazing of animals in CFs to revitalise the degraded forest, resulting in constraining of the transhumance pastoralism. Another government intervention that affected the rangeland in the HA is the declaration of the protected areas, which has put several limitations on the continuation of the customary system of forests and pasture management on one hand, and has discouraged grazing and transhumance pastoralism on the other.

## Regulatory Instruments and Local Tenure in the High Altitude Rangelands

None of the policy instruments have made any specific provisions for HA rangelands. Neither the Master Plan for Forestry Sector 1989 nor the Forest Act 1993 recognises the need for specific, strategic interventions in the HA rangelands. The

Forest Act 1993 and National Parks and Wildlife Conservation Act 1973 determine the tenure rights of the local communities in the HA under different management regimes such as CFs, national parks/reserves, buffer zones and conservation

areas. Table 2 presents the access and management rights of communities of HA under each of these regimes. None of these regimes, however, have recognized the traditional and customary rights of the people.

**Table 2: Access and Management Rights of Communities in Different Forest Management Regimes in the HA Areas**

Forest regime	Access benefits (use rights) to communities	Management (control rights) to communities	Remarks
Community Forests	Access to members; 100% benefits to communities	Rights to make management rules and revise management plans	Traditional distant secondary users excluded; Transhumance glaziers' rights not recognised.
PA system			
National parks/reserves	Access restricted but can be opened for grasses	No engagement of communities	Traditional rights and transhumance glaziers' rights not recognised.
Buffer zones	Receive 30-50% of revenue from PAs for community development	Restricted rights to make management decisions.	Traditional rights of distant users not recognised.
Conservation areas	Entry through membership	Restricted rights to make management decisions	Transhumance glaziers' rights not recognised.
Other areas (government-managed forest)	Only licensee have rights; Under-regulated for household purpose in practice	No engagement of communities	Traditional rights and transhumance grazers' rights are in practice.

(adapted from Acharya *et al.* 2008; Giri 2012; Bastakoti and Davidsen 2014)

More recent policy documents such as the Forestry Sector Strategy 2016, Forest Policy 2015, Rangeland Policy 2012, Nepal Biodiversity Strategy and Action Plan (2014-2020) and Nepal REDD+ Strategy 2016 (draft) have, however, stressed the

importance of HA forests and a need for integrated resource management for social, economic and environmental services. While the Forestry Sector Strategy 2016 has proposed to develop High Mountain specific Community based forestry/

pastureland (apart from existing CF, Conservation Area and Buffer zone) and also recognise the traditional and customary rights of people, the Forest Policy 2015 has proposed to make use of traditional and customary knowledge and skills in forest management. In addition, the Nepal Biodiversity Strategy and Action Plan (2014-2020) and the Nepal REDD+ Strategy 2016 (draft) have recognised the specific context of high mountain regions and has identified strategies and actions to improve understanding, conservation and sustainable utilization of rangelands. The National Rangeland Policy 2012 has recommended to establish various rangeland management institutions at the ministry, departmental, district and user levels with their corresponding roles and responsibilities. The Department of Livestock Services has also prepared a draft rangeland management plan 2013 that focuses to clarify land ownership and property rights issue, carry out rangeland inventory and integrated rangeland management, including grazing management, conservation of forage, nutrient management, introduction of suitable exotic grasses and legumes, undesirable bush control, and reseeding (Pariyar 2013). However, the plan has neither been approved nor could be effectively implemented until the jurisdictional overlap with the Department of Forest is sorted out.

## KEY ISSUES AND CHALLENGES

### Ill-suited Policies and Programmes

Despite some of the project level ad hoc initiatives, the policies and programmes in the past have failed to give due attention to the systematic and continued management of unique HA rangelands. The agricultural and forest policies have not adequately

appreciated the role of rangelands biodiversity in the development and economic growth of HA (Acharya 2003). The blanket approach of forest and rangeland policies and measures were inappropriate in the context of unique characteristics of the HA.

Forestry legislations have provisioned that all HA rangelands are under the jurisdiction of either the Department of Forests or the Department of National Parks and Wildlife Conservation. However, the presence of these departments is hardly seen in the HA rangeland resource management due to the lack of any pasture development programmes. Rather, the communities' intent of HA rangelands' utilisation and the programmatic objectives of rangeland management are implicitly associated with the mandates of the Department of Livestock Services. Therefore, the National Rangeland Policy 2012 has mandated the Department of Livestock Services for rangeland management. In addition, the local governance legislations authorize concerned VDCs and DDCs to protect, improve and regulate access to the rangelands. Such legal provisions and programmatic mandates not only demand collaborations, collective efforts and partnerships among different line departments, local governments and local communities. Achieving such collaboration effectively is not only challenging but, in practice, has also been creating latent conflicts among these entities.

### Lack of Knowledge about Customary Practices and Capacity and Programmes to Manage Rangelands

The HA rangelands were long being regulated by a set of well-defined and

mutually agreed upon rights and rules backed by different social controls and sanctions (Acharya 2003). However, such customary property rights were specifically disturbed and disrupted by several government efforts (e.g., enactment of the Pasture Nationalisation Act 1974, agreement with Chinese government regarding the use of the Tibetan rangelands, and CF and protected area expansion). It is to be noted, however, that the intentions of those efforts were not to negatively impact transhumance herding. There is a major gap in knowledge and information on socio-cultural, institutional and technical aspects of rangeland management in the HA. The existing customary practices, institutions and resource use patterns were either not understood or poorly understood. There is little information available about the existence of agro-pastoral systems; indigenous knowledge of resource conservation, management and utilisation; and regeneration of many endemic species to the HA. In addition, the forestry field staff are not adequately capacitated (in terms of knowledge, skill, program and resources) to understand the complexity and the technical need for the HA resource management.

### **Effects of Community Forest and Protected Area Expansion in Accessing, Using and Managing Rangeland Resources**

The expansion of protected areas and CF in the HA without considering the unique context of the HA areas, particularly traditional practice of transhumance pastoralism, has created several conflicts in relation to the use and management of HA rangelands. Some of the prominent conflicts are briefly presented below.

### **Conflict Between De-jure Forest Rights Holders and Customary Users**

Transhumance herders have been the customary users of most of the accessible HA rangelands. In customary systems, decisions on grazing cycle and grazing rules, area delineation, NTFP collection, and monitoring, levy and sanctions used to be made by local communities and administered by customary institutions. However, the expansion of state-induced CFs and protected area systems in traditionally used rangelands did not recognise and respect customary practices. CFUG either banned winter pasture herding or heavily taxed such practices, negatively impacting the transhumance lifestyle of HA sheepherders since the 1990s. For instance, the transhumant herders of Humla, who used to move their sheep and goats south to Bajura, Kalikot, Accham, Surkhet and Kailali districts for winter grazing (Baral 2015; McVeigh 1994), were adversely affected once the CFUGs in those (either en route or destination) districts imposed high grazing fees. This not only created conflicts between transhumance herders and CFUGs but also forced herders to abandon their herding lifestyle or contributed to greatly reducing the size of their herds.

### **Conflicts Between Protected Area Authority and Transhumance Herders**

During the formation and expansion of protected areas, larger areas of HA rangeland have been included in the protected area system without consultation or free, prior and informed consent of transhumance herders, restricting and/or limiting the use of resources by

transhumance herders. The protected area legislations not only ignored the customary laws and institutions but also imposed restrictions on using rangeland resources. Such situation created tensions and conflicts between protected area authorities and local herding communities in the HA areas. As a result, some herders are still struggling to survive, while others are engaged in alternative economic livelihood options such as tourism, trekking, and hotels, ultimately resulting in the decline of transhumance grazing practices. Such decline is also enhanced by other factors such as disinterest among new generations.

### **Conflicts Between Transhumance Herders and Up-land Farmers**

Transhumance herders use forests from lower temperate to alpine pastures, while up-land, dryland farmers limit their use to the lower temperate forests. The up-land, dryland farmers are people who live in the lower temperate zones, only have drylands for farming, and use the lower temperate forests for summer grazing, but do not practice transhumance herding. Transhumance herders and these farmers are in conflict with one another as they both have to use the same forests and pastures for winter grazing of their Yak/Chauri, sheep and mountain goats. Transhumance herders are also in conflict with other farmers' grazing areas which fall along their en-route travel to the summer pastures. They used to have seasonal grazing rights in those en-route forest areas as a recognised customary practice in the past. Forests and pastures in those grazing routes have been since then handed over as CFs to up-land farmers, which prohibited the transhumance herders' en-route grazing rights. In addition, as the local

governments (e.g., VDCs, now village municipalities) possess certain property rights over forest resources within their territorial boundaries, conflicts between local communities/government with transhumance herders escalated.

### **Conflicts within Transhumance Herders Regarding Contribution and Benefit Sharing**

As the access of transhumance herders to the HA rangeland resources has been limited over the last few decades (e.g., restriction to access Tibetan pastures, expansion of CF and protected areas, and conflict with non-herding farming communities), conflicts among the transhumance herders has emerged. This type of conflict emerges particularly due to the differences in the size of herds and the socio-economic status of the herders. In many cases, each individual herder, despite of the size of herds, has to contribute equally in the management of grazing and grazing lands. In such a situation, big-sized herders who generally keep large-size (more than 30) young and productive Yak/Chauri and are relatively rich, usually get higher benefits than those who are economically weak and keep small-size (less than 15) old and unproductive herds. Such differences and discrepancies has often created disharmony within transhumance herders.

## **CONCLUSIONS AND RECOMMENDATIONS**

The HA areas, characterised by sloppy and rocky terrain, harsh climatic conditions, rich biological and ecological diversities complemented by the highly complex socio-cultural and socio-ecological systems, are not appropriate for the conventional agriculture practices.



People at HA, therefore, have developed transhumance pastoralism, a distinct way of utilizing natural resources. Ecologically, transhumance pastoralism is a measure adopted to adapt to the harsh climate that aids to get rid of seasonal severity of winters and allows for optimal use of natural resources that are spread over from the lower temperate regions to the snow lines. Socially, it represents communal harmony linking each member of a community in terms of their livelihood strategies as well as the common customary practices and institutions. Transhumance is, therefore, a social knot that unites human beings with nature by urging each member to maintain ecological integrity by conserving, utilizing and improving natural resources through collective efforts. Therefore, transhumance herders are the custodians of the HA rangelands and stewards of the human and other living beings in the HA.

The transhumance pastoralists had well recounted the value and scope of tenure security by developing various site- and context- specific property rights systems, with well-defined rules, norms, values and belief systems. They have established a symbiotic (at times, also conflicting) relationship with other communities, particularly the dry-land farmers, and farmers on their travel route. The expansion of various forms of forests and biodiversity conservation initiatives in their territories without consultation and free, prior and informed consent, and imposition of a set of new rules and regulations, however, have limited them to employ and enjoy their customary practices. Such interventions have not only posed direct threats to their livelihoods but have also brought about several socio-cultural, economic and ecological

consequences. The state-sponsored new institutions have, in most cases, considered the transhumance pastoralists as outsiders or non-users. Their century old customary practices are considered a threat to manage and conserve forest or rangeland resources, health hazard to wildlife, and drivers of forest or habitat degradation and deforestation. More interestingly, the roles played by the indigenous system of transhumance pastoralists and their various customary laws and institutions in managing the HA forests and pasture resources are grossly disregarded in the modern forestry legislations and programmes.

The current problems of deforestation and forest degradation in the HA are not the transhumance pastoralism and associated customary laws and institutions but the policy and institutional mismatch, and many other unplanned development interventions (Baral *et al.* 2012; Baral 2015). The current policies and the institutional mechanisms have not recognized the unique socio-cultural and ecological characteristics of HA rangelands and therefore are not able to address rangelands related challenges.

In order to address the issues and challenges, and to unleash the potentials of the HA rangelands, we recommend the development of a separate “High Altitude Rangeland Policy” and a “Community based rangeland management model”. Such policy and model should recognise the rights of transhumance pastoralists to access their ancestral pasture as bonafide users; and identify and strengthen appropriate and functional community-based institutional arrangements. Carrying out an inventory and documentation of customary rangeland management practices

and institutions could be an important start up activity in this regard. In addition, analysis of socio-cultural, economic and ecological impact of CFs and protected areas expansion should be carried out. Such expansion of conservation initiatives may need to be revisited to incorporate the customary practices and rights of transhumance pastoralists. In addition, rangeland management, conservation, and utilisation should be enhanced through research and technological innovation so as to increase the economic and livelihood opportunities of HA peoples. Increased awareness, knowledge and capacity of the forestry sector stakeholders may be crucial for realisation of such benefits.

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