

**TRANSHUMANT PASTORALISM AND LIVELIHOOD CHANGE
AMONG SHEEP HERDERS OF GORKHA, NEPAL**

A Dissertation

Submitted to the Dean's Office

Faculty of Humanities and Social Sciences

Tribhuvan University in Fulfillment of the Requirements for the Degree of

DOCTOR OF PHILOSOPHY

in

SOCIOLOGY

By

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April 2024

LETTER OF RECOMMENDATION

We certify that this dissertation entitled “**Transhumant Pastoralism and Livelihood Change among Sheep Herders of Gorkha, Nepal**” is prepared by Mr. Dil Bahadur Gurung under our supervision and guidance. We hereby recommend this dissertation for final examination by the Research Committee of the Faculty of Humanities and Social Science, Tribhuvan University, in fulfillment of the requirements for the Degree of Doctor of Philosophy in Sociology.

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APPROVAL LETTER

DECLARATION

I hereby declare that this Ph.D. dissertation entitled “**Transhumant Pastoralism and Livelihood Change among Sheep Herders of Gorkha, Nepal**” is submitted to the office of the Dean, Faculty of Humanities and Social Science, Tribhuvan University, Nepal, is an entirely original work prepared under the supervision and guidance of supervisor Associate Professor Dr. Tika Ram Gautam and co-supervisor Prof. Dr. Tulsi Ram Pandey. I have made due acknowledgments of all ideas and information borrowed from different sources in the course of dissertation writing. The result presented in this dissertation has not ever been presented or submitted anywhere else for the award of any degree or any other purpose. No part of the contents of this dissertation has ever been published in the form or a part of any book. I am solely responsible if any evidence is found against my declaration.

Dil Bahadur Gurung

31 March 2024

ACKNOWLEDGEMENTS

First and foremost, I would like to remember all my known and unknown ancestors and *Pitri* (Kabir Gurung, Taku Gurung, Budhabal Gurung, Shovan Gurung, Sete Gurung, Aashmaya Gurung, Tibri Gurung, Budhe Gurung, Sarbajit Gurung, Dhanjit Gurung, Laxmi Gurung, Ghale Bajyu and all other whom I am unknown to) in this precious moment of completion of my Ph.D. dissertation. I thank all of them for continuously showering their blessings on me throughout the research work.

I am thankful to all the teachers who guided me at the various stages of my academic life. Most importantly, I am truly indebted to my Ph.D. dissertation supervisor, Associate Prof. Dr. Tika Ram Gautam, for his continuous support, suggestion, and guidance in bringing my dissertation to this level. His calm, simplicity and accessible nature remained most valued for me to approach him and discuss any issue associated with my Ph.D. research work. I am equally indebted to my Ph.D. dissertation co-supervisor, Prof. Dr. Tulsi Ram Pandey, for his constant guidance and support in completing this dissertation. His continuous support even during the medical condition, will always be in my memory. I am grateful and lucky to have you both as my dissertation supervisor and co-supervisor in my Ph.D. journey.

I am also equally indebted to all the internal evaluators, experts, external evaluators and Ph.D. final viva examiner Prof. Dr. Surendra Mishra who minutely read this dissertation and critically suggested to shape this dissertation. I express my sincere gratitude to Prof. Dr. Dubinanda Dhakal, Assistant Dean, Faculty of Humanities and Social Science, Tribhuvan University, for his continuous support and insightful suggestion during my Ph.D. viva and finalizing the dissertation. His support remained enormous for me to complete this dissertation. My sincere gratitude to Prof. Dr. Kushum Shakya, Dean, Faculty of Humanities and Social Science, Tribhuvan University, for her cordial support during final viva. I am also thankful to all my M. Phil teachers, the Central Department of Sociology, and the Dean's Office of Humanities and Social Science for their cordial support.

I am also highly indebted to Dr. Sudeep Singh Nakarmi, who showed me an initial path in Sociology and guided me throughout various stages of my M.A, M.Phil.

and Ph.D. dissertation writing. With his inspiration and guidance, I achieved the spirit to complete my Ph.D. journey. Special thanks to sister Regina Gurung for her warm hospitality and inspiration to achieve this level. Credit equally goes to Prof. Dr. Chaitanya Mishra for shaping my perception and inspiring me to explore the academic world sociologically. He ignited my craze in sociology to the next level. I also would like to thank Dr. Ramesh Parajuli and Dr. Pramod Bhatta for assisting and providing feedback on the initial phase of the literature review assessment process. Further, my sincere gratitude to Dr. Suresh Dhakal and Dr. Mukta Singh Lama-Tamang for their insightful comments and suggestions during pre-viva and final viva. I am truly thankful for their comments and suggestions. I also express my gratitude to Dr. Chiranjivi Acharya, Assistant Dean, Faculty of Humanities and Social Science, Tribhuvan University, for his cordial help during the overall period of research at Dean's Office, Faculty of Humanities and Social Sciences.

My parents, Manjit Gurung and Ramshyo Gurung, have always supported my studies. You both remained as a candle in my life. You burnt yourself, but keep shining light on us. Your continuous support from my nursery classes till this level is unimaginable. With your blessing and continuous support at home, I achieved this highest academic level. Thank you both. Special thanks to my mother Ramshyo Gurung, who unknowingly inspired me in this study by sharing sheep herder's stories. She also helped me understand shepherders' different practices, their traditional equipment, and their relationship with the lower hilly communities.

Credit equally goes to my beloved wife Shanti Gurung, who remained by my side and continuously supported me to complete my Ph.D. journey. My son Ankit Gurung, daughter Dilasha Gurung, and my sisters Dhana, Mana and my brother in-law Laxman Gurung have also supported me by one or other way during my Ph.D. journey. I am thankful to my parent in-laws Mr. Om Bahadur Gurung and Mrs. Buddhi Maya Gurung, who also inspired me and continuously encouraged me in this academic journey. My sister in-law Sanju Gurung Pandey, brother Ratnesh Pandey and Santosh Gurung also supported my Ph.D. journey from abroad.

Most importantly, this research would not be possible without all the transhumant pastoralists (sheep herders) living in such harsh climatic conditions and rugged terrains

all year round to make their living. I will keep sharing your stories of hardship and dedication to keep the mountainous traditional profession (sheep herding) alive to date. As my ancestors were also in the same profession, in fact many Gurung's primary profession was pastoralism (sheep herding) till a few centuries ago (some are still on it), so I will keep sharing my ancestor's stories where possible. Besides that, I am also thankful to all the other research participants from the study areas who shared various insights, information, and ideas despite their busy schedules.

Again, it would be unfair to forget Mr. Sunil Gurung, who supported my two field visits to *Sirdibas* and *Barpak*. His support, even during the COVID-19 pandemic lockdown break, will always be remembered. My aunt Kali Gurung supported me knowingly and unknowingly in completing my field work. My brother Bharat Gurung and my maternal uncle Lal Bahadur Gurung also assisted me with various information about the locality and community forestry in the study area. I would also like to thank my Gurung colleagues at Indigenous Fellowship School and Prof. Dr. Krishna Bhattachan for sharing their knowledge of indigenous people and rights.

Finally, I would like to thank my senior faculty members from Dillibazar Kanya Multiple Campus Lecturer, Dr. Harihar Ghimire, Puspa Raj Rai, and Dr. Resh Raj Adhikari, for encouraging me in an academic specialization. Thanks to all my colleagues, Bipul Neupane, Sirjana Subba, Narayan Paudyal, Madhav Prasad Timalsina, and others who sailed with me on this academic journey. Thanks to Dr. Mina Uprety, senior teaching faculty at Tri-Chandra Multiple Campus, for sharing your insightful idea in structuring a Ph.D. dissertation.

Last but not least, I would like to thank University Grant Commission, Sanothimi, Bhaktapur, for providing partial financial support to complete this dissertation.

Dil Bahadur Gurung

Ph.D. Registration
94/2074

ABSTRACT

Transhumant pastoralism is a seasonal-based movement of livestock (sheep, goats) from high to low-altitude grazing land/forest during the winter and vice versa. This practice is assumed to be the oldest system in human history, right after hunting and gathering society. The reason for such winter shifts is that snow covers the water sources and pastureland in high-altitude areas, which makes it difficult to find fresh pasture and water. Such difficulty compels the transhumant pastoralists to shift their herd downhill, where they spend nearly four to five months. With the start of summer, they again ascend the hill to reach the highland pasture area for the next six months. This movement is based on grazing at different altitudes and seasons. Despite having the possibility of good income opportunities in sheep herding profession, the number of herders has sharply decreased in the northern villages of the Gorkha district.

A total of three villages (*Ghyachok, Barpak, and Sirdibas*) were identified in the northern Gorkha district, where transhumant pastoralism is still in practice. A total of 14 herders including 11 other research participants such as ex-herders, members of community forest user groups, teachers, Ward Chief, and district livestock development officer were interviewed. Focus group discussion was also conducted in two villages. An explorative research design is implemented in this study.

Data suggest that transhumant pastoralists (sheep herders) are still opting the same herding techniques at study areas; however, the migratory herding route has changed into new forms, including the commencement of stall-fed commercial sheep farm at *Barpak*. Since the state has introduced community forests (CF) at various geographic elevations, long-distance migratory herders (transhumant pastoralists) have started observing difficulties in finding proper grazing areas. With this, their relationship with lower hilly communities is changing.

Before the intervention of the state in the forest, there used to be a healthy exchange relationship between the herders and the lower hilly communities, especially during the winter. A functional interdependence between lower hilly communities and the transhumant herders used to be controlled by "*nogarya noba*" practices (among Gurung communities). However, since the grazing areas and forests are controlled by the

community forest user groups, long-distance migratory herdsmen were restricted from bringing their sheep to grazing/forest areas at lower hills during winter. Although they were the traditional users of such grazing land, long-distance migratory shepherders cannot use those winter grazing lands without the permission of locals. This has directly affected the livelihood of transhumant pastoralists, opting for different livelihoods other than sheep herding. In addition, the relationship between such herders and lower hilly communities in many areas has flared, and with this, the number of transhumant practices is declining.

Apart from the community forest programs, the abroad labor migration and market-based livelihoods and opportunities has also contributed to increase fallow lands at the lower hills persuading the decline of sheep herding profession. Such phenomenon has gradually reduced the need for sheep manure and the importance of pastoralists in lower hilly communities. Most importantly, herders' livelihoods have been diversified with changing social structures due to market opportunities and overseas labor migration. However, interestingly, it is also found that cultural aspects are working as a catalyst to keep the sheep herding profession alive in one of the study areas. This demonstrates that although globalization, market, and state policies are considered game-changers in declining transhumant pastoralism in Nepal, cultural values are trying to revive those fading occupations (sheep herding) among Gurungs in the study area. Stall-fed commercial sheep farming is one of its illustrations.

This study has also revealed a specific phenomenon about the disintegration of the relationship between agriculture and livestock-keeping systems at winter destination villages. Community forests, easy access to the market, and labor migration abroad contributed to bringing such structural change at winter grazing areas whose impact rests on the northern migratory herding community. This changing social phenomenon is a key empirical takeaway of the study.

To conclude, the structural changes (disintegration between livestock keeping and agriculture due to external drivers of change) in lower hilly communities are persuading the livelihood change of transhumant pastoralists (sheep herders) residing in northern hilly villages.

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LIST OF ABBREVIATIONS AND ACRONYMS

| | | |
|---------|---|---|
| ADB | : | Asian Development Bank |
| AMSL | : | Above Mean Sea Level |
| APP | : | Agricultural Perspective Plan |
| CBOs | : | Community Based Organizations |
| CEDA | : | Centre for Economic Development and Administration |
| CF | : | Community Forest |
| CFP | : | Community Forest Program |
| CFUGs | : | Community Forest User Groups |
| CGI | : | Corrugated Galvanized Iron |
| CPR | : | Common Pool Resources |
| DFID | : | Department for International Development |
| E | : | Easting |
| FECOFUN | : | Federation of Community Forestry Users of Nepal |
| FAO | : | Food and Agriculture Organization of the United Nation |
| FGD | : | Focus Group Discussion |
| GDP | : | Gross Domestic Product |
| GHG | : | Green House Gases |
| GoN | : | Government of Nepal |
| HA | : | High Altitude |
| HDI | : | Human Development Index |
| HKH | : | Hindu Kush-Himalayas |
| HH | : | Household |
| ICARDA | : | International Centre for Agricultural Research in Dry Areas |
| ICIMOD | : | International Centre for Integrated Mountain Development |
| IMF | : | International Monetary Fund |
| INGO | : | International Non-Government Organization |
| IPCC | : | Intergovernmental Panel on Climate Change |
| IRC | : | International Rescue Committee |
| KFC | : | Kentucky Fried Chicken |
| KSL | : | Kailash Sacred Landscape |
| LDCs | : | Least Developed Countries |
| LDMTP | : | Long Distance Migratory Transhumant Pastoralism |

| | | |
|--------|---|---|
| MDMTP | : | Medium Distance Migratory Transhumant Pastoralism |
| MoCS | : | Ministry of Commerce and Supplies |
| MoE | : | Ministry of Environment |
| MoFALD | : | Ministry of Federal Affairs and Local Development |
| MoALD | : | Ministry of Agriculture and Livestock Development |
| MoLE | : | Ministry of Labor and Employment |
| mt | : | Megaton |
| N | : | Nothing |
| NCERT | : | National Council of Educational Research and Training |
| n.d | : | no date |
| NGO | : | Non-Government Organization |
| NPC | : | National Planning Commission, Nepal |
| NRN | : | Non-Resident Nepali |
| NTFP | : | Non Timber Forest Products |
| INGO | : | International Non-Government Organization |
| PA | : | Protected Areas |
| PRA | : | Participatory Rural Appraisal |
| SAP | : | Structural Adjustment Policy |
| SDMTP | : | Short Distance Migratory Transhumant Pastoralism |
| SE | : | Social Exclusion |
| SL | : | Sustainable Livelihood |
| SLA | : | Sustainable Livelihood Approach |
| SIDS | : | Small Island Developing States |
| THP | : | Transhumant Pastoralism |
| TAR | : | Tibetan Autonomous Region |
| T.U | : | Tribhuvan University |
| USAID | : | United State Agency for International Development |
| VDC | : | Village Development Committee |
| WTO | : | World Trade Organization |
| WWF | : | World Wide Fund |

CHAPTER ONE

INTRODUCTION

Transhumant Pastoralism (known as “*Qu Pron*” in Gurung dialect and “*Ghumti Goth Pranali*” in Nepali) is a traditional herding system where the pastoralist moves to a suitable climatic region in specific seasons along with their herds to find sufficient forage and water. Transhumant means moving livestock from one grazing ground to another in a seasonal cycle, typically to lowlands in the winter and highlands in the summer. However, in some pastoral societies, such as in Africa and certain European countries, “horizontal transhumant” (Blench, 2001, p.12) also occurs depending upon the availability of water and pasture with suitable climatic conditions. This chapter highlights how transhumant pastoralism is understood in different countries, including Nepal, followed by the problem statement, research questions, and objectives.

1.1 Understanding Transhumant Pastoralism

Transhumant pastoralists are not nomadic, but it is an age-old practice in many mountain regions (see Byers, 1996; Rota & Sperandini, 2010). They have a home and family, but only a group of people travel with the herds during specific seasons. Transhumant is derived from the Latin words *trans* 'across' and *humus* 'ground' ("Transhumant," 2021, para. 3), moving from one ground to another. In developed countries, the herders also use technology (vehicles) to shift their herds from one grazing location to another.

For Gurung (2008), the seasonal migration of the herd between summer pastures in the mountains and winter pastures in the lowlands is transhumant pastoralism. Similarly, Gentle and Thwaites (2016) write that it is the "seasonal migration of livestock and humans between many agroecological zones" (p.1). According to Jones (2005), settled pastoralists, who cultivate sufficient areas to feed their family and graze livestock within a limited area, practice agro-pastoralism. In nomadic pastoralism, pastoralists have no fixed dwelling, and their movements are more opportunistic based on the availability of pasture resources that may vary from year to year (Aryal, 2015). That is, pastoral nomads and their families move with their animals constantly (Evans, 1940; Salzman, 1967) in search of pasture (Koocheki & Gliessman, 2005; Salzman, 1995).

Chakrabati (2011, VI-3) writes "pastoralism is a subsistence pattern where people make their living by domesticating large herds of animals...is also an economic activity where herds and herdsman together form a symbiotic community and depend on nature or more precisely on pasture". In the same line, Dong also writes that it is a "production system and livelihood strategy that is based on extensive livestock grazing on rangelands or grasslands" (Dong et al., 2016, p. 403).

In transhumant pastoralism, two primary resources, pasture and water, play an essential role in the existence of transhumant pastoralism. These resources are available in higher rangelands during the summer and in lower hilly regions during winter. Rangelands are vital for transhumant pastoralists worldwide; nearly 60 percent of the Himalayan landscapes are covered with such rangeland (see Yi & Sharma, 2009; ICIMOD, 2012). Such rangelands also back up the livelihoods of locals, including other environmental benefits such as watershed protection and biodiversity conservation. In the same vein, Miller writes, "Rangelands are a major livelihood strategy for locals where they ranch their livestock as well as collect medicinal plants" (Miller, 1997, p. 47).

Further, rangeland provides three benefits: the base of survival for local communities, feed source for livestock production, and avoiding conflicts between herders and farmers (Ngaido et al., 1998). Rangelands were also considered common pool resources (CPR) in the past, but due to multiple users, CPR is in conflict. In northern Gorkha, to avoid such conflict, the respective head of the village allocated and controlled such rangeland (personal observation). A similar practice is in Saudi Arabia's rangelands, but these are controlled by a *Hema* system¹ on which Al-Shareef (1998) further writes:

Under this system, strict tribal principles were delineated concerning the extent of each tribe's reservation and the associated grazing rights and regulations. The Hema system effectively protected the rangelands; however, they were abolished in 1953 for social and economic reasons. Ever since it has been the prerogative of every Saudi citizen to use the rangelands without any restrictions. (p. 392)

¹ The hema is a controlled system of land use in the rangelands that persisted in Saudi Arabia, Jordan, and Syria until the early twentieth century.

During the winter season in the mountain region, the snow covers the water sources and pastures, and this forces pastoralists to shift their herd downhill, where fresh pasture and water are available. The transhumant system has traditional knowledge of using rangelands at high altitudes, that is, intensive utilization of high land pasture during the summer season and then leaving it to grow for specific months. It is similar to a circular movement of slash-and-burn agricultural systems where people return to a particular "slashed and burned" area after a certain period when soil is recharged and suitable for the next agriculture. Similarly, the researcher observed that the transhumant pastoral system is circular, where the pastoralist completes their transhumant cycle in a year.

In terms of rangeland, "it is an area of the world, which because of physical limitations...are a source of forage for free-ranging native and domestic animals, as well as a source of wood products, water, and wildlife" (Stoddard et al., 1975, p.203). However, it is also a category of land not under forest or cultivation but is extensively for grazing or browsing animals. The World Bank (1995) defines *rangelands* as places with less than 600 mm annual rainfall.

Upreti and Pandey (2011) argue that sheep herding management can be done in three ways: stall-fed management, day grazing, night camping management, and migratory system (p.35). Among these, the mountainous pastoralists have been practicing migratory systems for many generations, due to which several rangelands have been overgrazed at different altitudes (Upreti & Pandey, 2011, p.36). Further, transhumant pastoralism has a unique grazing cycle in different places: regularity and mobility combined with a sedentary base (Koocheki & Gliessman, 2005). As such, livestock are moved between fixed points to utilize the seasonal availability of grazing resources (Ayantunde et al., 2011).

According to various research, such as Gentle (2014) and Aryal (2015), climate change is the main reason for the decline of transhumant pastoralism. However, economic globalization, market expansion, labor migration, and the development of the concept of forest protection cannot be ignored as other factors.

The term globalization itself is multi-dimensional. There are various types of globalization; however, economic, political, and cultural dimensions are essential. Economic globalization is the increasing economic interdependence of national economies worldwide through a rapid increase in the cross broader movement of goods, services, technology, and capital (Joshi, 2009). Economic globalization is escalating global capitalism, multinational companies, and transnational markets. Political globalization deals with the expansion and diffusion of democracy, the rule of law, transnational social movements, nation-states, and nationalism. The expansion of a global political system and its institutions is political globalization (Modelski et al., 2007). Cultural globalization is the spreading or diffusion of culture or the adoption of multiple cultures practiced in distant and different societies. In addition, urbanization², migration³, and climate change issues are also considered globalization issues.

Keohane and Nye Jr (2000) write that "the oldest form of globalization is environmental" (p. 3). As climate change has a close nexus with the environment, it is also understood to be an environmental backfire due to human activities gradually destroying human ecology and biodiversity for many years. A few significant reasons for escalating climate change are increasing industrialization, urbanization, deforestation, and excess carbon emissions. Pandey (2003, p. 7) also writes that "human actions have brought many regions of the world to suffer from deforestation, overgrazing, soil loss, flood, and other natural hazards." These show that humans are dragging different environmental problems due to their activities. Further, we know that climate change affects both rural and urban setups; however, its impacts are generally higher and more visible in rural settings than urban ones. Due to this, water sources are decreasing, temperature is increasing, and flood incidents, soil erosion, landslides, and human migration are becoming more predictable.

² Historically, the concept of urbanization has been related to specialization, industrialization, and consequent economic development. Although the form of this relationship has remained contested, scholars generally agree that a fundamental characteristic of urbanization is the structural shift in employment from agriculture to non-agricultural pursuits (Sharma, 2003).

³ Migration from rural to semi-urban, semi-urban to urban, and other developed cities abroad.

In terms of emission of Green House Gases (GHG)⁴, Nepal contributes only 0.02 percent of the total global share; however, despite such insignificant GHG emission, Nepal is facing almost equal or more problems (in some aspects) in comparison to developed and industrialized countries that are emitting high amount of GHG. Due to this, climate change has various impacts on glaciers and mountainous regions. Further, the Himalayas region will face multiple challenges due to climate change (Karki et al., 2009, p.31). This is true because the Himalayan region constitutes challenging terrain where infrastructure development is lacking, and there are few or no coping measures/strategies against such impacts due to climate change. The impacts are significant in such regions because of the ceaseless population increase and decreasing sustainable livelihood, arable land, and production.

Table 1.1

Increasing Population in Mountain Region of Nepal, 1952/54-2011

| Census Years | Mountain |
|--------------|-----------|
| 1971 | 1,138,610 |
| 1981 | 1,302,896 |
| 1991 | 1,443,130 |
| 2001 | 1,687,859 |
| 2011 | 1,781,792 |

Source. CBS, 2011

Jodha (1996, p.33) must have noted correctly that "lands in Nepal's Middle Mountains are under stress due to pressure of growing population on small farm holdings." Indeed, the land reform and policies in Nepal allowed people to plot land up to six *Dhur* or three *Annas*, which brought people in a difficult position to farm and survive with such small land holdings. This has significantly impacted people's livelihood in rural and harsh mountainous sets. Transhumant pastoralists are inhibited in rural and harsh mountainous topography, and their only livelihood depends on animal husbandry and the local environment. Such pastoralists have less or no access to

⁴ GHG is any gas in the atmosphere that absorbs and re-emits heat, thereby keeping the planet's atmosphere warmer than otherwise. The main GHGs in the earth's atmosphere are water vapor, carbon dioxide, methane, nitrous oxide, and ozone. GHGs occur naturally in the earth's atmosphere due to human activities such as burning fossil fuels. Increasing the levels of GHGs in the atmosphere causes global warming and climate change (Brander, 2012).

government facilities and face multiple challenges in today's globalizing context. Several studies have concluded that transhumant pastoralism⁵ is in a declining trend, and years ahead, this can lead to the complete extinction or loss of such traditional practices.

Nomadic mountain pastoralism developed throughout the mountains surrounding the Mediterranean, eastwards to the Middle East, and the Himalayas. De Planhol (1968, p. 7) writes the "widespread nature of an ancient mountain semi-nomadism which, from the Maghreb to the Middle East, linked the raising of sheep, goats, cattle, and pigs to tree crops, terraced irrigated agriculture in low-lying areas, and to upland rain-fed cereal cultivation." However, transhumant pastoralists are now accused of overgrazing of rangeland and environmental degradation. Blench (2001) writes that pastoralists have been accused of "...overgrazing and desertification ...responsible for methane emissions and low feed conversion rates" (p. 46). Also, "the most controversial and debated aspects of research about pastoral systems is the existence and extent of overgrazing, desertification and land degradation in pastoral lands, particularly in Africa" (Reid et al., 2005, p. 54). Further, Huelak (1999) and Abruzzi (1995) claim that the rangeland in the arid and semi-arid regions of South Asia and little Colorado Basin has been overgrazed to result in catastrophic cattle loss and bush encroachment, range deterioration, and desertification.

Globalization is affecting the political, economic, and environmental aspects of developing countries such as Nepal through three aspects: political (state's intervention and emergence of community forest), environmental (climate change), and economic (growing global market and labor demand) is impacting entire traditional cycle of transhumant pastoralism and transhumant pastoral households, are closely interwoven. One might ponder how climate change issues are associated with sociology or sociological research, but "...social is everywhere...and there is nothing that is not socially constituted" (Mishra, 2009, p. 4). Other than this, the borders between different academia are porous, and by incorporating this study, sociological boundaries can be widened, which shall eventually contribute to understanding its importance in a broader scope.

⁵ Transhumant pastoralists are those sheep herders who shift their livestock from highland grazing areas to lowland grazing areas and vice-versa according to the season.

A household is one or more than one person living under the same roof. They share a kitchen (meal) under the same roof but are not necessarily related to each other by family ties. Households make sense to the people living there and government policymakers as foundational social units (Head et al., 2013, p. 316). Pandey (2003), in a similar vein, writes that a household, like a family, comprises members descended from a common ancestor. In contrast, a household may comprise members of a nuclear family or an extended family unit.

The household has been very widely used in the analysis of labor-pooling (Smith et al., 1984), subsistence reproduction (Warde, 1990), or the capitalist world economy with specific reference to labor-force formation (Smith et al., 1984). Household structures and functions are changing according to the global economy, education, culture, and many more. Wallerstein and Smith (1992) have also classified forms of income into five major varieties in most households: wage, market sales (or profit), rent, transfer, and subsistence. This is a diversified livelihood option for individual households.

In terms of such livelihood, Pandey (2003, p. 14) argues that "labor force dynamics are not the only factors to bring change in a household's livelihood strategies but the change of their natural and socioeconomic environment...natural calamities, market forces, technological change and changing household obligation". Floods or landslides can sometimes convert owner cultivators into wage workers (Indra & Morman, 1977). One of its illustrations is visible in the Gorkha district, where women and homemakers started working as masons and construction workers after the earthquake hit Nepal in 2015. Similarly, many people started working as off-farm wage workers in the nearest market as landslides, floods, and other natural calamities cut off their arable lands.

The above examples are simply livelihood changes after the sudden natural calamities strike. However, in today's context, human livelihoods are changing without such natural calamities. Chamber (1995) also notes that livelihoods are now diversifying in various forms and becoming the means of gaining a living. In particular, Ellis (1999, p. 3) pointed out that "in South Asia, on average, roughly 60 percent of rural household

income is from non-farm sources". Undeniably, now people are not relying on a single income source, so they search possible other income sources because "diversity is closely allied to flexibility, resilience, and stability...[and] diverse livelihood systems are less vulnerable than undiversified one; they are also likely to prove more sustainable over time precisely because they allow for positive adaptation to changing circumstances" (Ellis, 1999, p. 8).

1.2 Statement of the Problem

Transhumant pastoralists derive most of their income from domesticated livestock using natural forage rather than cultivated fodders and pastures (Miller, 1987, p.3). In order to manage such forage, Abdi (2003, p. 398) notes that the herders practice mobile pastoralism, which includes seasonal movement of the herd between various pastures with some use of campsites. Further, transhumant pastoralists' vertical and seasonal movement is because of the vertical stratification of resources by altitude (Montero et al., 2009). However, the movement of transhumant pastoralists is just a response to harsh climatic conditions, low productivity, and the search for livelihood opportunities (Moktan et al., 2008, p. 41). Blench (2001, p. 12) also writes that countries such as Switzerland, Bosnia, North Africa, the Himalayas, Kyrgyzstan, and the Andes practice transhumant pastoralism on vertical geography between established points and the routes, which is not other than to exploit resources available at different vertical landscapes.

Transhumant pastoral movement and practices are traditional means of livelihood (Lenski, 2005); however, in a few years, pastoralists from around the world are facing myriad challenges arising from economic development, social change, climate change, conservation and sedentarization policies, population growth and conflicts (Behnke, 1983; Ellis & Swift, 1988; Fratkin et al., 2004; Nori & Davies, 2007; Galvin, 2009). Due to such change, there are short-term and long-term catastrophic impacts on pastoralist's livelihoods (Moritz, 2008; Scoones, 2008). Similarly, Sofi (2013) argues that the nomadic lifestyle and economy are increasingly under stress from contemporary socio-political and ecological changes throughout the globe. Such changes are due to state policies on land use, population growth, market economy, and ecological variation (climate change), compelling the herders to shift their wandering life to fixed settlers and traditional occupation to different livelihoods.

We can also observe the impact of such changes on sheep herding practices in Nepal. The evidence of this is the decreasing number of sheep in Nepal. For instance, the number of sheep has plunged from 840,141 in 2001 to 798,889 in 2019 (MoALD, 2021), and this number has further declined to 793, 725 in the 2020/21 fiscal year (MoALD, 2022, p. 75). One of many reasons for Nepal's declining transhumant pastoralism practices is the complete stop of animal migration between Nepal and China in April 1988 (Yonzon, 1998). However, Gentle (2014) and Aryal (2015) argue that globalization and climate change are responsible for declining traditional professions at high altitudes.

Community forest that emerged during the climate change debate is another factor affecting transhumant pastoralism in Nepal. As per Acharya and Baral (2017), "expansion of state-induced community forests (CFs) and protected area systems in traditionally used rangelands (*Kharka*)" (p. 114) is the main reason for declining transhumant pastoralism in Nepal. They argue that the state did not recognize and respect customary practices and rights of grazing areas, so community forest user groups either banned the winter pasture herding practices or levied heavy taxes upon herders for sheep grazing.

Gurung (2008), in a similar line, writes that the declining interest in sheep herding around the Western hilly area of Nepal (Achham) is due to grazing fees that the herder groups must pay the locals. They have to pay five rupees per sheep during the grazing period. However, due to high grazing fees, Achham is one of many places where transhumant pastoralists are affected. Baral (2015, p. 58) writes that "Transhumant pastoralists of Humla, who used to move their sheep and goats south to Bajura, Kalikot, Accham, Surkhet, and Kailali districts for winter grazing were adversely affected once the community forest user groups in those districts imposed high grazing fees."

As per the researcher's prior observation (the researcher belongs to northern Gorkha village), such grazing fees (*Shyabal lah*) system has never been in practice in Gorkha and Lamjung districts; however, the herders have to provide sheep to the entire community for every visit (on an annual basis). Offering a sheep to the locals is also a type of payback to the local community for using their land, forest, and especially, consumption of essential medicinal herbs by their sheep; this is considered *Syaula Ko*

Mol (Price paid for the pasture or grazing area). In the past, herders and lower hilly communities, with mutual understanding, used to decide on grazing areas and temporary camps for the herders. Earlier, the Gurung communities used the *Nogarya Noba* system to manage the forest resources.

This nexus between herders and lower hilly communities was based on functional interdependence⁶ in terms of sheep manure (for locals) and grazing area (for herders). Despite such a tax system in the Gorkha district, the researcher noticed a decline in sheep herding practices in northern areas within a decade. The researcher is interested in examining how and why highlanders' traditional occupations (transhumant pastoralism) are shifting.

Grazing fees are not the only reason behind the decline of transhumant pastoralism in Nepal. The state, the secondary socializing agent that has socialized herders as per the state's plan and forestry policies, is playing a pivotal role in such change. Due to the one-dimensional approach of the state, some social groups remained in privileged positions and others, such as Highlander Herder, in systemically disadvantaged positions. One of many effects due to the state, among such excluded group-transhumant pastoralists, is changing local livelihood. Further, transhumant pastoralism is an informal economic sector, and it is challenging for the state to monitor the mobile nature of occupation to bring them under taxation. Apart from the state's influence on locals and their livelihood, the market structure allows locals to trade various items. With such development, people are attracted to the market rather than their traditional livelihood.

The shrinking sheep count and the number of transhumant pastoralists indicate an overall decline of transhumant pastoralism in Nepal, at least in the northern part of the Gorkha district. Despite the decline of sheep herding practices around the world and from different parts of Nepal, another interesting fact is that transhumant pastoralism has

⁶ During winter, the farmlands at lower hills usually remain fallow for nearly a month or two to prepare base via *perma* system for the next harvest by recharging soil with livestock manure. In some cases, due to less livestock manure collection by the landowner, they used to welcome sheep herders to establish camps on their farmland to gather sheep manure within two or three days. This process (camping and manure collection) goes all around the land in lower hilly areas until and unless the landowner is not interested or required to do so. In return, the villagers let the herder graze their sheep in their local forest or grazing land. In addition, the villagers also provide *Kharcha* to the herders.

not entirely vanished, including in the northern area of Gorkha district, and sheep herding professions are still opted by a small number of Gurung's households at high altitude areas.

Different researchers on transhumant pastoralism, such as Tiwari et al. (2020), Aryal (2015), and Gentle & Thwaites (2014), argue declining transhumant pastoralism in Nepal. However, these studies need to include how sheep herding is done at high altitude areas and how the relationship between herders is changing along with other social issues. Various reasons, such as global warming, climate change, forest policy, and taxation at grazing areas, are the reasons for declining transhumant pastoralism (Aryal, 2015; Gentle & Thwaites, 2016; Gurung, 2013; and Acharya & Baral, 2017). However, herder's association with the local culture and context is yet to be explored. So, to explore the current transhumant practices at high altitude areas and how different factors, such as the state policies and market system in particular, are affecting transhumant pastoralism in Nepal, the following research questions have been raised.

1.3 Research Questions

The following research questions are formulated for this study:

- a. What are the current transhumant pastoralism practices in the northern part of Gorkha?
- b. How does the state and market system play a pivotal role in changing transhumant pastoralism?
- c. How is the changing transhumant pastoralism associated with the livelihood change in the study area?

1.4 Research Objectives

The objectives of this research are as follows:

- a. To describe the practice of herding among transhumant pastoralists of the northern Gorkha district.
- b. To analyze the different roles of the state and market in changing sheep herding practices in the northern part of Gorkha district.
- c. To analyze the significant reasons for changing herding practices and their association with people's livelihood in the study area.

1.5 Significance of the Research

There are several research outcomes on transhumant pastoralism and livelihood where researchers such as Aryal (2015), Rojas-Downing et al. (2017), and the Ministry of Environment (2010) have articulated pastoralist issues and challenges with climate change and ecology. According to them, climate change is one of the factors impacting transhumant pastoralism. However, on the other hand, the escalating global capital market and state power also blend pastoralists' lives, forcing them to migrate toward urban or opt for professions other than sheep herding. This research can also enlarge sociological boundaries by connecting various structures (of different levels), such as global, state, and local, with the livelihood of transhumant pastoralists.

This research is also significant in helping other researchers of similar fields and stakeholders working in the same field understand the linkage of the changing livelihood of transhumant pastoralists. The finding may also help the provincial/local authorities to develop a practical future road map to increase the livelihood of such remote and highland societies. Such road maps shall help promote Herder's social and cultural values in the broader aspect. Significantly, all these will help both the state and highlanders to draw sustainable economic contours at the provincial and national levels.

This study has generated three research questions, and we expect to base the publication of this research on them. These publications will be valuable assets for the local culture and transhumant pastoralists. The coping strategy of transhumant pastoralists against dual crisis (globalization and state-led community forest) and significant change in the transhumant cycle after enactment of community forest and challenges can be a new reading for interested readers.

Further, this study can provide some empirical contributions to specific geographical locations with different cultures and religions. Similarly, while revealing the ground reality of the transhumant herding system of the research area, this study holds the potential to generate a grounded theoretical framework. The study of transhumant herders in northern Gorkha can be the beginning of a new chapter from a sociological perspective. It can reveal several hidden empirical facts that have remained unexplored from such unreached communities.

1.5.1 Significance to Sociological Knowledge

The qualitative research conducted in this study has explored the relationship between the state, market, and declining transhumant pastoralism. The study explored how the state-guided community forest, market system, and foreign labor migration succeeded in disintegrating the core relationship between the livestock keeping and agriculture system in the study area. This study thus helps to understand the underlying causes of declining transhumant pastoralism in the mountainous areas of Nepal. Further, the Disintegration Theory has evolved from the analysis of field-level data.

1.5.2 Significance to Local Policy and Indigenous Studies

This study highlights the need for a favorable policy for transhumant pastoralists to continue their traditional sheep production. This can positively affect the local and national economy, as sheep herding can produce multiple items. Additionally, it helps to acknowledge the value of culture and local practices, which can help revive lost or declining traditions.

The study also emphasizes the importance of preserving indigenous practices. If transhumant pastoralism disappears from society, it will significantly impact the socio-economic landscape of Highlander. There is a risk of losing knowledge of livelihood practices and local herding knowledge, which could have implications for the entire literature.

1.6 Organization of the Study

This research is divided into six chapters. The first chapter introduces the concept of transhumant pastoralism and outlines the study's problem statement, research questions, objectives, and significance. The second chapter includes a literature review of transhumant pastoralism, globalization, community forests, the state, and livelihoods, along with a theoretical framework, conceptual framework, and research gap. The third chapter describes the research methodology, including the research area, design, methods, data collection tools and techniques, and study limitations. In the fourth chapter, the current practices of transhumant pastoralism in northern Gorkha are presented in detail. The fifth chapter presents data on how the livelihoods of transhumant pastoralists are changing. The final chapter includes a summary, conclusion, theoretical reflection, appendices, and references.

CHAPTER TWO

LITERATURE REVIEW

This chapter reviews different theories and literature related to transhumant pastoralism in order to achieve understanding and knowledge of the concerned field. The literature reviews sociological theories such as social exchange, social exclusion, and modernization. Objectives one and two involve reviewing exchange theory. Objective three involves reviewing modernization theory. Empirical review includes reviewing different research papers, books, and journals.

2.1 Theoretical Review

There are several theories which can be linked with transhumant pastoralism and its current practices however, in this study, the researcher have reviewed three theories namely Exchange Relation, Social Exclusion and conflict and; Modernization theory considering their high relevancy with transhumant pastoralism.

2.1.1 Exchange Theory

The exchange theory is a vital theory studied in economics and sociology. An exchange network is a social structure formed by two or more connected exchange relations between actors (Cook et al., 1983). Exchange is simply a process of give and take, which occurs through social interaction; however, Emerson (1972) noted that power is central to the exchange theory perspective. Power is the level of potential cost that one actor can induce another to accept; however, such an imbalance relationship moves toward a more balanced power-dependence relationship. According to Emerson (1981), there are three core assumptions of exchange theory, which are i) People for whom events are beneficial tend to act 'rationally, and so such events occur; ii) Because people eventually become satiated with behavioral events, such events come to be of diminishing utility and iii) Benefits obtained through social processes depend on the benefits they can provide in exchange.

In Emerson's second essay, he turns to social exchange relationships and exchange networks. In a similar vein, Blau (1964, cited in Ritzer, 2011) writes that:

People are fascinated by each other for a variety of reasons that induce them to establish social associations...once initial ties are forged, the rewards that they

provide to each other serve to maintain and enhance the bonds...when there is inequality in the exchange, a difference of power will emerge within an association. When...nothing is comparable to offer in return...they can find another source to obtain what they need...or subordinate themselves to the other. (p. 427)

Exchange is also related to rational behavior. A person will be happy to exchange things when s/he assumes profit. Some scholars argue that the agent plays an important role during the exchange; however, sociologists believe that the exchange is a social process, and without society, it is nearly impossible.

In transhumant pastoralism, the exchange of goods has remained a critical component between transhumant pastoralists and lower hilly communities (communities at lower hills where pastoralists are involved in the exchange process during winter). According to exchange theory, the exchange between two individuals or groups will last longer until both parties benefit from the relation. However, the relationship between two parties is shaped by the exchange of actions and opportunities they have or observe. It means that until and unless both parties presume that they have better opportunities with each other, the exchange relationship will remain healthy and balanced.

Regarding decreasing transhumant pastoralism, several researchers, such as Aryal (2015) and Gentle & Thwaites (2016), have concluded that conflict and an unbalanced relationship exist between lower hilly communities and transhumant pastoralists. In some cases, the relationship between these two parties degrades as they find an unhealthy exchange relationship. As such, the lower hilly community members might have received better exchange with a new market system close to their village, or they might have had easy access to chemical fertilizers for their farmland and crop or lucrative income from labor migration abroad, thus putting pastoralists off their farmland for sheep manure. Similarly, on the transhumant pastoralist end, they might have found a lucrative option for sending their family members abroad for labor migration or engaging in other tourism-related businesses rather than engaging them in the 24/365 mobile profession and thus disengaged from lower hilly communities. With this, decreasing transhumant pastoralism is closely related to the exchange relation theory.

2.1.2 Social Exclusion and Conflict

Preventing people from taking part in social activities or denying access to information, resources, sociability, recognition, and identity, eroding self-respect, and reducing capabilities to achieve personal goals (Silver, 2007) is social exclusion. It is the process in which individuals or social groups are wholly or partially excluded from participating in a society of their own (Francis, 2002). Further, Silver (2007) states that such exclusion exists in three tiers: micro, meso, and macro levels. Micro-level exclusion is an individual-level exclusion, meso-level exclusion is community or society-level exclusion, and macro-level exclusion denotes state-level exclusion.

It is also a structural process of social isolation or stopping someone or a group from participating in social activities. It comprises the lack or denial of resources, rights, goods, and services in society. Social exclusion is complex and multi-dimensional in nature, and it has different definitions. Further, social exclusion affects the quality of life of individuals, so *exclusion* is defined as the rupturing of social bonds at the individual or collective level. For transhumant pastoralism in Nepal, the pastoralists have been excluded from the mainstream of development at several locations for many years. The exclusion is done by the state, failing to address their prospect, challenges, and opportunities in a series of five-year development plans. Secondly, the government showed little interest in expanding the production of transhumant pastoralism through scientific research and implementation of the proper development policies. To this date, there are several research institutes established focusing on goat and pasture, such as the Research Center at *Bandipur*. However, there is a sheep research center only in the Jumla district of Nepal. Several development organizations are also enhancing rural livelihood by handing goats over from one household to another; however, there needs to be a provision for sheep. With both examples, the researcher firmly believes that such denial is also a part of exclusion by the state and developing agencies upon sheep farming and its development. Thirdly, transhumant pastoralists are gradually excluded from the grazing land and forest down hills by establishing community forests and handing over decisive power to forest user groups.

Social exclusion leads to conflict between two or more groups claiming the same issue or resources. However, in some cases, social exclusion does not lead to conflict or social conflict, but conflict leads to social exclusion. As such, those with better access to available resources exclude another individual or group.

Conflict theory has various roots, such as Marxian, Weberian, and Simmel's work on social conflict (Sanderson, 2007; Turner, 2005). Conflict theory emerged in reaction to structural functionalism, which argues that society remains in equilibrium or emphasizes the orderliness of society. That means conflict theory is an alternative to structural functionalism; however, the fundamental problem with conflict theory is that it never succeeded in divorcing itself sufficiently from its structural-functional roots (Ritzer, 2011). Dahrendorf (1959, 1968) is the primary promoter of the position that society has two faces: conflict and consensus. Consensus theorists advocate for social integration, and conflict theorists support conflict of interest. Dahrendorf (1968) also asserts that human society cannot exist without conflict and consensus because both are prerequisites for each other, which means consensus can lead to conflict and conflict to consensus.

According to conflict theorists, there are various types of conflicts, such as social, economic, cultural, and political. The conflict between two or multiple parties is due to their unequal power. Certain groups hold power in every society, and others do not. Such a situation leads those two or more groups into conflict. Such conflict could be manifest or latent. Some conflict leads to physical damage, pushing these groups into war. Conflict theorists also believe conflict is essential for social mobility and change. For instance, Karl Marx asserted that social change is possible through class conflicts with differing class interests. In capitalism, the bourgeoisie exploits the industrial workers, leading them to alienation and class consciousness. Such consciousness among the worker group gradually starts opposing the bourgeoisie, leading to conflict between two classes with different class interests.

According to Collins (1990), conflict is a central process in social life, and Ritzer (2011) asserts that "Collin approached conflict from an individual point of view because his theoretical roots lie in phenomenology and ethnomethodology" (p. 271). Ritzer

(2011) further writes that Collins turned his conflict approach to stratification, which is more typical with phenomenological and ethnomethodological theories than Marxian and Weberian theories.

In the transhumant pastoral system, transhumant pastoralists are excluded from their traditional grazing land in low-hilly areas, and the state policies have reinforced such exclusion by handing over forest and grazing areas to local community user groups. Due to this, there is a latent conflict between transhumant pastoralists and lower hilly communities for grazing land and other natural resources. The transhumant pastoralists have been using such grazing land for many generations. However, due to the state's policy regarding land and forest, these transhumant pastoralists were pushed to the margin and restricted from using such areas. The conflict between these two groups still prevails in many places where transhumant pastoralism exists. As an agent of secondary socialization, the state is socializing such herders with mainstream rules and policy.

On the other hand, several herding groups have been practicing seasonal migration with their livestock, and due to an excess number of the herding groups, there is a kind of undeclared conflict among these herding groups as well; hence, as a mutual consensus, these herding groups have separated grazing areas and transiting routes so that there will be no conflict among them in terms of forage, water, and campsites at lower hills. However, research states that increasing conflict between transhumant pastoralists and lower hilly communities is forcing transhumant pastoralists to move away from their traditional profession worldwide.

2.1.3 Modernization Theory

Modernization denotes a progressive shift from a traditional to a modern society. That means a traditional society's transition and drastic transformation must undergo to become modern (Hussain & Tribe, 1981). Traditional beliefs (cultural, religious, and other) usually become less important once society steps into modernization. As per this theory, traditional societies will develop as they embrace modern practices. While becoming modern, societies follow a similar development path from traditional to modern. It assumes that with some help, traditional societies/countries can develop into modern societies/countries in the same way that today's modern societies/countries developed in the first place.

According to Tipps (1973, p. 200), modernization theory originated during the post-Second World War era. In the meantime, after decolonization, several nation-states emerged, searching for a developmental model to promote their economy and political independence (Chirot, 1993). This requirement led them to modernization.

Huntington (1968) noted that modernization is a multifaceted process comprising changes in all human thought and activity areas. Modernizing society also indicates a homogenized society, which is possible with the country's educational apparatus and industrial development. In Modern society, subjects work in industries that require specific education and skills. The educational apparatus and its curriculum create such a workforce. The process of homogenization is the state providing precisely the same educational curriculum and making all of them an industrial worker.

Modernization theory was quite popular during the 1950s; however, it was criticized heavily at the end of the 1960s. Modernization also means dissolving of traditional values. However, it does not necessarily dissolve traditional customs and values in all context. For instance although China and Japan entered in modernization, these countries have continued carrying their traditional values and customs. A state-led government can also bring such development where both modernization and traditional value can co-exist and 'Asian Four Tigers' is one of its illustrations (Killing, 1984).

Modernization is also a transformative process where traditional society moves into modernity. It is human society that pushed humans from one society to another society; however, Lenski (2005) writes that:

The development of different technologies pushed humans into the next society. In preindustrial societies, one can often find critical secondary technological criteria; thus, agrarian societies can be further subdivided based on the availability of iron tools and weapons; horticultural societies can be divided based on the presence or absence of metallurgy and irrigation and fertilization, and herding societies based on domestications. (p. 85)

Lenski's argument (2005, see Appendix A1) shows that, initially, human society was hunting and gathering, which advanced to other societies through herding, horticultural, and fishing. For such advancement to the next society, the level of technological

advancement and the dimension of environmental variation played a crucial role. Those living in semiarid, arid, and desert environments advanced to herding societies; those living in cultivable land but unsuitable for plow cultivation advanced to horticultural societies but later advanced to herding societies. Similarly, those living in cultivable land suitable for plow cultivation advanced to horticultural, agrarian, and industrial societies. Those with marine environments advanced to fishing societies that advanced to maritime and industrial societies. Reaching to industrial society also denotes the shift of livelihood in industrial society. For instance, nowadays, fishing has become commercial in industrial society. Agriculture has started producing various products in industrial society. The bottleneck space is narrow in terms of shifting herding society to industrial. Lenski's model also reflects the decline of herding society.

In other words, this is also a modernization of society with advanced tools and technology. It is because modernization is known as the progressive transition of society from traditional to advanced or modern. Such transition depends upon resources and population. As the population increases, demand for food and other items also increases. This requirement pushes them to invent and use new tools and practices. With modernization, tools and technological development have increased; however, these tools and technologies have yet to reach those transhumant pastoralists and are slowly fading away in the absence of such traditional herding practices.

Further, while transitioning from traditional to modern, the state's role also changes. The state tries to socialize all its citizens through various means, such as sub-national apparatus, by significantly changing state policies, infrastructure, and markets. In such a process, the state, through various rules and regulations, maintains social order within the state; however, such social order cannot suit all types of communities. In another sense, the state is involved in legitimate monopoly of violence (according to Weber cited in Hanke et al., 2019) by enforcing different rules or changing rules to maintain such social order within the state. The state, through bureaucracy, imposes laws and regulations, which is a legitimate violence upon those rural communities with less interaction with the state components.

2.2 Empirical Review

To gather various knowledge in terms of how transhumant pastoralist are practicing their traditional occupation and how different factors are playing pivotal roles in changing their livelihoods, different research reports, journal articles, and publications related to transhumant pastoralism, community forest, globalization, and climate change, and; articles related rangeland are reviewed.

2.2.1 Understanding Globalization

“The term ‘globalization’ is widely used to describe a variety of economic, cultural, social and political changes that have shaped the world over the past 50-odd year” (Guttal, 2007, p. 523). Globalization is a contentious term as it is multi-facet and has multiple definitions. However, now it has become a key concept in the social sciences to understand ongoing changes in today’s societies. It can be understood as the process of transformation touching every aspect of social, political, economic and cultural changes around the globe. Globalization has been mainly explained by economic scholars using microeconomic indicators such as financial flows, international trade in goods and services or foreign direct investments (Sutcliffe & Glyn, 1999). These measurements provide some insight into the increasing international integration of economic activity but they clearly are too narrow from a sociological point of view (Raab et al., 2008). Economic theories, undoubtedly the best known, can be broadly divided into two categories: theories that celebrate the neoliberal global economic market and theories, often from a Marxian perspective that are critical of it (Ritzer, 2011).

According to Ritzer (2011), globalization is the spread of worldwide different practices, relations, consciousness, and organization of social life. Giddens (1991) conceptualize globalization as the escalation of worldwide social relations which link distant localities in such a way that local happenings are shaped by events occurring many miles away and vice-versa. Giddens (2000) further adds that globalization is a mutual phenomenon which is influencing intimate and personal aspects of our life.

The meaning of globalization sounds simple but in reality, it is harder to pin down the more closely one examines it (Fisher, 2011). Harvey (1989) and Mittelman (1996) observe globalization as compression of space and time as well as shrinking of

the world. Castells (1996, p. 101) also notes that, in globalization, commodities, capital, technology, ideas, culture, and people flows across national boundaries through a global networked society.

These definitions on globalization include all aspects of societies from economic to cultural, political and social exchanges. Undeniably, if one need to be tested empirically whether the presence of globalization, whether globalization represents a distinctive new historical phenomenon, and to which extent globalization has an impact on the life courses of individuals in industrialized societies, we need to specify globalization much more precisely (Raab et al., 2008).

On the other hand, Appadurai (1996) argues that there are five dimensions or scapes in globalization which are Ethnoscapes, Mediascapes, Technoscapes, Financescapes and Ideoscapes. These core dimensions of globalization may vary from person to person because it depends upon how one perceives this large process. Globalization has also been classified according to its nature and historical development. For instance, according to Scholte (2000), globalization has five broad sets of definitions such as, globalization as internationalization, globalization as liberalization, globalization as universalization, globalization as westernization or modernization and globalization as deterritorialization. On the flip side of all the nature of globalization mentioned above, global warming or climate change is another but less touched in academic discussion which has a very close nexus with other types of globalization. We also know that global warming and climate change is an unstoppable universal event which has a slow, longer and deep impact on the human environment and society. Pierson (2003, p.179) also describes that global warming has a long cause and long outcome.

Different scholars argue that the process of globalization brings people closer but some scholars have claimed that globalization is homogenizing people by creating similar culture, trend and behavior all around the world. With this being said, Ritzer (2011) writes that the globalization of culture can be seen either as the transnational expansion of common codes and practices (homogeneity) or as a process in which global and local cultural inputs interact to create a kind of pastiche, or a blend, leading to a variety of cultural hybrids (heterogeneity). For instance, Stiglitz (2002) criticized the

World Bank, the WTO and specifically the IMF for its homogenizing, 'one-size-fits-all' approach that fails to take into account national differences. Homogenizing here is often associated with cultural imperialism. Whereas Robertson (2001) opposes the idea and forwards his concept of glocalization which is distinctive (the glocal) in nature and such glocal emerges only after an interaction of global and local.

Globalization, on the other hand, is also securing and improving human life and society. The concept of good governance, civil society, human rights, popular participation, technological development, gender equality, citizenship, peace and environmentalism, women rights, child rights diffused from one to another countries and these concepts are helping to create good society that every citizen are craving for. Such conditions become possible only with the process of globalization. We understand this as the process of homogeneity and McLuhan's (1964) concept of 'global village' concretizes the concept of globalization more. However, according to Guillen (2001), some sociologists reject the very terms of the convergence debate by arguing that globalization homogenizes without destroying the local and the particularistic. For instance, Zelizer (1999) noted how an economy differentiates and proliferates culturally in much the same way as other spheres of social life do, without losing national and even international connectedness. On contrary, Yashar (1999) noted middle path where he rejected global culture and global citizenship concepts but also finds fault with the argument that globalization has induced the proliferation of ethnic movements.

The crucial elements of globalization are the flow of economy and movement of people because other elements such as technology, culture and information flows from one to other countries along with economy and human movement. Sklair (1994, p. 166) writes that globalization is a contemporary problem which "...cannot be adequately studied or solved at the level of the state". Probably because of this, nation-states are unable to control the flow of above elements now. It is because everything happening around us has global relation and due to which social institutions such as marriage, kinship, family and household, to economy and politics are taking shapes accordingly.

The economic flow is an important facet of globalization as it keeps a close nexus with capitalism. It is also said that capitalism and globalization are twin sisters and both

always go hand-in-hand but in reality, capitalism was carried across the world by broader processes of globalization. Mishra (2004, p. 127) writes capitalism as a seize-less production cycle where “...capital is produced and reproduced again and again by reinvesting the capital...”, but globalization is an expansion of capital, economy, culture, political ideas and products from one to multiple nations around the globe. Such spread of different aspects became possible only after the establishment of market structures or market places. With that being said, without an expansion of the market (process of globalization), capitalist (producer) will be limited within certain areas or boundaries.

Nonetheless, it would be juvenile to limit the concept of globalization only at economy, culture, ideas and technologies. The globalization literature and concept has also succeeded to cover global attention with ongoing hotly debated environmental issues. The environmentalist and forest science scholars perceive globalization as climate change and global warming. They argue the environment is degrading globally which has brought multi-fold challenges to human societies. In fact such environmental issues has close correlation with an economy that means when globalization along with market and economy escalates, environmental issues also escalates.

2.2.2 Globalization and Nepal

Globalization is a process touching every aspect of society and its impact differs on how each country, society or a person perceives it. Prominently, there are two views in terms of landing of globalization in Nepal. The first view states that globalization landed in Nepal after 1990 that is, after Nepal accepted Trade Liberalization⁷ as the guiding economic principle (Structural Adjustment Policy). The scholars of this view shows development of market system, flexibility of government upon trade, increasing number of national and international NGOs and increasing national debt as an indicators of an entrance of globalization in Nepal.

In contrary, other scholars believes that globalization was already there in Nepal that is, prior to 1990 and to support their argument, they have revealed few historical

⁷ Trade Liberalization is an important facet of globalization where it always seeks state to be in minimal role and market to be run freely without the state control. Trade liberalization (free trade) also means removal or reduction of restriction or barriers on the exchange of goods between two or more nation and this includes the removal or reduction of both tariff and non-tariff obstacles (like licensing rules, quotas and other requirements).

facts. For instance, Mikesell and Shrestha (1990) found bill-vouchers of old transaction between Nepalese and Indian company illustrates an important remarks on trade link between Indian and Nepalese textile market during Rana regime. Similarly, Newari traders traveling up to Mughal Kingdom (Burghat, 1984) and importing glass to build ‘...Glass Palace...’ (Liechty 2008) by Bhim Sen Thapa⁸ are what the scholars of later view forwards the proof of globalization prior to 1990.

Enter of globalization in Nepal is so much related with SAP (Structural Adjustment Policy introduced in Nepal-1985) implementation. In SAP, Mishra (2014) writes fuel producing countries (Arabian) bought large scale of weapons from Western countries in order to maintain and enhance the security. On the other hand, the Western countries, after selling weapons, earned good profit but unable to find proper location to invest these sum. So, finally poverty reduction programs sketched and loaned to developing and poor countries. But few years later, loan recipient countries bankrupted and unable to return the loan amount. Finally, new program called Structural Adjustment Policy was developed. By implementing this policy, Western countries dominated developing countries in term of formulating and implementing their plans and policies. Such policies included privatization of government firms, heavy reduction in taxes, trade liberalization⁹ and so on. As a result, local firms and factories of developing countries were heavily impacted/closed and local economy significantly dropped. Ultimately, abroad labor migration ballooned in developing nations.

In addition, some scholars argue that globalization have adverse conditions for people, their culture, society, production (both farm and non-farm) and economy that is, it can impact local production, increases dependency, food insecurities, hunger, cultural, political conflicts and poverty. For instance, Nepal is losing her cultural and traditional productions after the confrontation with globalization (Dahal, 2005). Looking from both positive and negative arcs, globalization on the one hand, is linking local economy and culture with international markets and group but on the other hand, it is firing back on local economy, social and cultural pillars.

⁸ First Prime Minister of Nepal.

⁹ Trade liberalization basically emphasis market and their dynamics for the economic development where it strongly rejects state’s interferences such as domestic laws against market system and quota systems.

Nonetheless, ‘in many developing countries, the process of globalization has led to a greater opening of the state and the liberalization of the markets’ (Dahal et al., 2001). In Nepal as well, number of new market places are increasing around the country. Along with the change in market and economy, globalization process is showing its impact in political arena as well. For instance, the concept of federalism, indeed, is also due to the process of globalization. The diffusion of such political thought from one country to another is in fact globalization. Moreover, with change in federal structure in Nepal, this globalization process is equally impacting transhumant pastoralist society that is, decreasing number of pastoralist and increasing number of labor migration trend in their societies.

The proportion of labor migrants from Mountain (according to ecological disaggregation), within 2008-2014 was only 5.7 per cent of total migrants (MoLE, 2014b) which is comparatively very less in compare to other ecological region however, the overall trend is increasing and this may also include the households from the areas where transhumant pastoralist are currently residing.

2.2.3 Consequences of Globalization in Nepal

Some scholars have argued that globalization brought negative impacts to human society and state however, other believes globalization have brought a range of opportunities and thus considering these as a positive impact. More or less, globalization “...is a process of uneven development that fragments as it coordinates.” (Giddens, 1990, p. 64). The uncertainty of consequences of globalization to different country differs in which Mills and Blossfeld (2005, p. 6) write, on institutional settings, social structures and country-specific that determine the degree to which people are affected by uncertainty. Moreover, Guillen (2001) writes “...the empirical evidence provided by sociologists and political scientists supports well the case of diversity, or at least resilience, in cross-national patterns in the midst of globalization”. This is because the presence of different nation-state in global trade has their own path such as German firms excel in advanced machine tools and luxury automobiles (Soskice, 1998; Streeck, 1991), French in high-speed trains, rockets and nuclear power (Storper & Salais 1997, p. 131), Japanese in assembled goods such as electronics and automobiles (Gerlach, 1992) and American firms in software, financial services or biotechnology (Storper & Salair 1997, p. 174).

Range of impacts that globalization has brought to human societies are market inflation, growing social and economic inequality, and unhealthy trade competition, urbanization, war and manufacturing of nukes and; growing environmental challenges. In line with various negative impacts that globalization is potential to, Grindle (2000) writes that, "...globalization has the potential to cause economic dislocation, destruction of important social safety nets, accelerated environmental damage, loss of cultural identities, increased conflict, and the spread of diseases and crime". On the other hand, the way human societies are flourishing, making their life easy and quick are all due to global diffusion of different aspects. Grindle (2000) writes "globalization is also adding to the spread of more democratic governments and helping sustain the legitimacy of those that have been created in recent years". He further believes that virtually every developing country, even the poorest, there are those whose lives have been enriched by increased flows of goods, services, capital, and information'.

Though there are number of impacts around the world, this sub chapter shall cover key impacts such as migration, market inflation, and change in agricultural system and finally impacts on transhumant system.

2.2.3.1 Migration

Migration is a social process. Migration may occur within a national boundary and beyond the boundaries. Most common migration pattern is rural to urban and one country to developed countries in search of various life opportunities, job and secured livelihood. Migration can be of two types, voluntary and involuntary which means, according to own will and by force such as geographical vulnerability, calamities, civil strife.

According to Gaige (1975), there are three types of migration in practice. Permanent, semi-permanent and seasonal based migration. Permanent migration means residing permanently at destination location, semi-permanent means studying or working at destination and returning home in certain time interval and; seasonal denotes moving to other destination for certain month specifically to earn the living.

As stated earlier, migration is one of a leading cause of globalization nonetheless, this worldwide and continuous phenomenon is not a new issue/process because human

have been moving around, intending to set up temporarily or permanently in new and favorable location from the very beginning. Ernest Ravenstein proposed human migration theory during 1834-1913 and according to his laws of migration, the majority of migrants are short migratory (short distance) and inhabitants of rural areas are less migratory than urban. On the other hand, migration can be in an individual or family basis however, Ravenstein (1889) writes that the migration is basically governed by push and pull factors. The push factors are those situation or unfavorable conditions that forces human to move out from that particular place. Such factors could be oppressive laws, heavy taxation, lack of jobs, poverty, war, political and religious persecution, civil strife, environmental problem, natural disaster and loss of home. In contrary, the pull factors can be those favorable conditions and facilities at destination location which attracts people to migrate in there. For instance, job opportunities, family ties, availability of standard health and educational system and infrastructural development. In Nepal, both internal and external migration are common practice however, outward migration practices significantly boomed after the British Crown started Gurkha recruitment in 1814¹⁰. That is, after ‘the treaty between Amar Singh Thapa and David Ochterlony in 1815, specifically, made the flow of migrants from Nepal for foreign employment official and opened doors for such engagement beyond British India to other colonial territories’ (MoLE, 2014a).

The migration trend in Nepal is quite old however, ‘the history of labor migration from Nepal dates back to the period of unification, more than 300 years ago. The mass migration from the unified territory to the neighboring countries to escape the new State’s taxation system, which was often exploitive...A historical turn in the migratory pattern came with the restoration of democracy in Nepal in 1990. The democratically elected Government in 1992 embarked on a journey of economic liberalization and made official moves to a market economy, which also encouraged out-migration’ (MoLE, 2014b).

¹⁰ Bhim Bahadur Pandey (1968:116) writes that huge number of Nepalese people joined Gorkha Brigade in India for World War that escalated from 17,000 fighting men to 2, 00,000 in a short span of time. Though such abroad migration for military purpose is less, working in gulf, Malaysia and other new destination has boomed in recent years.

The migration trend in Nepal has always remained significant and different historical literatures also suggests that the people living in this land has been practicing both inner and outer migration throughout the history. Currently, foreign labor migration is one of the key livelihood of rural household in Nepal. As per recent data of 2021, around 58 percent of cost is covered by remittances, sent from abroad. This indicates that the capacity of rural household sustainability is increasing whereas from the production point of view, Nepal is lacking behind as this trend is increasing consumption behavior rather than domestic production. On the other hand, there has been a strong argument about brain drain. That is, emigration of highly trained and qualified people from particular country. However, there is less discussion about brain gain which means, returning to own country with different skills and knowledge to utilize more effectively.

Beside this, there are number of factors that induce human to migrate from one to another place and these factors are mainly categorized in two main factors called push and pull factors. Increasing poverty of certain location and people living within is one of its major factors to push people away from their home town. Poor people always suffer from relative deprivation and basic needs such as food, water, shelter, health and education. To achieve these basic needs such people migrates from one to another place whenever they see such opportunities in other place (destination location). In many cases, capitalist development shapes migration or migration pattern. Having said this, the number of migration and destination can fluctuate and vary according to the flow of capital or how capitalist structure has built up in that location. In the context of Nepal, people are migrating from rural to urban or abroad or urban to abroad are not only due to poor economic condition and livelihood but in fact the more dominant factor is the capitalist development in urban or in the foreign countries. The capitalist development is development of industries, factories and structural infrastructures. Most people migrates to such developed areas/countries to make their living or achieve life chances but other migrates due to lack of religious and political freedom at their home town, social discrimination, pollution, civil strife, lack of proper medical care or natural disaster as well.

On the other hand, the pull factors at destination are good opportunities, religious freedom, higher standard of living, well paid jobs, lower cost of living, good medical

care or facilities, safety and security and; fair government. Beside all these, global warming and climate change is becoming vibrant factor for internal and external migration nowadays.

Migration may have short term as well as long term effect in the society. The short term positive effect can be increase in household income of migrants leading to resiliency, high consumption, education attainment and access to good health facilities. But drawbacks such as “...old age couples are being alone in villages” (Gautam, 2008, p. 150) and GDP drop due to lack of sufficient manpower for agriculture and industry at home country can be taken as the flip side of out-migration. Similarly, destination country can enjoy significant flow of cheap labor forces however, the condition of market saturation due to overflow of migrants from another country may lead to unemployment of their local people which could be a huge loss them.

In this study, seasonal migration of transhumant pastoralism is covered. Seasonal migration denotes short-term movement within country or toward neighboring country specifically during the agricultural slack season—November to February. During this period, Nepalese (those having limited cultivating land or low household income in remote villages) generally travel up to urban setting such as Kathmandu, Pokhara, Chitwan and to certain cities in India (Jammu and Kashmir, Utter Pradesh, West Bengal and Punjab) for few months in order to earn their living and also to utilize their agricultural slack period back home.

On the other hand, according to Dahal (2005), migration, long term or short term, are mainly shaped by world-wide unstoppable phenomenon called globalization which means free flow of ideas, goods, and services throughout the world. Free flow denotes diffusion of trade, technology, information and culture to other parts of the world with less restriction of state and its policies. Along with these global diffusion of trade and technologies; industries and economies are booming in a significant pace but consequently it is equally pounding hard to environment of people who have sole environmental livelihoods. This has further impacted the structure of human society, culture, economy and livelihood in one or another way.

2.2.3.2 Expansion of Market

According to Ritzer (2011), globalization can be analyzed culturally, economically, politically, and institutionally. That shows wider and diverse relationship of globalization with human societies. However, some scholar such as Antonio (2007) has observed globalization as the spread of neoliberalism, capitalism, and the market economy throughout many different regions of the world. Market expansion has close affinity with capitalism. In capitalism or capitalistic state structure, market is always a heart of that state. In such, market itself drives where market wanted to be in and such situation is called market-led economy. However, in certain state where collectivism exists, state planning and policy plays important role for the rise and fall of market economy. Such is called state-led market economy. In such state, the government itself design and implement state policies in order to reduce external influences on their market. There are handful of examples of countries where states have played dominant role in term of forming market, trade policies implementation and monitoring. Nonetheless, in today's globalizing world, markets cannot be isolated from whole global phenomenon. That is why globalization and market system have close connection in between.

Indeed, flow of goods and services from another country has more domination over goods receiving country and their local markets. This is specifically a unique characteristic of developing country and it is due to unequal treatment of globalization. Countries having high production always export their productions in multiple countries and control the local markets of developing nation. This may sound bit uneasy for developing nation but globalization has provided many other opportunities.

The concept of free market developed since Adams Smith wrote *The Wealth of Nation* where it is described that nation should accumulate the wealth by building market structures, exporting local production more and import and freedom in trade. Later, on this basis, the concept of Neoliberalism emerged. In 1990s, Neoliberalism concept started to reduce state barriers upon free market. According to Harvey (2005), for neoliberalism a strong private property right, free markets and free trade should be established. In such, the state should create and preserve an institutional framework

appropriate to such practices and guarantee. In terms of further strengthening and proper functioning of market, military, defence, police and legal structures should be established to secure private property rights. Furthermore, in case of absence of markets, state must create it but beyond these tasks the state interventions in markets must be kept away

On the similar vein, Ritzer (2011) also writes that neoliberalism is a theory particularly applicable to economics and politics. Trade Liberalization is an important facet of Neoliberalism and globalization where it always seeks state to be in minimal role and market to be run freely without any policy hurdles from state. Trade liberalization also known as free trade or free market, also means removal or reduction of restriction or barriers on the exchange of goods between two or more nation and this includes the removal or reduction of both tariff and non-tariff obstacles (such as licensing rules, quotas and other requirements).

The state and globalization always remain in contentious relationship because globalization is associated with neo-liberal ideology which is against the state (Evans, 1997, p. 82). The implementation of neo-liberal concept in all developing nation suggests that globalization is dominating the state but if there is a transformation of the state and able to develop new elements of state-society synergy or return of the ideological pendulum, state comeback in such situation (Evans, 1997). And in such reverse situation, state may lead neo-liberal or market. But Albrow (1997) observed that:

The nation-state has failed to confine sociality within its boundaries, both territorial and categorical...the sheer increase in cross-national ties, the diversification of modes of personal relationships and the multiplication of forms of social organization demonstrate the autogenic nature of the social and reveal the nation-state as just another time bound form. (p. 164)

There are total 10 commandments of neoliberalism of which trade liberalization is important however, privatization, deregulation, state minimal, tax reduction, encourage foreign investment, de-unionize, export led development, reduce inflation, enforce property rights are also equally reinforcing neoliberalism.

Emergence of Trade Liberalization around the world and in Nepal: After WWII, Third World Countries were provided loan under poverty reduction programme however

after unable to return those loan by Third World, Structural Adjustment Programme (SAP) was sketched in which the loan recipient must adjust their policy and program according to World Bank. Washington Consensus having neoliberalism then easily passed through to different Third World Countries.

2.2.3.3 Changing Agriculture Pattern

During late 1980s, agriculture was the livelihood for more than 90 percent of Nepalese population, although only approximately 20 percent of the total land area was cultivable, it accounted for, on average, about 60 percent of the GDP and approximately 75 percent of exports (Savada, 1991). Agriculture is still one of an important livelihood for many Nepalese households and it has also remained as a major base of economy ever since before the unification of Nepal¹¹. During unification time, the value of agriculture was high in Nepal and land as its source of livelihood. The King during that time used to provide lands (Birta and Jagir¹²) to military generals and soldiers as prize in order to maintain their morale and loyalty in the war. The generals and soldiers used to hand over these Birta and Jagir land to individual cultivators on contract basis so that they can get proportion of grain from these individual cultivators (as individual agreement). Agriculture is still major livelihood of Nepalese where agriculture sector engages around 66 percent of the total population in Nepal and it contributes one-third of the nation's GDP with significant contribution to national economy (FAO, 2022). However, due to globalization and increasing trade with international market, trade deficit has swollen where in mid-April 2021, Nepal's trade deficit reach to NPR 1 trillion (Mahat & Kunwar, 2021).

With such dramatic upheaval in agricultural production and its export/import rate, on the other hand, agriculture pattern is also changing in Nepal (Table 2.1). This is because of globalization, which brought significant change in agricultural and its overall pattern. On the other hand, market are expanding and number of urban areas is increasing. Indeed, escalation of urbanization denotes increased population, food demand

¹¹ The contribution of agriculture in National GDP is 37 percent as per C.B.S (2010), but this cannot be taken as a main base of economy of Nepal. Rather, the remittance has become the main source of income for many Nepalese households and for overall economy of Nepal in the current scenario.

¹² *Birta* is providing certain part of land to Military Generals who had shown good loyalty towards kingdom and crown; and good performances in war. *Jagir* was a system providing land to soldiers instead of salary.

and transforming of agriculture lands into planned settlements. People having subsistence base agriculture are changing their way for income that is, leaving their traditional agriculture profession.

Table 2.1

Change in Cultivation Area in Nepal (2001 to 2011)

| Cultivation type | Changed in cultivation area |
|-------------------------|------------------------------------|
| Paddy cultivation | Decreased by 6 % |
| Maize cultivation | Decreased by 12 % |
| Millet cultivation | Decreased by 19 % |
| Potato cultivation | Increased by 20 % |
| Cash crops | Increased by 41% |

Source. C.B.S. 2011.

Increasing cash crop pattern is way of producing food items even during off seasons which is quite not natural. For this, the producer perhaps uses extra input such as chemical fertilizers for maximize agricultural production. So, having said this, globalization on the other hand is damaging human health via using chemical fertilizers in cash crops. Similarly, as global market is open for all those who can sell their labor power and due to this, people from developing countries such as Nepal and having less or insufficient household income are forced to measure their fate in different urban areas or possibly in foreign markets. An overwhelming outgoing number is becoming serious threat to rural livelihood. It means people are staying away from their traditional agriculture pattern and such trend is significantly increasing the proportion of fallow land in Nepal. Increasing of fallow land mean more people are engaged in non-farm works either in urban areas or foreign labor migration. It also means sharp decline of agricultural production which ultimately back fire to national economy.

However, the problem of detachment in agriculture is not only the current situation but in fact, many arable lands are still lacking basic facilities such as irrigation, sufficient hybrid seeds and fertilizers in most of the country. The hilly topography and unavailable of road access is now doubling such problem in Hills and Mountains. Kattel & Nepal (2021) argues that approximately 65 percent of the total cultivated land is irrigated by rain fed and this is staggering figure which reveals the lack of irrigation

facilities in Nepal. Moreover, Nepal's farming systems and crops vary widely depending upon altitude and climatic conditions due to which the agricultural production has not gained the expected height yet. That is why, total contribution of agriculture in GDP in 1995/96 remained only 40.22 percent (C.B.S., 1996) which further decreased to 35 percent by 2010. Such decline is also due to lack of plain fertile land with irrigation facilities and excess of harsh geographical topography where production of food to meet local demand (NPC, 2011, p. 13) is making difficult.

Nepal's agricultural system has also been dominated by small-scale and marginal farming. Many Nepalese today claims or introduce themselves as farmer besides working in off-farm jobs or partially producing paddy/vegetables in their small land for self-subsistence. C.B.S (2011a) defines farmers as, those who cultivates in at least four *Anna* (0.01272 ha) of land in Hills and Mountains or in eight *Dhur* (0.01355 ha) of land in Terai or those who have domesticated at least one cow/buffalo or those who have domesticated at least five sheep/goats/pigs or those who up keep at least 20 ducks/chickens are farmers. Adhikari (2008, p. 91) also writes that those "...who at least gives more than three-fourth of time in farming and derives more than three-fourth of household income by or through farming activities" are farmer. According to this definition, the number of farmers should be far less than what C.B.S. is counting as a farmer. It is because; an individual household is always an income pooling unit which always depends upon other income source, apart from the agriculture. The households depend upon five major forms of income as described by Wallerstein and Smith (1992, p. 7) which are "...wages, market sales (or profit), rent, transfer, and subsistence. There are also five distinct cluster of livelihood strategies in remote households, namely the non-farm wage, the business/enterprise, the commercial farming, the remittance oriented, and the diversified subsistence strategies (Khatiwada et al., 2017). Further the research has also shown majority (about 61 percent) of households have diversified their livelihood to non-farm related strategies which includes remittance and non-farm wages (Khatiwada et al., 2017).

Today, some practices of commercialization and modernization have come up in agricultural system. The use of hybrid seeds, chemical fertilizers and irrigation facilities

are new in agriculture. Use of such things can certainly increase productivity of crops or the volume of production which ultimately can raise food security to their families.

Before market system established, people used to produce necessary food items for self-consumption or for community. They rarely used to sell their products to their neighbors or other societies. But, since roads and marketplaces established, numerous local products started exiting to other places and also many foreign items became accessible to the local market or to the remote villagers. If we look at our salad, we may not know who grew all those juicy tomato, radish or cucumber but we are enjoying the taste of varieties even in off-season. I believe, this is what development of agriculture or globalization has to offer.

The National Census 2011 has recorded population growth rate 1.35 percent per annum in Nepal (CBS 2011, p. 1) which is comparatively lower population growth rate than recorded in 2001 (2.24 percent per annum was recorded in 2001). Although growth rate is lower in 2012, the number of population is still increasing and the increasing population indeed demands more food or its direct impact on food security. Hence, in order to reduce food insecurity, Nepalese farmers are giving priority on some specific crops such as paddy, maize and millet which are most staple food of common Nepali people to meet their daily energy requirements. Along with these staple foods, the farmers are also practicing cash earning agriculture in many part of the country. Such agricultural system is called cash crop because these production are market oriented agriculture from where the farmers can earn cash by selling their products.

The types of crops like cereal crops, mix crop and cash crops are ongoing agriculture practices in different parts of Nepal. Among these, cash crop is new cropping system in Nepal which is grown for sale and profit in return. The term cash crop is applied exclusively to the agricultural production of plant in which products are typically purchased by parties separate from a farm. In earlier times, cash crops were usually, only a small part of a farm's total yield, but today, especially in the developed countries almost all crops are mainly grown with profit oriented.

2.2.4 Globalization on Transhumant Pastoralism

In terms of the declining transhumant profession in high altitude around the world, globalization theory could be best to articulate with. Thomas (2007) noted that the degree and significance of its (globalization) impact can be seen almost everywhere one

looks and also global organizations such as the WTO (World Trade Organization) and the IMF (International Monetary Fund). However, its unequal treatment and impacts are visibly bubbling around. That is, globalization has impacts on a range of social, cultural, political and economic perspectives but is unequally treated. It also means growing inequality due to globalization and one of its victims is transhumant pastoralism. Due to globalization, markets are becoming volatile every moment. In line with this, FAO (2001) writes, livestock exports (animals and products from Nepal) constitute 0.2 percent of total exports while livestock imports account for 1.1 percent of total imports. Globalization, though is favorable for many aspects, it is equally unfavorable for livestock production and business related to it. This must be one of the major causes for Nepal facing a trade deficit every year.

Furthermore, Chaudhary et al. (2007) write that the influence of globalization has changed socioeconomic conditions of mountain people in Nepal. Along with such, its influence can affect the traditional systems such as transhumant pastoralism. On the other hand, transhumant herding system and high-altitude are often neglected by the policies and policy actors of Nepal (Dong et al., 2009) and state policies¹³ have restricted access to this traditional system (Banjade & Paudel, 2008). Further, regional tensions and closure of the border with China have also affected the system in many parts of higher Himalayas (Nautiyal & Kaechele, 2007) and finally, the climate change has emerged as an additional threat to the transhumant communities that compounds earlier socio-ecological and political changes (Aryal et al., 2014).

Table 2.2

Trade of Live Animals and Livestock Product (\$1000)

| Trade | | 1994 | 1995 | 2000 | 2005 | 2010 | 2013 |
|-------------------|-----------|--------|-------|-------|--------|--------|--------|
| Live animal | Export | 1120 | 1328 | 345 | 1 | 558 | 3026 |
| | Import | 538 | 736 | 2625 | 11479 | 7337 | 13105 |
| | Net trade | 582 | 592 | -2280 | -11478 | -6779 | -10079 |
| Livestock product | Export | 329 | 307 | 529 | 1675 | 2376 | 7479 |
| | Import | 12661 | 8194 | 4206 | 23632 | 18731 | 17409 |
| | Net trade | -12332 | -7887 | -3677 | -21957 | -16355 | -9930 |
| Livestock total | Export | 1449 | 1528 | 874 | 1672 | 2932 | 10505 |
| | Import | 3194 | 1630 | 4851 | 19284 | 19882 | 24491 |
| | Net trade | -11750 | -7295 | -5957 | -33435 | -23134 | -20009 |

Note. From *Growth of Livestock Sector in Nepal: A Perspective on Agriculture*

Perspective Plan, by Upadhyay et al., 2017, p. 368.

¹³ Protected Areas in the mountains and implementation of Community Forestry in mid-hills

Table 2.2 clearly indicates the flow of globalization is high in Nepal and a major factor transforming the situation of pastoralists in the twentieth century has been the globalization of the trade in livestock products (Blench, 2001) however, such inequality in import and export percentage figure suggest unequal treatment of globalization, specifically to the developing countries like Nepal. With the development and expansion of roads up to rural part of the country, it has “...increased numbers of potential buyers...of pastoralist production but on the other hand,...they also allowed the movement of products previously confined to local areas, such as milk and meat...and no pastoralist can compete in this market” (Blench, 2001, p. 38). With increasing globalization, pastoralists are increasing the variety of sheep products. Generally, the products from sheep are wool; meat and cheese, however, in some countries production is made according to the urban need. For instance, pastoralists in Kenya use sheep skin (with fur) to make luxury car seat covers or sofa covers. This is modification of sheep production according to a globalized system. Such modification is not in practice in Nepal however, the existing number of sheep can still produce 720 megatons of wool.

Although there are a number of impacting factors for the decline of transhumant pastoralism, this study focuses on two major impacting factors for transhumant pastoralism in the modern world. However, both the impacting factors have a single strand, that is, globalization. The first impacting factor is climate change that emerged due to global warming. This has impacted transhumant pastoralism in number of ways such as increasing intensity of snowfall¹⁴, decreasing water sources and variation in temperature. Another is the formation of a community forest user group which emerged in order to protect forest so that necessary fuel wood and forage can be obtained from it as well as reducing hazards caused by deforestation. Both the climate change and emergence of community forest have a deep impact upon transhumant pastoralism in the modern world.

2.2.5 The Issue of Climate Change

Climate change is now one of the major global concerns because of temperature variation and change in its pattern. Moreover, extreme weather conditions like drought,

¹⁴ In the recent news from Nepal, all the sheep in altitude died due to untimely snow fall. <https://www.onlinekhabar.com/2019/03/748954>.

excess rainfall, heat stress and cold stress are more frequent in the recent years (Malla, 2008). According to The World Bank (2012), climate change is rising temperature in which,

A global warming of 0.8° C may not seem large, but many climate change impacts have already started to emerge, and the shift from 0.8° C to 2° C warming or beyond will pose even greater challenges. It is also useful to recall that a global mean temperature increase of 4° C approaches the difference between temperatures today and those of the last ice age, when much of central Europe and the northern United States were covered with kilometers of ice and global mean temperatures were about 4.5° C to 7° C lower. And this magnitude of climate change-human included- is occurring over a century, not millennia. (p. xiv)

Above statement is clear that rise in global temperature has many implication on human environment and without a doubt, humans' own activities are guiding all of us toward devastating destination.

The Himalaya regions of HKH countries (Afghanistan, Bangladesh, Nepal, Bhutan, China, India, Myanmar, Pakistan) are "rich biodiversity hotspot with a number of endemic species of flora and fauna upon which livelihoods of millions of poor and vulnerable population depend" (Karki et al., 2009, p. 35). But due to growing global warming and climate change, different environmental impacts and challenges are evidently observable in HKH countries. The climate change can affect the "critical ecosystems services and environmental flow with potential adverse impacts on the livelihoods and wellbeing of millions of people living not only in the core areas of Eastern Himalayan slopes but also in the downstream ecosystems" (Karki et.al, 2009, p. 35). With this, Nepal is also highly vulnerable to climate change and its associated impacts due to her fragile mountain ecosystem. Nepal is also ranked on 24th position in Global Climate Risk Index (Kreft et al., 2016).

The vulnerability of people living in such altitudes are accelerated by high poverty, slow economic growth, access to different facilities, lack of resources and many more. Due to such, social impacts tend to be greater in developing countries where people's livelihoods are largely weather-dependent, for livelihood activities such as rain-fed crops, livestock, fishery and forestry Gentle (2014).

The climate change is considered as one of the greatest threats posed to conservation and livelihood initiatives worldwide. The situation is becoming worse as we release more and more greenhouse gases into the atmosphere. IPCC (2013) has confirmed that the emission of GHG is a major cause of global warming and there are different types of greenhouse gases in an atmospheric level. Though Nepal contributes only around 0.027 per cent of greenhouse gases of the total global share, she is facing climate change impacts equally to other major GHG emitting countries. The main sources of GJGs are many which also includes rapid urbanization and rapid economic development activities. Due to these GHG, global temperature is increasing continuously.

As per IPCC (2013), the global combined average land and ocean surface temperature has increased over 0.85 degree Celsius from 1850 to 2012. Similarly, according to IPCC (2001), the increase in mean land surface temperature from 1950 to 1993 is about double that of the ocean surface. The increased warming over the last fifty years was nearly twice the rate of the past 100 years (Brohan et al., 2006). The average water vapor content at both the earth surface and the atmosphere is increasing at 1-2 percent per decade (Sherwood et al., 2010). Similarly, greater amounts and intensity of summer rainfall has been experienced at higher altitudes in the South Asian regions which also indicates the climate change (Shrestha et al., 2000).

The impacts of climate change are already observable in the Himalayan ecosystem. Glacier lake outburst floods (GLOF) caused by rapidly retreating glaciers and the hasty formation of Glacier Lakes is just one example of the risks of climate change in Nepal. Other possible impacts of climate change such as changing rain pattern, snowfall pattern, loss of biodiversity, water scarcity et cetera decrease the food productivity causing food insecurity and increasing frequency of landslides and flooding.

In line with increasing temperature, Khanal (2009) also writes that increased temperature causes depletion of soil moisture directly and indirectly through transpiration across different stages of crop growth flowering, pollination and grain filling which result on a decrease in crop yield. Rai and Rijal (2014) suggested that such rain has direct impact the pollination in food crop species in two ways. Firstly, wash away of pollen and during such rain, absence of sunlight.

Temperature rise has also adverse impact on water resources. In such, vector-borne diseases such as malaria and dengue fever are likely to move to higher altitudes” (Karki et al., 2009, p. 34). The writers further add that water-borne diseases are also likely to increase with the increasing water stress along with the lack of safe drinking water and basic sanitation in the region. All of these impacts lead to a high threat to people’s livelihoods, safety, security and ultimately the economy of the whole nation. Notwithstanding, as always the frontline to face these impacts are poor and marginalized people. In line with who will be the first victim of climate change, World Bank (2012) writes that Small Island Developing States (SIDS) and Least Developed Countries (LDCs) would have serious threats to their development and, in some cases, survival.

Such vulnerabilities are even high at mountain and people living in such high altitude. In terms of Nepal, fragile mountainous ecosystem will be prime contributing factors for the severity of this situation. Further, prevailing poverty in those regions has coupled with slow economic growth and lack of both the financial and technical resources necessary to adapt to climate change has increased its vulnerability. In addition, it seems that climate change has not been mainstreamed into the national development planning process. Moreover, conflicting social and political priorities in the country, low awareness, and a lack of expertise to address this crucial issue is making climate change a difficult national agenda.

2.2.5.1 Climate Change on Transhumant Pastoralism

Different human activities such as, excess use of natural resources, change in land use, deforestation, unsustainable farming practices, haphazard roads construction, high population growth, speedy urbanization, increasing number of vehicles, industrial boom et cetera are producing significant amount of Green House Gases (GHG) impacting human environment. Stern (2006) writes three anthropogenic factors primarily contributing to GHG emissions such as i) carbon pollution from fossil fuels; ii) agriculture- mostly from soil and livestock and; iii) land use changes- mainly deforestation. Global climate change has become an increasingly visible topic in public culture over the past few decades, and is likely to dominate environmental, political and social agendas for some time to come (Peterson & Broad, 2009).

There are several impacts of climate change on transhumant pastoralism. One of those impacts is on their transhumancing distance that means, they are traveling a long distance to find proper forage, water and grazing areas for their herd. In such, longer the migrating distance they have, higher the chance of impacting transhumant annual cycle and conflict with lower hilly communities. Similarly, as per Rojas-Downing et al. (2017) (see Appendix A2), one of the important impacts of climate change (due to increase of temperature) on livestock is increase of water consumption by 2 to 3 times. Due to such increasing frequency of water consumption the feed intake will certainly drop which will have a negative impact on milk and meat production. In other words, due to decrease of forage, less nutrients will be available for livestock and thus leads to reduction in body size and reduced reproduction. New diseases also start affecting livestock in such cases.

Climate change is a gradual process and it is believed to be non-stoppable. Several researches have revealed that due to climate change, transhumant pastoralist are taking their hands off from their traditional pastoral business and started adopting sedentary or other non-farm lifestyle. Due to increasing population and their increasing daily needs, especially who depends upon local forest for daily forage and fuel wood, deforestation occurred at several locations. To stop deforestation, the concept of community forest emerged in different countries. But with an emergence of community forest and land reform policy, transhumant pastoralist are in state of conflict with lower hilly communities as they cannot graze their herd in such forest and lands that belongs to lower hilly communities and community forest user groups.

The impact of climate change is different in various countries. In Nepal, the impact of climate change is significant around the hilly region including changing rain and snowfall patterns. These changes have directly impacted upon glacier melt, fluctuating river current, affecting agriculture, energy, human health, water-related disasters, water supply and so on. One of its related and leading consequences is gradual decrease of greenery around the highland and hilly areas. Due to climate change, the local communities from the hill have also identified ‘...declining crop and livestock production’ (Ministry of Environment, 2010). It is due to higher altitude rangeland and fodders covered by snow for a short time, that is, snow melting rate is faster than earlier.

This condition exposes available fodders quickly in an open environment and because of this, green vegetation dries out quickly or consumed by surrounding livestock earlier and rangeland turns to barren land before its normal time period. On the other hand, the density of green forest and vegetation is also declining in hilly areas due to which its impacts such as draining of water sources, decreasing grazing ground, increasing dry and fallow lands are in significant manner.

Climate change, indeed, has threatened critical ecosystems services and livelihoods and wellbeing of billions of people living not only in the mountains but also in the downstream areas. Available trends and projections suggest that there could be major impacts in mountain glaciers, snowfields and water supply, mountain forests and biodiversity, water source and livelihoods of mountain people—including transhumant pastoralists.

There has been a long practice of transhumant pastoralism, bringing *Goth* down to the warm hilly areas, during winter season and higher land during summer. It is because of extreme cold and lack of forages around mountainous rangeland. The harsh climatic condition which also poses significant risk to transhumant pastoralists and their livestock and; to mitigate such risk of unavailability of forages and risk to livestock, the herders bring their livestock down to the hill during winter.

This is the traditional practice that these people have been practicing since a long generation. On the other hand, this is not only the need of transhumant pastoralists but also the need of the hilly community in terms of collection of manure. The winter and mid-winter is the time where hilly people harvest their farm and wait for about a month or two to recharge their farm with manure. As their livelihood is agro-pastoralism, they have less quantity of manure and to recharge their farmland, they depend upon transhumant pastoralists. But, increasing market close by and availability of chemical fertilizer is widening the gap of relation between hilly communities and transhumant pastoralists.

About two decades earlier, the hilly community used to ask these transhumant pastoralists to establish their temporary *Goth* at their farm so that they could collect sufficient manures during their stay at farm land. But since, the state intervened in late

1970s and enforced Forest Program in 1993 and due to this, in mere decade's time, the threat of impending desertification had become history (Shrestha, 2012) and the implementation of the CF programme, particularly in the mid-hills, has reversed deforestation and has resulted in the rehabilitation of degraded forests (Branney & Yadav, 1998). Now, all the forest user groups are voluntarily united under the umbrella of the Federation of Community Forestry Users of Nepal (FECOFUN) to ensure their rights are protected (Dahal & Chapagain, 2008) and due to such, community forestry is appreciated a successful programme of Nepal in terms of rehabilitating forest condition (see Branney & Yadav, 1998; Gautam et al., 2003; Jackson et al., 1998; Karna et al., 2004; and Pokharel et al., 2007).

Despite all these positive consequences and appreciation, the state intervention, handing over of forest to community user groups and formation of FECOFUN et cetera has excluded transhumant pastoralism from their traditional grazing ground and forced them to quit their traditional profession. Because of this, the whole transhumant pastoralism cycle has been impacted since then. People who enjoyed forages available in different altitudes are now confined in much smaller places. Banjade and Paudel (2008) write that 'the problems these pastoralists face are poorly understood and generally ignored by policy makers'. Now the local community are controlling grazing areas and local forest and; transhumant pastoralist are required to pay tax in cash or kind to locals for using their grazing land or community forest. Though these pastoralists were also one of its user groups but seasonal, they have been excluded from this group. In other words, the state failed to encompass these traditional user groups in CFUGs.

Indeed, this is not the first case where transhumant pastoralists are pinned down by the state intervention. In fact, Porter (2012) has poked the historical event of Westphalia and writes that, 'once such event was the Peace of Westphalia in 1648, which led to the creation of the nation-state through the delineation of territorial and sovereign boundaries' Porter further writes that major impact on interactions between pastoralist and the state is after putting pastoralist at odds because of current divergent relationships to space. Porter further adds that 'in order to exert control over the boundaries that define it, the state cannot tolerate groups it perceives as transgressing the boundaries, for those groups threaten to destabilize it by demonstrating their ability to escape the means of

control exercised within, and limited to, those boundaries'. Mobile pastoralists requires easy passage to and from pasturage wherever it might be located, and an invisible line that divides traditional territories (as well as group members) and allocates them to separate states serves only to impede the normal functioning of the group (Claudot-Hawad, 2006; and Lancaster & Lancaster, 2006, p. 346). Pursuit of these conflicting interests colours pastoralist-state relations in very particular respects, but is only one of the many ways the modern state has shaped the nature of pastoralist existence (Chatty, 2006).

In the past, these seasonal pastoralists were of high demand and lower hilly community members were in a tug of war to bring these herder groups in their fallow land overnight for a couple of days. On top of this, the farm owner used to provide *Kharcha* during their stay. Now the relation is upside down between herders and the local community. The root cause of this is state intervention of community forest programs and handing over of community forest to the local community. However, there are several unseen hands behind such change of which globalization and increasing labor demand in the global market is important. Because of this, the new generation are abandoning their traditional profession and moving abroad as it is easy and monthly basis salary is more attractive than pastoralism.

2.2.5.2 Himalayan Degradation and Transhumant Pastoral System

In terms of Himalayan degradation, there are two scholarly views. Firstly, Eckholm (1975) argues that Himalayan degradation is due to increase in population. According to Eckholm, international donor countries assisted to improve medical and veterinary services due to which it lowered the death rates of human and animal populations in 1950s. In another word, due to such program, the number of population increased but this increment was not follow up by economic modernization so traditional agro-pastoral farming system came to exert intolerable pressure on the natural resource base. In such, forest was cleared for cultivation and steep slopes were converted into terraced fields.

Himalayan households also relied on firewood for cooking and heating which further accelerated deforestation. Later this concept became the 'Theory' that describes

the degradation of Himalayan region. Following this alarming hypothesis, World Bank (1979) argued that Nepal has lost half its forest cover within a thirty year period (1950-80) and by AD 2000 no accessible forests will remain. Similarly, Asian Development Bank (1982) also mentioned that “there is a distinct danger that all accessible forests, especially in the hills, will be eliminated within less than 20 years” (p. 12). Alan Macfarlane (1976) in the same vein predicted that increasing population at *Gurung* villages will destroy the forest area and such situation will bring natural disasters in the village.

However, several writers such as Thompson et al. (1985) and; Ives and Messerli (1989) opposed this theory and claimed that this theory has been heavily biased in favor of International donor’s perspectives. Thompson and Gyawali (2007) argue that millions and millions of dollars as aid has been directed at solving the wrong problem however today Nepal’s middle hills are better canopied than they have ever been since they were first settled. Indeed, Macfarlane revisited his research area after 20 years but found unbelievable fact. The forest found expanded, very close, up to the village.

These failed predictions show that the researchers involved in Himalayan research overlooked the feature of globalization and booming capitalism around the world which has close interlink with labor migration and market system that are extended up to such rural villages. That is, outflow of villagers as labor force, created low pressure on local forest and natural resources. But defending the Theory of Himalayan degradation, Aase (2017) writes, though doomsday scenario like the Theory of Himalayan Degradation can be viewed as a failed prediction; but from another perspective it can be seen as an alarm clock that triggered a series of policy initiatives and new knowledge.

On the other hand, according to Environmental Kuznets Curve explanation (Appendix A3), the environmental degradation scale up according to increase in per capita income. Such degradation however, starts declining after per capita income cross its threshold. That is, income has positive correlation with environmental degradation for some level but has negative correlation after its threshold at certain point. For instance, if a household is poor and unable to afford cooking gas and stove, they depend upon forest

and this may lead to environmental degradation. However, once their per capita income goes up, they can afford cooking gas and stove which ultimately decrease the exploitation of natural resources thus minimize environmental degradation.

However, Kuznets theory on environmental degradation left some space to doubt in terms of growing trade, industries, transportation and urbanization. Due to scaled up and scaled out of all these development, various consequences are still visibly bubbling up around human environment such as increasing temperature, excess environmental degradation, impact on human health, livelihood, economy and many others. The surge in human development has continuously assisting in temperature increase thus increasing droughts, wilder weather, changing rain and snowing pattern, melting glaciers and rising sea level.

According to Korner et al. (2005):

Human activity in mountains that is not in balance with the environment can have serious consequences, resulting, for example, in soil erosion, pollution of natural waters, disruption of water and energy balances, elimination of both animal and plant species, loss of soil productivity, increasing food deficits, malnutrition and poor standards of living. Some of these consequences can be irreversible, such as the extinction of species and the loss of soil and cultural diversity. (p. 711)

The environmental change has various effects on different geography. Further, the topographical dissemination¹⁵ of Nepal is assorted. Terai or plain locale, otherwise called breadbasket of Nepal, is the most prolific land among every natural area that spreads 43 percent of the complete cultivating land in Nepal. Whereas, Mountain region ranges from around 4800 meters to 8839 meters and due to harsh terrain, other facilities such as land transportation and communication facilities are limited in these regions and the Hill region ranges from 610 meters to 480 meters above sea level is thickly populated (Pradhan et al., 1997).

¹⁵ The plain land Terai is in the south pursued by hill, mid hill (also called mid mountain) and high mountains in the north. The middle hill or mid-mountain locale are progressively delicate inclines with a rise of 1,000 to 2,000 MASL. The high mountains are steep slants with elevation begins from 2,000 m to 4,000 m. Pariyar (2005) writes, the Mountain area is characterized by higher elevation (more than 2500 m) that comprises lower temperatures and lower rainfall. The Hilly region is characterized by moderate elevation (in between 500-2500 m) with a sub-tropical to warm temperate climate and higher annual rainfall. The lower elevation (less than 500 m) is Plains region that has sub-tropical to tropical atmosphere and medium precipitation attributes.

But on the other hand, the highland Mountain to Hilly regions and low land Terai has its own entrancing geological excellence and; people living in these scenes have different ways of life and occupations. The majority household's livelihood in highland and Hilly areas are still agriculture, agro-pastoralism and pastoralism. However, extending global market system is also creating different opportunities, in country and abroad, to the people living in these regions. Among many opportunities market system has created, foreign labor migration is becoming prevailing livelihood¹⁶ specially in developing world like Nepal.

Studies on human efforts for making livelihoods in varying ecological and socio-economic contexts of rural localities tend to suggest that people mobilize a variety of natural resources and other means of supports to satisfy their survival necessities (Pandey, 2003). Further he adds that they may also resort to some other means of support by establishing a variety of economic linkages among themselves and with various other agencies. Since Nepal ventured into economic globalization, people's economic aspects and linkages has diversified intensely. In any case, then again, such diversification of economic livelihood or new form of profession (culture) has emerged according to specific environment and ecology.

Then again, globalization is molding employments of individuals hindering at various land arrangement. One of such is likewise the business of transhumant pastoralism dwelling at bumpy and sloping geology of Nepal. In this research, transhumant herders are those gathering of individuals who do not rehearse occasional relocation for winning hard money or because of agribusiness slack season at their territory, however as a need of regular moving for their domesticated animals—sheep. There is no such appealing force factors at goals (low slopes) for transhumant pastoralist to move down in any case, conditions, for example, reasonable temperature and accessibility of crisp field and water for sheep instigate them to relocate there. Then again, the push factors at the root place (rangelands) are changing snowfall pattern,

¹⁶ According to 'Labor Migration for Employment status report for Nepal 2014/15', total 4, 99, 620 labor permits were issued for foreign employment (excluding India). As of fiscal year 2014/15 report, there was inflow of NPR 589.5 billion as a remittance which is 27.7 per cent contribution in total GDP of Nepal.

precipitation design and diminishing vegetation (*Buki*¹⁷), which all has close connection with the environmental change. The broad brushing by domesticated animals at high elevation rangeland propels to cut their herds down the low slopes with the goal that these rangeland get certain opportunity to recover of vegetation. Essentially, abundance cold during winter is additionally another factor that powers transhumant pastoralist to move downhill during winter season.

In 1993, Nepal Government (then His Majesty Government of Nepal) implemented Community Forest act and the timberlands were turned into Community Forests which were then handed over to neighborhood network known as Community Forest User Groups (CFUGs). These woodland were given over to local communities so as to oversee such forest more scientifically by community itself. After a significant stretch, it has been detected that in this handing over process of forest, it has excluded one of its traditional user group¹⁸ — transhumant pastoralist— who have been travelling from a long distance to this place since many generations to utilize it as seasonal grazing land.

2.2.6 The Role of the State and the Birth of Community Forest in Nepal

The state is comprise of population, governing body and territory. Without these prerequisites, a state cannot be imagined. Further, the power of the state depends upon its territory that is, larger the territory, bigger the state's power is. Those states having large territory holds greater production and thus the strong economy. Large territory can accommodate bigger number of population thus participating in production process leading to strong economy. The subject of the same state pays taxes to the state (government) for providing security, rights and duties to them and with or without voluntarily, they serves the state by participating in an economic growth plus other services that state requires. To facilitate the subjects, state also makes different plans and policies for developing infrastructures, social, economic, cultural and environmental aspects and; ultimately keeps the state sovereign. In all these, the state becomes more repressive over their subjects.

¹⁷ Buki is the main grass for sheep in high altitude rangeland which require sufficient snowfall to grow well. If there is insufficient snowfall, '...Buki cannot grow well and when sheep do not get enough Buki grass they have to graze on other plants and some of them are poisonous...' (Gentle 2014, p. 172).

¹⁸ Transhumant pastoralist from highlands have been using hilly forest and grazing land since many generation but only in seasonal basis.

Interestingly, not every citizen of the country paid taxes in the past. The group of people or community that were far away from the state's capital or governing bodies, enjoyed tax exemption a bit as there were less or no monitoring actors or provision to monitor and levy taxes from such rural group. One of such rural group were transhumant pastoralist who paid less or no taxes to government due to their mobile nature of life. The herders keep moving from high to low altitude and vice-a-versa round the year, according to the season and government authorities were unable to locate them or collect taxes from them. Their main profession was/is sheep rearing not an agriculture that lower hilly people have. It used to be easy for state to collect taxes from lower hilly community and difficult from mobile pastoralist.

Now, the movement of such group is decreasing as there are number of community forest in the hilly areas. Community forest is basically a forest own by community in which the community as a steward looks after, manage forest in scientific way, increase its density and receives various benefits from both in cash and materials. According to Charnley and Poe (2007), community forestry refers to forest management that has ecological sustainability and local community benefits as central goals, with some degree of responsibility and authority given to the community for the forest management.

McCullough (1995) and Belsky (2008) noted that in the US, tribal lands, Spanish land grants, and New England town forests represent historic models of community forests. This suggests that the history of community forestry begins from New England¹⁹ where a long tradition of community forest stewardship existed. In contrast, Poffenberger (1990) argues that community forestry has been practiced for many years in the developing world; and only in the past few years has it emerged in the United States. In line with Poffenberger, Arnold (1992), Glasmeier and Farrigan (2005) and Pardo (1995) write that earliest examples of community forestry come from Asia, where they grew out of social forestry efforts that began in the 1970s. Conklin (1957) and; Denevan and Padoch (1988) have also made similar argument that indigenous and local people have sustainably managed forests in the past through techniques such as practicing swidden

¹⁹ New England composed of six states of the northeastern United States namely Maine, Vermont, New Hampshire, Massachusetts, Rhode Island and Connecticut.

agriculture for crop production. Further, Scott (1989) pointed out that during 1900 to 1989, Southeast Asia's forest declined from 250 million hectares to 60 million hectares which continues to erode at well over one million hectares per year. This was indeed an alarming rate due to which forestry policies are being changed in hope of stemming the further loss...and over the past two decades, a ground swell of support has emerged from many quarters to assist communities to reestablish management and hence finally national Community Forest Management (CFM) crafted (Poffenberger, 2006, p. 57). In addition, Asia's social forestry programs were a response on the part of state governments and international donors to the problems of deforestation and the ecological effects of industrial forestry, combined with growing rural populations who faced hardships obtaining fuel wood and other forest production (Charnley & Poe, 2007). In this way, community forestry emerged in different places between the 1970s and 1990s as a response to different combinations of factors, but key drivers have been deforestation and forest degradation occurring as a result of decades of overexploitation from industrial logging (Poffenberger, 2006).

On the other hand, there is no dispute among scholars on the argument that natural environmental features influence livelihood behavior of the population (Pandey, 2003). That means any livelihood that people opt is directly linked with environmental features. Having said this, in high altitude areas, sheep herding occupation is not because of only option that they have but the surrounding environment which contains fresh pastures those sheep needs. In this line, Lee and DeVore (1968) have rightly argues that hunting, gathering and animal herding practices have always been possible mainly in those areas where forest and pasture fields are adequate.

In context of Nepal, before an emergence of community forestry program, state authorities opted forest as a good source of income. Due to that, forest size plunged heavily till the first half of 20th century. On the other hand, the relation between human and population is always inverse, that is, increased population directly and indirectly put pressure on forest leading to deforestation. For instance, Macfarlane (1976) predicted deforestation, soil erosion and disaster in *Thak* village²⁰ by the new millennium. His

²⁰ Gurung village where Alan Macfarlane did ethnography research in 1976 and returned there again after 30 years to check his prediction. Please see *Resources and Population* and *Sliding Down Hill* by Alan Macfarlane.

prediction was based upon population and resources. However, several factors such as out labor migration, remittance and migration toward urban cities such as Pokhara, reduced the population in *Thak* and maintained the forest level growing back close to the village (Macfarlane, 2001).

The preceding case was before the restoration of democracy in Nepal (1990) but the deforestation in Nepal has long history that starts before the unification of Nepal which significantly swollen up during unification period, continued till the Rana regime and Panchyat system. It is the state who took forest as a good source of economy in Nepalese history. During unification and post-unification period (Rana regime and Panchyat government), deforestation escalated intensively and the rulers exploited forest products heavily. Only after 1970's, the concept of community forest emerged to protect deforestation as well as to fulfill the daily need of locals in terms of forest items in more systematic way.

2.2.6.1 Deforestation during Unification of Nepal

The unification process of Nepal was commenced by King Prithivi Narayan Shah of Gorkha. During unification period, new principalities and lands were annexed/conquered by *Gorkhali* troops. This unification process continued till the Anglo-Gorkha War of 1814-16.

The *Gorkhali* troops took over all the hilly principalities in fast and steady manner with 'one foot on the ground'²¹ strategy. Nevertheless, this strategy required certain people to hold the conquered land before remaining to set out for another war with another principality. The newly conquered land remained in *Gorkhali*'s control with both people's faith and economy. For that faithful people of *Gorkhali* sides were settled in newly conquered land. Extending the settlement means use of forest products such as timber and other woods which was the kick start of deforestation in Nepal. On the other hand, increasing population did need arable land for livelihood or farm production and the Gorkha kingdom needed taxes from these new people and land. Due to such necessity, deforestation dramatically escalated during the unification period.

²¹ One foot on the ground basically is military strategy where conquered land are hold by certain troops whereas other moves forward to attack and conquer new state/location.

On the other hand, the major rewarding system during those times was *Birta* and *Jagir* which is based upon granting lands to the Generals and soldiers. But the *Gorkhali* officers and soldiers, who received *Birta* and *Jagir* land, rented out to the local tillers on contract basis such as *Adhiya* where tillers have to provide half a portion of grain to the land owner right after the harvest. Due to this, arable land extends in *Gorkhali* land leading to massive deforestation.

During unification period, timber was not only the revenue generating resources but elephants, herbs, timber as well as land were the major sources of revenue from the forest. To continue such revenue, Prithivi Narayan Shah even after the takeover of Kathmandu valley, emphasized annexation of the eastern Terai (Adhikari, 2010). Further, during the rule of King *Girban* (Son of King *Rana Bahadur Shah*), deforestation in Terai was at a significant pace. As written order by King *Girban* to *Padmapani Pandit*, timber export regulations 1811 states that transporting timber cut in Belod, Chitaun, and selling it in Calcutta, as well as for constructing a temple in Kashi (Regmi, 1972). This evidently shows in the name of state income generation how forests were converted into agricultural land.

2.2.6.2 Deforestation during Rana Period

The Rana period started from *Kot Parba* (court massacre-19th September 1846) where *Junga Bahadur Rana* along with his brothers killed most of the higher officials and later became the first Rana prime minister of Nepal. After taking power over Shah King, they started manipulating state resources including forest products due to which deforestation process continued during Rana period as well.

Before the Gorkha Empire encountered another encroaching empire (British) on the South, the jungle of *Terai* belt were left untamed in order to discontinue enemy's movements at the Southern plain region (today's *Chitwan* also known as the valley of death²²). Guneratne (1996 Oldfield quote 1974, p. 49) that "as a defensive policy resulting from Nepali fears regarding British expansionism following the Anglo-Nepal war of 1814-16, the Nepali state de-populated Chitwan by moving a large part of the population out of the district and allowing much of the valley to revert to jungle." But

²² See *The Tax Man Cometh* by Arjun Guneratne where he has quoted term 'Valley of Death' from 'Planned Resettlement in Nepal's Terai' by Joseph W. Elder et al. 1976.

after end of Anglo-Gorkha war, Rana prime ministers' foreign policy was focused more on to please British Empire. In the meantime the *Terai* forest received newfound significance specifically due to expansion of the railway network in India and the development of cities in north India (Regmi, 1988). On the other hand, the Ranas had to obtain the support of the British in India for their political survival in Nepal and one way to obtain this support was to allow British access to the Terai's forest resources (Adhikari, 2010). Further they systematized timber harvest and export with 'expert inputs from British foresters, institutionalized hunting in *Terai* forests as a particular form of diplomacy in order to cement their relations with the British, and promoted settlements in the southern part of *Terai* (Adhikari, 2010).

During this time, forest resources became the valuable source of revenue collection and it was also due to greater demand for *sal* timber in India (Regmi, 1988) where India was under urbanization and industrialization. In the later stage of Rana regime, nearly one third of state-owned forest was in the form of *Kipat* and *Birta* which signifies the level of deforestation in Nepal. Further, after the demise of Rana regime in Nepal, Panchyat system stepped in which nationalist activities were forwarded. During the same time, a steady migration of the agricultural population from hill to waste and forest areas in Terai (Regmi, 2014).

2.2.6.3 Nationalization of Forest and Pasture Act 1974

After the fall of Rana regime and emergence of democracy in 1950, the King took the power and Panchyat government system started in Nepal. The Panchyat system was upsurge of nationalism. The Panchyat system devolved governance power from center to village level and *Panchas* became the local authority and decision maker for any legal, social and cultural issues.

The nationalization of forests by the government in 1957 was to prevent further destruction of forest however, it was the mistrust in between Panchyat government and locals for the forest. Further, the "communal responsibility for forest management disappeared and communities having no stake in forest preservation and management" (Ranjit, 2019, p. 19). Such move made every locals, out of bound, to their nearest forest from which they had been making their daily living since many generations. The state

was totally unable to control, protect, and manage the nationalized forests as it lacked the necessarily institutional capacity (Palit, 1996).

On the other hand, though such nationalized forest controlling authority were identified to *Panchas*, locals had to contribute labor forces to manage those forest. Beside these contribution on forest management, they were gaining no benefit instead losing their traditional right on grazing land in it. Those locals having livelihood dependent upon forest became the most impacted group. As there were neither alternate livelihood nor alternate resources (for daily need) managed by the government to locals, it left locals no choice other than exploiting the nationalized forest illegally. The locals had no feeling of ownership toward such forest and further monitoring system was also weak and minimum. Due to this, it led to a massive forest encroachment, illegal logging and continued deterioration.

Many scholars believes deforestation in Nepal is due to nationalization of communal forest lands in 1950s by Panchyat government, thereby alienating local people from their ancestral institution and controls (Rhodes, 1997). However, Bhattarai (2016) states that Nationalization Act of 1957 had a provision that about the limited area of private forest for the individual family, which could not be nationalized but locals elite and landlord *Zamindar* distorted the message of the Nationalization Act which accelerated deforestation. Even during 1980's, after eradication of malaria in *Terai* (southern belt), voluntary migration (toward *Terai*) was initiated by the government. Those who wishes to take new land in *Terai* were welcomed but those individual had to clear the jungle for preparing their own settlement area. This process also speeded up the deforestation in *Terai* area during Panchyat government.

On the other hand, deforestation is also directly proportional to population increase. In the same, Banister and Thapa (1981) write that:

...from the early 1950s to the late 1970s, fertility has remained high. Though there was national family planning program for over a decade, knowledge and use of modern contraceptive methods was at a very low level and despite the government's efforts to provide family planning services throughout the country, inaccessibility of many rural village remains an obstacle. (p. 1)

The control of malaria in the *Terai* and continuing public health work in major areas of the country since 1951 have considerably reduced mortality, while fertility has stayed at traditional levels, or even risen (Banister & Thapa, 1981). Due to this, there was more pressure on arable land and there was no scientific agriculture system to produce sufficient food for increased population. Similarly, escalating internal migration to newly available land in the *Terai*, intense competition for dwindling resources such as arable land and firewood (Banister & Thapa, 1981).

Further, according to pasture land nationalization act 2031 (1974 AD), to arrange the pasture land, the government of Nepal assign local VDC for the protection of such land and pasturing. The grazing fees to be collected by VDC in which annual grazing fee at the rate of maximum of three rupees for each big animal such as yak, cow, buffalo, horse and mule. In the same, maximum of one rupee for each small animal such as he-goat, she-goat, sheep and mountain goat. In this way, the government of Nepal delegated pasture land related power to local VDC and in such, VDC can reform of pasture land and pasturing when necessary.

High altitude grazing land is also known as rangeland (*Kharka*). The rangeland policy revised in 2012 (2068 BS) states that, off 33 lakhs hector of rangeland, 80% rangeland lies at high altitude areas and most of these high altitude rangeland lies in Western and Mid-Western region of Nepal (MoALD, 2012, p.1). As such pasture land or rangeland are rich in biodiversity, its protection and development is important. 37% of fodder available in such pasture or rangeland can be used to feed domesticated animals. The high altitude pasture land have less pressure in compared to low land pasture areas due to less number of animal at high altitude areas (MoALD, 2012, p.1).

With increasing population, land erosion, forest fire, slash and burn practices and unmanaged grazing, the area of rangeland is gradually decreasing in Nepal. The loss of indigenous method to protect such pasture land and scientific method is yet to be implemented. Further, the lack of funding for pasture development, lack of clear regulation for pasture land (under whom this must be managed), lack of technical knowledge, and most importantly the development of pasture land has never been streamlined in national priority. Due to such gap, challenges are continue to mounting in the development and management of pasture land in Nepal (MoALD, 2012, p. 2).

The development of pasture management started from Rana rule in 1860 (Pande & Pradhan, 1997). They further add, to help local people (pastoralist) of high altitude areas (Mustang, Dolpo, Langtang, Humla, Khumbu and Walangchung Gola), after the closure of boarder by China for transhumant purpose, Nepal implemented a 10 years 'Northern Belt Pasture Development Programme in different districts bordering the Tibetan Autonomous Regions, China.

Further, during 1980 to 1992, FAO funded projects and ADB funded projects procured over 12 tons of forage and pasture seed and distributed to farmers for pasture development (Pande & Pradhan, 1997, p. 228). Now, although these seeds are used for forage and pasture production, these are done below 1500 m altitude. So, high altitude rangelands are still not in focus of such development program and project. The high altitude rangeland or pastureland are self-managed by the herder groups in seasonal basis.

The rangeland policy published by Ministry of Agriculture and Livestock Development in 2012 also states that the state to prioritize high altitude pasture or rangeland and manage these pasture land for grazing purposes. Also, those grazing land under community forest must be prioritized and managed by providing training and skill to forest user group (MoALD, 2012, p. 7). But after the birth of community forest, such management authority and power has been transferred solely to the forest user groups. Due to such, the herders have been excluded from their rights on traditional grazing lands.

2.2.6.4 The Birth of Community Forest

Community forest denotes forest owned by the local community where array of activities are done by locals in order to manage their forest for local needs, giving them access to economic benefits derived from forest, and protecting forests maintains ecological wellbeing along with generating income for rural communities from the processing of forest products (Bhattarai, 2016). Global deforestation is a well-documented phenomenon with 13 million hectares of forest estimated as lost yearly between 2000 and 2010 worldwide (FAO, 2010) and community forestry is a part of forestry which emerged to deals with such deforestation. Charnley and Poe (2007) writes

Forest Act was passed in 1993 which together with subsequent regulations and policies facilitated the transfer of forest use rights and management authority over state forest lands to local forest users, in Nepal. Handing over of state forest only to local forest users does not define the full meaning of community forest but the role that locals play in their stewardship (Lyman et al., 2013) which are, close monitoring, caring and developing provided forest's size and intensity. Other than this, the local community also receives number of benefits and livelihoods from the forest that they cared. Such benefits are fuel wood, forage, timber and non-timber forest products (NTFPs²³).

During Panchyat system, many local forests (small and large) were nationalized. The forests have been controlled by Panchyat system and local community including individual households were excluded from direct ownership upon such forest. As a result, the locals residing around such forest could hardly feel ownership on these forests and the deforestation process continued. But after overthrow of Panchyat system, there was a massive political instability which led to an absence of proper legislative structures hence, forest administration started handing over the forests directly to the local groups...and users started contributing for forest protection and forest management and they started to get benefits (Bhattarai, 2016a). On the other hand, to mitigate all the possible hazards from climate change and forest degradation, the government initiated community forest program and handed over these national forest to local communities—Community Forest Users Group (CFUGs²⁴).

In this sense, community forestry program in Nepal officially started in late 1979s (Kanel & Kandel, 2004a) however, due to lack of monitoring system and misinterpretation of the nationalization of forest by local elites such as *Zamindars*, deforestation continued till end of *Panchyat* system. Forest Act was implemented in 1993 and community forestry was recognized as one of the forestry programs for Nepal. Regulations were passed in 1995, which elaborated operational modalities for community forest (Bhattarai, 2016b).

²³ Secondary forest products or materials which do not need harvesting trees (logging) such as nuts, seeds, berries, mushrooms, oil, foliage, medicinal plants or herbs, fuel wood, forage, fish and spices.

²⁴ CFUGs are legal, autonomous corporate bodies, governed by a general assembly consisting of all households in the boundaries of the applicant community, and an executive committee chosen by the CFUG through consensus or election

The increased publicity of the problem of deforestation in the Himalayas also acted as a stimulus to a shift in paradigm in forest management in Nepal (see Malla, 2001; Ghimire, 1992). In a shift away from the centralized management of forest resources in Nepal, after the advent of multiparty democracy in 1990 the elected parliament provided significant legal autonomy to local forest-dependent communities (Ojha et al., 2007). This brought a deep sense of ownership and responsibility on local community upon the transferred forest. On the other hand, the intent of community forest program was also to meet the basic forest products required by the communities through active participation in forest development and management. Later it was expanded to include the mobilization and empowerment of the members of community forest user groups (Kanel & Kandel, 2004b). In 1993, the Government of Nepal (then His Majesty's Government) enacted Forest Act and significant number of community forests were handed over to local communities.

Ives and Messerli (1989) in *The Theory of Himalayan Environmental Degradation* write that emergence of community forestry program was due to the theory that predicted Himalayan environmental degradation. In this, though the doomsday was predicted, it also revealed that due to such environmental concern, policy for forest protection, that is, community forestry program entered in the Himalayan country.

Now, it has been over two decades that government owned forests have been transferred to local community groups, hoping this would be an incentive for the communities to conserve and restore (Pandey & Paudyal, 2015). In the recent development, all the forest user groups are voluntarily united under the umbrella of the Federation of Community Forestry Users of Nepal (FECOFUN²⁵) to ensure their rights are protected (Dahal & Chapagain, 2008). The main intent to develop and operationalize FECOFUN is to advocate the rights as well as strengthen the role of CFUGs in policy making process, to ensure inclusiveness, social justice, good governance and deepen democracy in CFUGs and providing various supports and services. The structure of FECOFUN are now both in district and central level.

²⁵ FECOFUN is formal network of CFUGS. Inception of FECOFUN was in July 1995 to strengthen the role of users in policy making processes. The total number of users (member) under FECOFUN is around 8.5 million.

Since an emergence of community forest with state's strong legal support on them, transhumant herders have been struggling to find out suitable grazing land for their flocks specifically during winter season around lower hilly areas. Indeed, after such implementation and enactment of forest act (Community Forest), only the forest user groups (CFUGs) have been benefited so far where the state seems futile to encompass traditional de facto user group of same forest and grazing land. These traditional de facto user groups are none other than transhumant pastoralist from high land who have been moving up and down between high land and low land since many generations within certain seasons. Although state intervention seems primacy for excluding transhumant pastoralist from their traditional grazing ground, climate change and unseen hand of global market (globalization) do have equal share to implement such program in Nepal.

As stated earlier, the intent of CFUG is to protect forest and increase greenery. For this, all the members of forest user groups are working together in participatory model however; CFUG is reinforcing the power structures at the village level. Aase (2017) writes poor and low caste people must harvest forest resources illegally in order to survive, and for that they are often expelled from the forest user group, losing whatever rights they might have had to the forest. Aase continues that influential villagers are usually endowed with substantial social capital, it is sometimes tempting to convert that capital into material gains by undertaking various kinds of transactions with the forest official (2017). In such contending nature within the same forest user group, it seems impossible to assure the lost right of transhumant pastoralism who occasionally visit their place.

2.2.7 The State Policy and Transhumant Pastoralism

Transhumant pastoralism do have its own traditional way in terms of selling their sheep, different products of sheep and medicinal herb to communities at different location on the way to their transhumant route. Selling those products is their sole rationale choice. In such the decision in terms of whom to sell, where to sell, when to sell, what to sell and what quantity to sell are all their own rationale choice for profit making. Having said this, there is a significant possibility of upward economy due to transhumant pastoralism. But development agencies and state are unknown to such value

and potentials. It seems that due to state's irresponsible activity/policy, transhumant pastoralism practices are significantly dropping at high altitude areas.

In terms of herd movement, there used to be centuries old movement practices of Nepalese herds toward Tibetan pasture land during winter but such movement were disrupted (Banjade & Paudel, 2008) soon after China took over Tibet in 1959. Later in 1983, the two governments (Nepal and China) agreed, to completely stop animal migration from both countries by April 1988 (Yonzon, 1998a). A number of reports also highlight degradation of pastoral areas and their environment as a result of stoppage of trans-border movement of animals (Yonzon, 1998b).

Also according to Pandey et al. (2017):

Prior to the middle of the 20th century, rangelands and migratory pastoralism were generally managed by local level arrangements due to the geopolitical and institutional circumstances in KSL China and KSL Nepal, which were nested within broader networks of governance. These local level arrangements included customary reciprocal ties with neighboring communities and their rangelands across the national borders. (p. 89)

However, these cross border harmony didn't last long. Since the colonization started, foreign products started to pour in from the developed countries. In this regard, Roy (2003) also writes that:

From the late nineteenth century...[with] restrictive colonial forestry policies,... replacement of Tibetan wool by imports from Europe and Australia, and of Tibetan salt by cheaper substitutes from coastal India, began to slowly dry up both Indo-Tibetan trade and seasonal transhumance. (p.33)

Further, in terms of grazing land during colonial period in India, NCERT (2006) writes that:

During colonial period, pastoralist's grazing grounds shrank, their movements were monitored, and increased revenue. Their agricultural stock declined and their trades and crafts were adversely affected...Land revenue was one of the main sources of its finance. To colonial officials all uncultivated land appeared to

be unproductive [as] it produced neither revenue nor agricultural produce...From the mid-nineteenth century, Waste Land Rules were enacted...individuals were granted various concessions and encouraged to settle these lands...the colonial government wanted to rule over a settled population [and]...wanted the rural people to live in villages, in fixed places... [and] tax was imposed on land, canal water, salt, trade goods, and even on animals. (pp. 104-105)

Above statement clearly signifies that the state's interest suppresses its subjects in order to collect revenues and the decline of pastoralist in India is due to British colony. From the mid nineteenth century, Waste Land rules were enacted in various parts of the country according to which these uncultivated lands were given to the selected individuals. According to Chettri (2015), these Waste Lands (grazing ground of pastoralist) also led to decline of pastoralists. Similarly, Garnier (1979) writes that "after colonization and pacification of Mid-West of Madagascar, this region drew many farmers from the neighboring highlands. Increasing settlement and the dispersion of dwellings resulted in a reduction of the grazing lands" (p. 602)

Although there seems no direct impact of colonial rule on transhumant system in Nepal, the state (Nepal government) imposed certain policy to transhumant pastoralist which reduced and restricted pastoralist's movement in their traditional grazing lands and forest. For instance, handing over of National forest to local community and favoring community forest users group in terms of grazing land during winter, establishing rangeland policies for people having pastoralism livelihood, absence of insurance policy for herders' livestock, developing no alternate livelihood for such herders et cetera shows state has no interest upon transhumant pastoralism. This shows that state want all its subjects to come in its mainstream from where state can easily monitor, control and collect taxes.

However, on the other hand, growing capitalism in the country is another reason for the decline of such traditional profession. As the market swelled up, differing livelihoods are in place and people are opting easy type of livelihoods such as wage work with fixed time and income based. With increasing rate of urbanization and population in Nepal, food demand is also increasing and people from different ethnic bases and

ecological zones have engaged them in different agricultural production including goat/sheep farming in larger scale. Today, number of goat farm can be found in different hilly districts where forage can be managed easily. The tendency of increasing goat farming is none other than increasing population and their demand as well as profit oriented business. This indicates that pastoralism profession is shifting from traditional to commercial.

Further, due to lack of clear pro policy for transhumant pastoralism in Nepal indicates that state is making these pastoralists dependent upon market based economy which possibly leads them to poverty. Prosperity of any nation emerges from its production not by consuming imported products. That means domestic production is vital for economic prosperity and for that every country focuses to increase their domestic production. Transhumant pastoralism is one of such area which can increase the GDP but as government is showing no interest toward such, it may lead to debt and poverty.

2.2.8 The Transhumant Pastoralism

In the further sub sections, different issues related to transhumant pastoralism will be discussed. These include, historical development of transhumant pastoralism around the world, their present condition, its possibility to reduce rural poverty and challenges in Nepal.

2.2.8.1 Transhumant Pastoralism around the World and in Nepal

Different societies have adopted transhumant pastoralism around the world, especially those societies having less or no arable land but livestock that can be tamed for food source. Because of limited arable land, limitation of water for irrigation, transhumant pastoralism is still practiced mainly in desert and mountainous areas. Pastoralism is practiced in more than 75 percent of countries that includes nomadic, transhumant herders, and agro-pastoralists (McGahey et al., 2014, p. 1). According to Viazzo (1989, p. 221), “in mountain areas, productive land is not only marginal but also scarce...so, pastoralism provides the only way of making this non-cultivable land accessible to productive activities because of the animal’s ability to convert the natural plant growth into nutritive products” .

Pastoralists are those people who derive most of their income or sustenance from keeping domestic livestock in conditions where most the feed that the livestock eat is natural forage rather than cultivated fodders and pastures (Miller, 1987, p. 3). Likewise, Blench (2001) writes that “transhumant is the regular movement of herds between fixed points to exploit seasonal availability of pastures...” (p. 12). Livestock are also moved seasonally between two fixed points to utilize availability of grazing resources (see FAO, 2001; Fernandez-Gimenez, 2000; and Nyssen et al., 2009). Transhumant pastoralism is also a response to harsh climatic conditions, low productivity and the search for livelihood opportunities (Moktan et al., 2008, p. 41) due to which they keep shifting their livestock from higher altitude to lower in winter season.

The practice of transhumant pastoralism is one of the oldest system in human history where pastoralist travels a long distance to manage forage for their herd. Nowadays, in several developed countries, pastoralist uses transport system to transfer their herd at different rangelands. For example, pastoralists in North Africa send their animals by truck or on trains to the new grazing land (Trautmann, 1985).

Before the rise of modern industry, the means of production consisted primarily of land and the instruments used to tend crops or pastoral animals (Giddens, 2006, p. 301). This also supports that pastoralism was prime livelihood before the rise of industrial age. Blench (2001, p. 7) also argues that pastoralism evolved as a response to the presence of extensive rangelands. This shows that pastoralism is strongly associated with the presence of grasslands, but there are numerous grasslands without pastoralists and in most of the New World and Australia, pastoralism never developed because population pressure on land remained limited (Blench, 2001).

According to Banjade and Paudel (2008, p. 50), transhumant pastoralism is the major form of livelihood in Nepal’s high altitude region (>2500 meters AMSL), and around 80 percent of the country’s pasture land falls in this region alone (Miller, 1993). Transhumant Pastoralism has traditionally occurred throughout the pastoral world, particularly in the pastoral regions of Europe, Asia, Africa, and South America (Dong et al., 2016, p. 401). The reason for development of pastoral system in these reason is

because of large part of pastoral rangeland in these countries. Indeed, rangelands²⁶ and pastorals systems are important because they support herders' subsistence in the one hand and ensures food security in the developing countries on the other hand (Fratkin, 1997; Lund, 2007; Nori & Davies, 2007). According to Nori and Davies (2007), pastoralism covers about 25 percent of global land areas which are mostly rangelands and African continent has largest land area under extensive pastoral systems covering 66 percent of the whole continent but mostly in arid and semi-arid lands (Nori & Davies, 2007). In Asia, Mongolia has 79 percent of its land area under pasture (Namgay, 2014, p. 13).

In the Himalaya, according to Miller (1995), for more than 1000 years pastoralists have transformed the ecosystem into economically productive assets for their livelihoods, and even today the region provides a home for a large number of people dependent on livestock. Evidence from Tibetan Autonomous Region (TAR) of China and Nepal suggests pastoralism has been widespread in the Himalayas from as early as the 8th century (Namgay, 2014, p. 14) and for centuries pastoralists in these countries have successfully used multiple species and traditional rotational grazing systems to maintain productivity and prevent over grazing (Miller, 1995). The major productions from sheep herding in mountainous area are meat, wool, hides, milk, cheese and butter. Other than that, sheep are also used for local transportation and most importantly exchange of manure with lower hilly community produced by these sheep.

The pastoralism is also providing "livelihoods for nearly 20 million pastoral households" (Blench, 2001, p. iv) with 200 million individual pastoralists (Rota & Sperandini, 2010). Also, "there are no recently published figures on pastoral populations in the Himalayas" (Namgay, 2014, p. 14) however, Miller (1995) suggests that there are around 10 million people inhabiting in Himalaya Mountain, depending on livestock and mountain grazing land. McVeigh (2004) argues that human populations have lived and even prospered for hundreds, and in some cases thousands of years, in these Himalayan rangelands.

²⁶ There is no agreed definition of rangeland (Namgay 2014) however, rangelands include grasslands, shrub lands, woodlands, savannahs, tundra, most deserts, and riparian and wetland plant communities including marshes and wet meadows used extensively by pastoralists (nomadic, transhumant, transhumant agro-pastoralists) for grazing livestock (Lund 2014).

“The transhumant pastoralism in Himalayas was emerged to utilize the seasonal availability of grazing resources distributed at different elevations and has been shaped by centuries of trial and errors generating experiences and ideas for sustaining livelihood and natural resources” (Aryal, 2015, p. 18), a number of threats posed due to globalization and climate is making it more difficult to manage. Climate models have predicted pronounced warming in high altitude regions in the Himalayas (Aryal, 2015, p. 30) however, there is no information about the impacts of climate change to the transhumant system and local adaptation measures. Transhumant herders have observed fast melting of snow in the rangelands, drying of water resources and increase in drought appearance of new plant species in the rangelands and new diseases to the livestock (Aryal, 2015). However, in some African and Middle Eastern countries, various development program and project such as establishing regulations and by-laws on rangeland utilization, artificial vegetation, digging boreholes for permanent water supply, sedentarizing nomads, veterinary care, constructing water harvesting and water spreading facilities, creating pastoral and fattening cooperatives and subsidizing feeds and livestock production have deteriorated rangeland resources (El-Shorbagy, 1998).

In mountain, fodder resources are available at different altitude and this permits herders to move animals from one elevation to another at different temperature. Historically, trade between upland area zones and between upland and lowland regions was frequently associated with pastoral movements. A large portion of the surplus products from the mountains was sold in the cities of the nearby lowland zones. The grazing areas that seasonal pastoralists in the mountains relied on were frequently reduced by population growth and agricultural intensification in the lowlands. Because of this, they might be forced to intensify animal production in the highlands where climatic factors make intensification generally more difficult and time-consuming (Galaty & Johnson, 1990, p. 300).

There are different transhumant pastoralist groups around the world and they practice different movement cycle. In some countries, these pastoralist moves away from home during summer and resides close to home when it is winter and snowing. In terms of Nepal, vertical seasonal movement is most in practice. That is, the herders along with their sheep herd moves down the low hills during winter and moves upper geographical

rangeland during summer seasons. This is different practices than few countries. The practice of transhumant pastoralism is quite old system in Nepal and its evidences can be seen in different northern parts of the country such as Jumla, Dolpa, Humla, Mustang, Lamjung, Gorkha, Sindhupalchok and so on. The only reason for sheep herding in that altitude is also because of ability of sheep to adapt low temperature (coldness) and no requirement of shelter for these sheep. It means, these sheep can simply graze in different altitude rangelands and rest in open field during night. But because of water and forage in rangeland, it is compelling pastoralist to shift from upper to lower hills according to the season.

The shift of herd in upper rangelands has also close connection with ecological balance. Bhasin (1990) wrote that “the transhumant herding between alpine forest and fallow fields in the high altitude region has proved as a splendid adaptive strategy of Sherpas of Nepal” (p. 13). In fact, this adaptive strategy is not only applicable for Sherpas but many people who lives in that altitude adopts this strategy. Similar to slash and burn agriculture system²⁷, these herder moves up and down to get fresh and enough pasture for their herd. That means, once the high altitude rangeland are overgrazed, such rangeland need few months to regrow. By that time, as an adaptive strategy, such herder bring their herd downhill where they can find enough fresh pasture and water.

Transhumant Pastoralism is different practice than other type of pastoralism. Indeed this is a seasonal movement of herds along with the human in vertical as well as horizontal geographical topography. The transhumant cycle starts normally from their home town. These herders along with herds travels for around six months away from their home.

2.2.8.2 Losing Ground of Transhumant Pastoralism

Around two third of the world’s poor people reside in the rural areas of low-income countries, mainly depending on subsistence farming and other natural resources for their livelihood (World Bank Group, 2015). As such people have less or no alternate livelihood and they have to depend on subsistence farming including natural resources.

²⁷ Slash and Burn cultivation is one of an earliest form of agriculture where after harvesting, people used to cut those plants and burnt on the field so that residue ashes shall work as fertilizer and help recharging cropping field for next agriculture another time. This method is not sustainable for large human population.

However, rural households create a portfolio of livelihood activities by combining a variety of income-generating and social activities in order to meet and, if feasible, improve better livelihood outcomes (Davis et al., 2010, p. 51).

The 77 percent area of Nepal is covered by mountains and hills making difficult for infrastructure and basic facilities (NPC, 2011) and due to such geographical coverage, fairly small parcels of per capita arable land holding²⁸, high dependence on agriculture, declining farm productivity, and limited access to non-farm income have triggered severe poverty in the rural areas of mountains and hills in Nepal (NPC, 2011). However, ongoing rapid socio-economic and environmental transition in recent years has brought newer opportunities and challenges for rural livelihoods (see Blaikie et al., 2002; Byg & Herslund, 2016). One of those living in rural livelihoods are transhumant pastoralist.

Nevertheless, expansion of agricultural production has shifted the boundaries of rangelands (Ngaido et al., 1998) and in a desperate pursuit of food self-sufficiency, the governments of the Mashreq and Maghreb countries have encouraged the production of staple food crops and small ruminants even in high-risk areas, regardless of environmental damage (Gintzburger & Bayoumi, 1977; Oram & Haywar, 1992; Barghouti & Hayward, 1992; Bedrani, 1993).

The transhumant pastoralism is a continuous cycle and a serious livelihood of mountain people to which these people have been adopting since many years in Nepal. The cycle of transhumant pastoralism mean movement and various activities within a year. Basically, their journey commences from their local area/villages during winter season. As stated before, this movement toward downhill is essential in terms of keeping their sheep herd warm and to find fresh water and pasture for these. In the same, Tiwari and Dhakal (2017) argues:

In mountain region, nearly half animal feed comes from residues. There is an acute shortage of feed during winter and dry season and the livestock are generally underfed to the extent of one third of the required amount. Nepal as a whole has a feed shortage of 20-36 percent; and the problem is more acute in the hills and mountains. (p. 196)

²⁸ Average of 0.9 ha in 2010 as per World Bank 2016.

This situation is interlinked with climate change and decreasing green vegetation which must have ultimately decreased the number of sheep and people who are involved in transhumant pastoralism specifically in high altitude regions.

Similarly, Chaulagain and Rajbhandari (2017) have confirmed by writing that:

Livestock is an important component of subsistence farming in the crop livestock mixed agricultural system in Nepal. It occupies third place after rice cultivation and poultry. But the source of livestock diet is usually of traditional types and mostly composed from green grasses, crop residues, crop byproducts and tree foliage with little or no concentrate feed and without or least supply of dietary requirements. (p. 251)

Basically, the herders gather sheep from different households at their location before starting their seasonal move toward the hill. As they have to spend nearly five to six months away from their home and family, portable shelter materials are prepared. Interestingly, they do not carry sufficient food items for their journey. They take prior consent from the landowner who need manure from the herd. On exchange, the landowner provides them food items called *Kharcha*.

Though there are significant opportunities in terms of transhumant pastoralism and its potentiality for contributing economic support to state, different research conducted on it found that this traditional system is in declining trend.

Lenski (2005) writes that:

As early as the eighteenth century B.C., some herding societies had developed the technology required to harness horses to chariots. This gave them an important military advantage over their less mobile agrarian neighbors and enabled them to win control of much of the Middle East...During next 2,500 years, a succession of herding societies attacked agrarian societies from China to Europe...[but] despite frequent military victories, herding societies were never able to displace agrarian societies...it was always the conquering pastoralists who changed their mode of life...number of reasons for this...economic surplus that could be produced by agriculture was so much greater than that which could be produced by herding...after...conquerors tried to run fields into pastures...and chose to

give up their traditional way of life in order to preserve their economic gains...territories controlled by herding societies have come under the sway of agriculturalists. (pp. 102-103)

This statement clearly shows that the pastoralist profession is in critical phase and merging into agriculturalists. In many countries, the creation of national parks and growing numbers of people taking up cropping, either because it generates cash or because governments support it, have largely reduced grazing areas of pastoralists and are outcompeting them (Gerber et al., 2010; Maitima et al., 2010; West et al., 2006). The best example can be taken from Tanzania where Lane (1994) writes that more than 40,000 hectares of land lost to wheat growing project funded by Canadian government. The loss of grazing land is not only expansion of crop cultivation but also growing number of hydroelectric projects, converting grazing forest to community forest and sanctuary and; sedentarization of transhumant pastoralist. Similarly, Blench (1999, p. 8) writes that “transhumant pastoralism is declining around the world also because to agriculture and alternative economic opportunities”.

Table 2.3***Regional Zonation of Pastoral Systems***

| Zone | Main Species | Status |
|-------------------------------------|---|--|
| Sub-Saharan Africa Mediterranean | Cattle, camel, sheep Small ruminants | Reducing due to advancing agriculture Everywhere declining due to enclosure and advancing agriculture |
| Near East and South-Central Asia | Small ruminants | Locally declining due to enclosure and advancing agriculture |
| India | Camel, cattle, sheep, goats | Declining due to advancing agriculture but peri-urban livestock production expanding |
| Central Asia | Yak, camel, horse, sheep, goats | Expanding following decollectivisation |
| Circumpolar | Reindeer | Expanding following decollectivisation in Siberia, but under pressure in Scandinavia |
| North America | Sheep, cattle | Declining with increased enclosure of land and alternative economic opportunities |
| Andes | Llama, alpaca | Contracting llama production due to expansion of road systems and European model livestock production but expansion of alpaca wool production. |

Source. Blench, 1999

Countries such as in Nepal, authorities allegedly declared areas, deemed to be under threat, as protected areas, imposing restrictions that deny native inhabitants access to resources, and often removed them from their place with use of force against their will, making them worse off afterwards (Agrawal & Redford, 2009; McLean & Straede, 2003).

According to the most recent livestock census, Nepal has 7.3 million cattle, 5.3 million buffaloes, 12.2 million goats and 0.79 million sheep (MoALD, 2021).

Table 2.4

Livestock Population: 2001/02 – 2018/19

| CATEGOR | 2001/02 | 2005/06 | 2009/10 | 2013/14 | 2015/16 | 2018/19 |
|----------|----------|----------|----------|-----------|-----------|-----------|
| CATTLE | 6,978,69 | 7,002,91 | 7,199,26 | 7,243,916 | 7,302,808 | 7,385,035 |
| BUFFALOE | 3,700,86 | 4,204,88 | 4,836,98 | 5,178,612 | 5,168,809 | 5,308,664 |
| SHEEP | 840,141 | 812,085 | 801,371 | 789,216 | 800,658 | 798,889 |
| GOAT | 6,606,85 | 7,421,62 | 8,844,17 | 10,177,53 | 10,986,11 | 12,283,75 |

Source. MoALD (2021).

Above table shows that numbers of other livestock are increasing but the number of sheep is decreasing. Though there is certain percentage of sheep number fluctuated up in the recent years, still, the total number is less than previous count. Although the population of goat has increased by nearly a double, sheep's population gradually fell in the same time period. Some scholars such as Gentle (2014) and Aryal (2015) have suggested that such traditional profession are in verge of extinction and the major role for such change is due to globalization and climate change. However, in contrast, McVeigh (2004) writes that "research conducted in the Langtang Valley in 1997-1998 showed that the herding system in north-central Nepal is very much alive and well" (p. 107). In his writing, McVeigh have also claimed that though tourism is essential in Langtang Valley area, it is equally sensitive to economic, political and other fluctuation which highlight the vulnerability of the tourism industry in general and tourism in Langtang does not offer a viable alternative to pastoralism per se.

Tiwari and Dhakal (2017, p. 195) writes that "the population of indigenous sheep breed *Bhyanglung*, *Baruwal*, *Kage* and *Lampuchhre* are estimated to be 4 percent, 63 percent, 21 percent and 12 percent respectively...and produce 2720 mt mutton and 587,017 kg wool per annum". However, some scholar argues that this amount of wool production is still insufficient in overall domestic demand. In terms of wool production in Nepal, Pradhanang et al. (2015) write that,

The APP's livestock sector strategy placed an emphasis on milk and meat production, animal nutrition (specifically, the supply of nutrient-rich fodder), as

well as health and marketing. However, despite the sizeable export manufacturing industries based on wool and pashmina, these two products were not given top priority. The threats of market domination from Tibetan wool producers that supply wool to the Nepali pashmina and carpet industry continue to exist, as the current amount of pashmina and sheep wool produced in the country is not sufficient or of acceptable quality of producing exportable carpet and pashmina to even meet the 8 percent minimum local wool requirement stipulated by the WTO's rules of origin. Scattered herders in the mountains produce wool, but there is no aggregation into viable-scale lots, and there is little or no primary processing to connect the value chain. As a result, raw wool is sold into Tibet, where primary processors raise the value significantly through simple removal of coarse hair, washing and bulk-packing, and the Tibetan traders subsequently sell it back to Nepal at about 10 times the price. (p. 109)

Selling raw wool to Tibet is all due to insufficient and unavailability of market base in Nepal. Further, there is no accurate policy to address (collection, paying to producer, proper marketing and distribution) these production. It is why raw materials (wools) are sold in Tibetan market as the locals inhabiting around border areas are eligible to travel up to 30 kilometers of Tibetan land and market. Apart from that, Prasad (2015) writes that "in November 2012, China and Nepal signed the letter of exchanges allowing 7,787 Nepalese products exported to China free of tariff to decrease the trade deficit of Nepal" (p. 27). However, Nepal Trade Integration Strategy in 2010 have identified 19 export potential goods and services identified that includes *chyangra*²⁹ pashmina products and wool products (MoCS, 2010, p. 9) as well.

The demand of goat and sheep for consumption is significant in Nepal and it is due to growing urbanization, population growth, and religious faith of each individual as well. Out of total demand of these livestock in Nepal, around 80 per cent of the countries goat demand is fulfilled by the Indian market (eKantipur, 2018) which means less than 20 per cent of livestock demand are only fulfilled from different parts of Nepal.

²⁹ *Chyangra* is the local name of Himalayan goat that lives in high altitudes of Himalayas above 14,000 feet's which are farmed specifically for wool and meat.

Prior to 1990, less people used to travel abroad or from village to urban set up. Though urban locations were growing with numerous facilities during those time, there were less significant differences in terms of social and cultural aspects in between rural and urban. As per population census 1991, it indicates only 9.2 percent are urban population (Sharma, 2003, p. 383) which is nearly 1.7 million people out of total 18.49 million population (CBS, 2007). Urbanization, on the other hand, refers to the process of growth in the proportion of population living in urban areas. “Although the form of this relationship has remained contested, there is a general consensus among scholars that a fundamental characteristic of urbanization is the structural shift in employment from agriculture to non-agriculture pursuits” (Sharma, 2003, p. 375). Urbanization is also a part of globalization. As stated earlier, the global whim is unstoppable and due to which, features of developed and developing nation becomes similar. Aspiration of people becomes similar among those living in rural and urban or developed and developing countries.

Along with urbanization and increasing demand of people, market system also extend its wings. That is, creation of mature market system and policy, intensification of market structures and hub. The market demands more workers to make its daily operation smooth. Such demands are finally fulfilled by rural set up. So, increasing globalization, urbanization, market intensification and migration of people are inter connected.

The declining trend of transhumant pastoralism in Nepal can also linked with population and resource model. As resources (pastures and water sources) are decreasing at Mountainous regions due to global warming and climate change, people solely living in environmental livelihoods are having hard time and because of that, people are migrating either permanently toward *Tarai* (Table 6) for finding good livelihood opportunity and life chances. This can be one of major reason for population decrease in Mountain area.

Table 2.5***Distribution of Population by Ecological Zones, Nepal, 1952/54-2011***

| Census Years | Mountain | Hill | Mountain & Hill | Tarai | Total |
|-----------------|-----------|------------|--------------------|------------|------------|
| 1952/54 | - | - | 5,349,988 | 2,906,637 | 8,256,625 |
| 1961 | - | - | 5,991,297 | 3,421,699 | 9,412,996 |
| 1971 | 1,138,610 | 6,071,407 | 7,210,017 | 4,345,966 | 11,555,983 |
| 1981 | 1,302,896 | 7,163,115 | 8,466,011 | 6,556,828 | 15,022,839 |
| 1991 | 1,443,130 | 8,419,889 | 9,863,019 | 8,628,078 | 18,491,097 |
| 2001 | 1,687,859 | 10,251,111 | 11,938,970 | 11,212,453 | 23,151,423 |
| 2011 | 1,781,792 | 11,394,007 | 13,175,799 | 13,318,705 | 26,494,504 |

Note. Population size, growth and distribution, CBS, 2014. Chapter 2, by Pathak, R.S. and Lamichhane, K.

Due to global warming and climate change, forest products is decreasing and such condition is leading to conflict between resource management among those living in the same region.

Another prominent reason for declining transhumant pastoralism is interventions of the State and Aid supported projects. In terms of State's and Aid project's intervention, Acharya and Baral (2017) write:

Once the community forest (CF) took momentum in the mid-1990s, most of the HA (high altitude) forests and pastures were continually handed over to upper Mid-hill communities as CF's by neither developing any separate strategy for HA rangeland management nor considering the need of secondary users, particularly the transhumant herders. (p. 111)

The study conducted by Sendyka and Makovicky in Poland found massive decline in number of sheep within 1980-2010 and the main reason for this decline was due to end of the centrally planned economy and forcing shepherds to engage more directly with the developing market economy to reach a new, private clientele (Sendyka & Makovicky, 2017). More, due to wool prices halved in response to the Australian wool reserve price scheme, the sheep numbers in Poland fell from around four million in 1980s (Gorzalak, 2010). Sendyka and Makovicky (2017) argues that redirection of government policy

away from the control and curtailing of grazing practices, towards an acknowledgement of the environmental and cultural importance of pastoralism. In such, the high mountain pastures would revert to forest with a significant loss of local biodiversity, as well as deterioration of the landscape. Banjade & Paudel (2008) also writes that “mobile pastoralism, called transhumant herding system, is on the verge of extinction and the people’s livelihoods have been curtailed largely because of the neglect by the State policies” (p.49). However, in Pandey’s (2003) understanding, “livelihood efforts made by rural people through pooling their household and community based resources are overarched by the interest and activities of the state” (p. 25).

Pandey (2003) writes that:

States may intervene by way of providing a variety of help to the people for ensuring their support to its rule...extractive role of the state is exerted either directly through imposing a variety of taxes on people and controlling their local level resources or indirectly through using conditions of their life to raise funds from a variety of extra-local sources that is the foreign aid...state interventions are guided by political priorities. Political consideration discourages effective allocation of resources, minimizes competitiveness among enterprises, leads to a decline in production, saving and investment patterns of the economy, and ultimately, blocks the growth of people’s employment opportunities. (p. 27)

This illustrates that, state intervention could be a potential factor for the decline of transhumant pastoralism in Nepal. He further adds that the state helps to generate the unequalizing effects in the economies of private enterprise market systems where Marxist approach suggests that the state can solve these problems through collectivizing the control and mobilization of means of production. Marx had held that such a situation would eventuate after a sharp division of economic classes between bourgeois and proletarians in advanced industrial capitalism (Marx & Engels, 1968).

The encroachment of state in community forest is not that long. According to Weber, the state is a human community that (successfully) claims the monopoly of the legitimate use of physical force within a given territory (Weber, 1921). With that being said, state practice its power within the fixed territory and such can lead a biased

behavior to different indigenous people, their culture and livelihood. Similarly, Marx (1976) wrote that the state is the form in which the individuals of a ruling class assert their common interests. Which mean state is an instrument to the ruling class. Having said this, negation of need and priorities of high altitude people—transhumant pastoralism, is due to disinterest of state on them. The state, first nationalized most of the forest and later handed over to local community (community forest user group) which is more linked with international aid support design. These user groups were legally strengthened in terms of local decision which ultimately excluded the grazing of sheep and this decreased the number of sheep as well as transhumant pastoralist.

2.2.8.3 Transhumant Pastoralism and Rural Poverty

The main assets of transhumant pastoralist are their livestock. There are different types of sheep reared in Nepal namely *Bhayglung*, *Baruwal*, *Kaage* and *Lampuchre*. The population of *Baruwal* sheep is maximum (nearly 63% of total sheep population in Nepal) (Central sheep-goat development, 2015) that are raised in between 1500 to 2500 m altitude. In terms of rural poverty alleviation, transhumant pastoralism can play important role in it as livestock “provide over half of the value of global agricultural output and one third in developing countries” (Upton, 2004, p. 1). In this section, brief concepts on poverty is discussed followed by appropriate strategy for transhumant to win the battle with rural poverty.

Poverty means a person without a dwelling or having poor dwelling condition, nutritional deprivation, not having basic needs fulfilled and less or no income to sustain their daily expenses. But poverty is not only an observable fact of shortage of material in life to sustain, but living below standard life, deprivation, low human development, powerlessness, incapability, lack of decision making, no access to resources, inability to participate in society are also the indicators of poverty. As per Ruth (2004), there is no single correct definition for the term poverty. However, poverty to be understood, at least in part, in relation to particular social, cultural and historical contexts.

There are four approaches in poverty which are monetary, capability, social exclusion and participatory. Amongst, monetary approach is commonly used poverty measuring approach. The monetary approach to poverty measurement was pioneered by

the seminal work by Booth and Rowntree where monetary poverty is shortfall in consumption (or income) from some poverty line (Laderchi et al, 2003). The Monetary approach focuses on income (expenditure) of a person/ household that needs to fulfill the basic needs. In monetary approach, the term ‘poverty line’ always comes in front. Those who cannot meet this slated threshold (US\$1.25 per person per day) are considered below the poverty line (Chen & Ravallion, 2008).

Upton (2004) notes that most of the global poor lives in rural areas, half of which are in south Asia (p.1). The poverty rate of urban and rural areas of Nepal from three NLSS (Nepal Living Standard Survey) report that poverty in urban and rural are fluctuating according to the population (see Figure 2.1). But population in rural setting has always remained high in compared to urban so with such data, it will be pre-mature to confirm that most of the global poor lives in rural areas.

Figure 2.1

Distribution of Poor at Urban and Rural

| Location | Distribution of poor % in 1995-96 | Population Distribution | Distribution of poor % in 2003-04 | Population Distribution | Distribution of poor % in 2010-11 | Population Distribution |
|----------|-----------------------------------|-------------------------|-----------------------------------|-------------------------|-----------------------------------|-------------------------|
| Urban | 3.6 | 6.9 | 4.7 | 15 | 11.7 | 19 |
| Rural | 96.4 | 93.1 | 95.3 | 85 | 88.3 | 81 |

Source: CBS, 2005. Poverty trends in Nepal 1995-96 and 2003-04; CBS, 2011. Remittances and transfer income. NLSS 2010-11.

Devendra (2002) writes that “the herders in south Asia inhabiting mainly arid/semi-arid zones and alpine grasslands of the Himalayan region are found to be more engaged in nomadism and transhumant system of livestock raising than in southeast Asia” (p.21). Devendra and Thomas (2002) highlight an opportunity to invest in livestock development for poverty alleviation and ensuring food security. For this, commercialization of transhumant pastoralism and its products can reduce the rural

poverty. However, lack of market, access to agricultural credit, undeveloped pasture land, poor performance of local breeds, over cultivation, lack of shearing equipment, death of sheep due to unknown poisonous herbs, lack of insurances in case of loss due to incidents or diseases specific to sheep, malnutrition are common challenges (Rauniyar et al., 2000) for sheep herders in Nepal. These hurdles are in fact blocking the full fledged development of sheep pastoralism in Nepal. Should government and right policy able to address these challenges and problems, development of transhumant pastoralism is possible and further it may have positive impact on rural poverty reduction.

The development is a common word but social scientists are trying to elaborate development from various perspectives. The definition of development and development priorities are different for different countries. It is somewhat easier to say which countries are richer and which are poorer (Soubbotina, 2004) by simply observing particular country's GDP. But indicators of wealth, which reflect the quantity of resources available to a society, provides no information about the allocation of those resources—for instance, about more or less equitable distribution of income among social groups, about the shares of resources used to provide free health and education services, and about the effects of production and consumption on people's environment (Soubbotina, 2004). Indeed by increasing a nation's total wealth, also enhances its potential for reducing poverty and solving other social problems. But history offers a number of examples where economic growth was not followed by similar progress in human development. Instead growth was achieved at the cost of greater inequality, higher employment, weakened democracy, loss of cultural identity, or overconsumption of natural resources needed by future generation (Soubbotina, 2004).

2.2.8.4 Transhumant Pastoralism and Livelihood Diversification

According to a recent FAO estimate, 78 percent of the world's mountain area is unsuitable or only marginally suitable for growing crops (Huddlestone et al., 2003). So mountain livelihood systems are generally diverse within a variety of agricultural and nonagricultural activities. Typical mountain dwellers grow a wide range of crops and often multiple varieties of each crop. Small-scale livestock production, timber, hunting, fishing, and non-timber forest product collection complement food production (Korner et al., 2005, p. 694).

The term livelihood is a means of making a living. According to Whitehead (2002), A person's livelihood includes all of the different ways in which they earn a living and create their environments. Further, sustainable livelihoods approach (SLA) is a way to improve understanding of the livelihoods of poor people. A livelihood is also considered sustainable if it can withstand shocks and strains, improve its assets and capacities both now and in the future, and avoid depleting the foundation of natural resources. It can be applied to both the planning of new development initiatives and the evaluation of the contribution that current initiatives have made to maintaining livelihoods. Further, livestock play a significant role in rural livelihoods and the economies of developing countries as they are the providers of income and employment for producers and others working in, sometimes complex, value chains (Herrero et al., 2013, p. 3). The availability and use of a person's alternatives for pursuing their means of subsistence are the subject of livelihood strategies. The greater the diversity of livelihood strategies, the higher the household's resilience to the shocks, trends, and seasonality conditions within the vulnerability context. However, for livelihood diversification, changing incentives and labor markets, risk strategies, impact of disasters and civil strife, saving and invest behavior, all contribute differently in different settings (Ellis, 1998).

The SL framework places people, particularly rural poor people, at the center of a web of inter-related influences that affect how these people create a livelihood for themselves and their households. Closest to the people at the center of the framework are the resources and livelihood assets that they have access to and use. These can include natural resources, technologies, their skills, knowledge and capacity, their health, access to education, sources of credit, or their networks of social support. The extent of their access to these assets is strongly influenced by their vulnerability context, which takes account of trends (for example, economic, political, and technological), shocks (for example, epidemics, natural disasters, civil strife) and seasonality (for example, prices, production, and employment opportunities). Access is also influenced by the prevailing social, institutional and political environment, which affects the ways in which people combine and use their assets to achieve their goals. These are their livelihood strategies.

People are the main concern, rather than the resources they use or their governments. SLA is used to identify the main constraints and opportunities faced by

poor people, as expressed by them. It builds on these definitions, and then supports poor people as they address the constraints, or take advantage of opportunities. The framework is neither a model that aims to incorporate all the key elements of people's livelihoods, nor a universal solution. Rather, it is a means of stimulating thought and analysis, and it needs to be adapted and elaborated depending on the situation.

Livelihoods perspective has been central to rural development thinking and practice in the past decade (Scoones, 2009). The word livelihood is "...mobile and flexible...which can be attached to all sorts of other words to construct whole fields of development enquiry and practice...such as locales (rural or urban livelihoods), occupations (farming, pastoral or fishing livelihood), social difference (gendered, age-defined livelihoods), directions (livelihood pathways, trajectories), dynamic patterns (sustainable or resilient livelihoods) and many more" (Scoones, 1995, p. 172).

In sustainable livelihood framework forwarded by DFID (Appendix A4), five types of assets or capitals upon which livelihoods are built (human capital, social capital, natural capital, physical capital and financial capital) are identified.

According to DFID (2000),

These assets are required for a means of living. These livelihood options are sustainable when it can cope and recover from stresses and shocks and maintain or enhance its capabilities and assets both now and in the future while not undermining the natural resource base. (p.1)

However, Scoones writes such livelihood perspectives have also declined due to major four reasons such as "it fail to engage with process of economic globalization, fail on debates about politics and governance, fail with the challenges of environmental sustainability and fail to fundamental transformatory shifts in rural economies" (Scoones, 2009, pp. 181-182).

Adhikari and Bohle (2008) write that "rural households of Nepali nation-state with no access to resources have been following multiple strategies...the strategies adopted by households in the 18th and 19th century mainly involved permanent and temporary migration to other areas of the country and beyond" (p. 35). According to Shrestha (1990), such migration is a response to economic hardships caused primarily by

land and labor policies and; population pressure (Poffenberger, 1980). But some livelihood strategies for acquiring income was serving in the Indian and British armies (Adhikari & Bohle, 2008, p. 67) due to which Macfarlane (1976) notes that poorer households have mainly benefited from such military services.

In high altitude areas, livelihood options for people are confined to agriculture, pastoralism and few other only. In line with this, Adhikari (2008) states that Nepal has about 37 percent indigenous people who settled in vulnerable areas and have little arable lands as well as limited access to productive land. That is why, in many hilly and high altitude areas, many households have integrated farming strategy which required both pastoralism and agriculture. But encroachment of market and easy access of chemical fertilizers and intensification of agriculture³⁰ in the same farm has led to degradation of farm lands impacting local subsistence agriculture and forced locals to find other off farm livelihood. In the same, the farmlands in the mountains of Nepal are vulnerable to degradation due to nutrient reduction, threatening the sustainability of farmer's livelihood (Schreier et al., 2001).

Further, the available livelihoods have also been impacted by both climatic and non-climatic factors. For instance, non-climatic factors such as lack of labor, landlessness, inadequate technical support et cetera are decreasing livelihood of people living in there. Similarly, climatic factors such as frost, inconsistent rain, landslide, dryness are helping in terms of desertification of available arable land. Because of climate change, intensity of frost and fog is high which has been hampering not only agricultural products but also the soil qualities. This has created both food shortage as well as degradation in soil quality. The lands in such areas are less arable because of also the soil quality. The gradations of land in such area are mostly '*Chahar*'³¹ which means less fertile or less arable. Due to this as well, people inhabiting in these area has less option on agriculture. Climate change has also caused soil erosion and landslide which is

³⁰ In the past, Nepalese mountain farmers had encroached public lands to fulfill the ever-growing food demand arising from their steadily rising population. However, due to gradual vanishing scope for expansion of farmland and scarce of non-farming employment opportunities resorted to cropping intensification (Thapa & Paudel 2002).

³¹ According to Land Act 1963, classification or grading of land are of mostly four types namely *Abal*, *Doyam*, *Sim* and *Chahar* (Acharya, 2008).

ultimately contributing to cut off sufficient farming lands and agricultural livelihood of people. Such has compelled people to select alternative livelihood options.

Apart from this, Thapa and Paudel (2002) writes that mountain watersheds in Nepal comprise five types of agricultural lands according to location and dominant cropping system. They further add:

Valley paddy lands, locally called *phant khet*, are found on valley floors, and are cultivated with paddy in the rainy season followed by wheat in the winter season specifically in lands with adequate soil moisture. Hill slope paddy lands with inward-facing terraces, locally called *tari khet*, are primarily utilized for single paddy crops in the rainy season. Upland crop terraces, with outward-facing terraces, locally called *bari*, are cultivated with maize, wheat, millet and barley. Homesteads, locally known as *ghar bari*, are most intensively utilized for upland crops like maize, millet and wheat. Because of variations in location, physical and chemical properties and management practices, the status of these different types of land and associated causes are not same. This reality...has so far been overlooked. (p. 480)

Except agriculture, people living in these altitudes have sheep herding option as their livelihood. However, impact on transhumant pastoralism has also same type of impacting factors (climatic and non-climatic) which is reducing its overall cycle and system. Livelihood is also ‘a combination of the resources used and the activities undertaken in order to live’. With that being said, pastoralist households cannot survive alone with transhumant system and have to diversify their livelihood. Also to overcome some of the climatic and non-climatic challenges, diversifying of livelihood sources (Brown et al., 2006) is necessary. Moreover, “larger the diversification portfolio on the farm and off-farm, the more successful are the farmers in coping adversities which in turn contributes to adaptation” (Bhatta et al., 2015, p. 78). Indeed, this is very true because if one income source lag due to any unpredictable condition, the next livelihood can able to cover up the situation.

Inhabitants of high altitude areas had agriculture and pastoralism as their base livelihood option however, with growing climate change issues, agriculture lands are becoming fallow and people are dropping pastoralism.

2.3 Theoretical and Conceptual Framework

The theoretical framework is the structure that can hold or support a theory of a research study. The objectives of this study are to describe transhumant pastoral practices at Northern Gorkha, to explore the role of the state and market in changing herding practices, and to explain the reasons for the continuity of transhumant pastoralism.

First off, social structure determines the behaviour of an agency. Livesey and Blundell (2021, p. 15) write that "structural forces shape our behaviour and have a major influence on our thought processes where society acts as an invisible force upon human behaviour." Society forces individuals to act in specific ways through different social control measures. If the change occurs within social structures, such change is further transferred to agency and individual behaviour and activities. After human society shifted from a pre-industrialized society to a modern and industrialized society, various changes occurred among the agencies, such as individual lifestyles and livelihoods. Traditional livelihoods such as agriculture and livestock keeping changed to industries-related work. Modernization incorporates the transition and transformation of traditional society to modern society. Traditional beliefs have become less valued in modernization, but they have clinch new and modern practices in society.

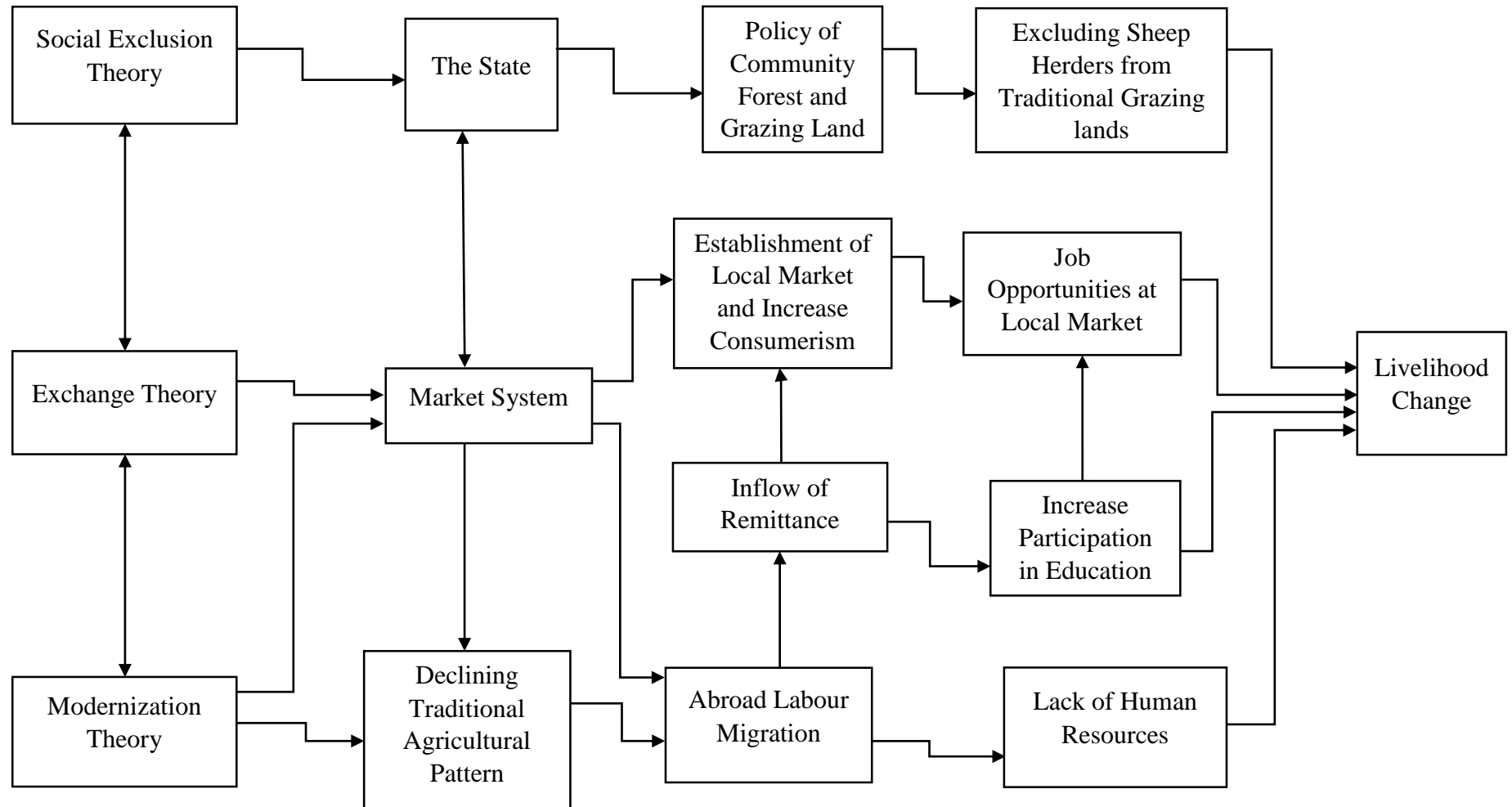
From the globalization perspective, modernization also means homogenizing cultural and political systems and societal values. As such, the state's role remains pivotal to maintaining order and stability in the society. As per Weber (1978), the state is a compulsory political organization that upholds a claim to the monopoly of the legitimate use of physical forces in enforcing its order. Piven and Cloward (2005, p. 47) have noted that the state, as a promulgator and enforcer of rules, continuously monitors their people. In doing so, certain social groups get excluded while others remain in advantageous positions. Such exclusion can severely change an individual's life and livelihood.

Further, human society is a cluster of social relationships. One of many relations is an exchange relation between individuals. In pre-industrialized societies, people used to exchange through the barter system. It is a system where goods and services are exchanged without money (Edwards, 1996, p.7). However, with society's shift from pre-industrialized to industrialized, such exchange started to perform in a particular space called the market.

Nonetheless, barter is still practiced in a modern way. For example, "there is a common market where companies which are the members of the system can shop with each other" (Uyan, 2017, p.285). With the increasing market system, interdependency among social members has also increased. Every individual in society is in an exchange relationship with each other in everyday life. Further, to sustain such an exchange relationship, the exchange relationship must be healthy enough. In an exchange relationship, if one of the exchanging parties wins and the other party loses, it can rupture the whole exchange and social relationships. An individual will seek another party where a healthy exchange can occur. This can also lead to changes in livelihoods.

Figure 2.2

Conceptual Framework on Livelihood Change of Transhumant Pastoralist



A conceptual framework is an expected relationship between independent and dependent variables. Figure 2.2 tentatively shows the relationship between independent variables (state and market) with the dependent variable (changing the livelihood of local-transhumant pastoralists). As discussed in a theoretical framework, the state, as an invisible force, can induce laws and policies that can ultimately affect the livelihood of local people. The community forest program (introduced in 1987), after handing over to the locals the state, a decision-making power can shift from the state level to local communities. In this study, the livelihood of transhumant pastoralists is examined along with the changes in the structure of the state (formation of sub-national states) and policies that the state or these sub-national states have brought in terms of community forest and grazing land. However, Pandey and Paudyal (2015, p. 11) note that community forest in the mountainous region reduces landslides, protect watersheds, and increase the country's agricultural output.

In this study, the changing livelihood of transhumant pastoralists is examined along with the changes in the structure of the state (formation of sub-national states) and market structures. This study examines if such change in both state and market structure has a relationship with the livelihood change among transhumant pastoralists, who are also the components of the same ecosystem.

2.4 Research Gaps

This chapter reviewed four different theories that best explain the changing transhumant pastoral practices, transhumant pastoral life cycle and livelihood. Similarly empirical review has been done in terms of transhumant pastoralism, globalization and market, climate change, and historical development of community forest.

In the review part, globalization and its impacts were discussed connecting with the transhumant system. Further, the details of transhumant pastoralism, its historical development, and the possibility of extinction of transhumant culture are also discussed. Similarly, review of climate change, its impact on the livelihood of mountain people, state's role in establishing community forest and how unequal treatment of the state ultimately devolved more power to the community of lower hills (community forest users group) which ultimately restricted the migrant herders, have been discussed.

Further relationship of transhumant pastoralism with globalization and market, state policies such as community forest and climate change have been discussed.

From these discussions, below gaps were identified. A few gaps have already been presented in the statement of the problem section. First off, there are no such strong views in terms of continuation of such traditional activities. Secondly, the change in transhumant pastoralism is a unique phenomenon in hilly region of Nepal. However, the reviewed literature does not explain or suggest if such change in transhumant pastoralism is completely related to global process or due to specific local context. Thirdly, even though the change has been discussed, these literatures do not mention different types of livelihood that transhumant pastoralist have adopted in the changing social context. Fourthly, there is no such argument and literature on how the state treats such migrating herders in Nepal. Fifthly, there is no literature in terms of how the state should use transhumant pastoralism for the local and national economic growth. Sixthly, there is no such study if such traditional occupation will vanish at once due to the global process or its revival due to different causes.

Despite of various gaps, this study is focused to explore how transhumant pastoralism (sheep herding) is carried on at northern areas of Gorkha district, how the state and market policies are playing pivotal role for changing transhumant pastoralism in the study area and how changing transhumant pastoralism is associated with changing livelihood of herders.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Background

The research methodology guides the researcher in selecting the appropriate methods and techniques for the research. It defines and determines the scientific logic for choosing specific tools, methods, and techniques to answer the research questions. The research methodology section provides an overview of the study area and explains how information was collected and analyzed. Before beginning the data collection process, the researcher obtained field visit approval from the Faculty of Humanities and Social Science at Tribhuvan University. After visiting the field, the researcher explained the study's intent to the selected research participants (herders, ex-herders, and elders). The researcher also obtained the participants' consent before conducting interviews, recording them, and taking photographs.

Since Nepal became a member of the World Trade Organization (WTO) in 2004, there has been an increase in the inflow of materials from the international market to Nepal. However, the grazing land is gradually decreasing. Therefore, this research aims to discover the current transhumant practices in northern Gorkha and the factors behind the decline of transhumant pastoralism in the research area. The researcher also gathered detailed information from different transhumant pastoralists (who have been in transhumant pastoralism for at least a few generations), ex-pastoralists, elders, and community members of lower hilly areas (*Kaltu Byasi*).

3.2 Philosophy of Research

Lincoln and Guba (1989, p. 83) state that the ontological assumptions respond to the question, 'What is the nature of reality?' It addresses the issue of what needs to be known about what is out there (Grix, 2002). Regarding the nature of reality, realists believe that one truth exists and that truth does not change. Realism believes that reality can be discovered using objective measurement. For instance, it deals with whether social entities such as organization and culture should be considered objective entities that have reality external to the social actor or as social construction built through the perception and actions of the social actors (Neuman, 2003). However, relativists believe

in the existence of multiple realities. These realities are attached to the meaning we provide. That is, reality is constructed, so it keeps changing. Relativism asserts that knowledge is a social creation and, most importantly, denies any foundational canons of establishing universal truth (Lincoln & Guba, 2000).

On the other hand, epistemology deals with the relationship between the knower and what can be known (Furlong & Marsh, 2010). Epistemology deals with concerns such as whether social worlds can and should be studied according to the principles and procedures followed by natural science (Bryman, 2004). With this, there are two schools of thought: positivism and Interpretivism. The ontological stance in positivism is that there is a single reality, and the epistemological stance is that such reality should be studied objectively (how natural science studies such reality). In contrast, in Interpretivism, the ontological stance is that multiple realities must be interpreted. For this, one must understand the subjective meaning of human beings, society, and social action (Grix, 2001).

The ontological stance of this study is that there are multiple realities regarding transhumant pastoralism. As social change is inevitable, individual behavior, values, norms, belief systems, and, most importantly, social relationships change along with it. The social relationships among other social members (herders and locals) are socially constructed. Every member of society requires social relationships to thrive because human life would not exist without them. Various social factors maintain such social relationships, and one of them is social exchange, where herders and locals have been exchanging grazing areas versus sheep manure for many generations. However, such social relationships can change to hostile when exchange relationships are distorted and not maintained in the way they should be.

Further, this social relationship can drop steadily if one of the other social groups remains at the top of the continuum of power dynamics. Power can be misused by individuals or groups to exert control over others, leading to exploitation and domination (Arendt, 1958). The power given to locals, especially by the state, can escalate the gap between herders and locals.

These realities should be interpreted to understand the transhumant herding system and its associated realities. Among many social realities, different empirical research and literature showcase the existence of transhumant pastoralism worldwide. Further, with changing societies, transhumant pastoralists' livelihoods are also changing. The change in pastoralists' livelihoods should be interpreted rather than taken in an objective way.

3.3 Research Design

This research explores different aspects of transhumant pastoralists of the northern Gorkha district, such as their current pastoralism, coping strategies, and reasons to continue with pastoralism despite declining trends in other places. Since the study explores and explains transhumant pastoralism and its declining status, the nature of the research is qualitative. The study is, therefore, a qualitative-exploratory research design. Different qualitative information was collected in terms of how they are living in this profession, how they feel about such profession, how their new generation perceives the sheep herding profession, feeling toward an intervention of state through community forest, their coping strategy against globalization and climate change, structural challenges within the society, gap, and need, relationship between lower hilly community and livelihood diversification. Focus group discussion and interview methods were applied to collect such information. The information received from interviews and FGDs is analyzed using the qualitative method (narrative analysis). Few descriptive information (such as demographic information, resource ownership patterns, and the structure of income and employment among transhumant herders) have been tabulated using simple statistical tools and summarized in the form of simple averages, proportions, and percentages.

Denzin and Lincoln (2000) have noted that qualitative research involves an interpretive and naturalistic approach, meaning that qualitative researchers study things in their natural settings, and attempting to make sense of or interpret phenomena in terms of the meanings people bring to them.

Moreover, Orlikowski and Baroudi (1991) observe that a critical aspect of qualitative research is the idea that meaning is constructed by individuals in their

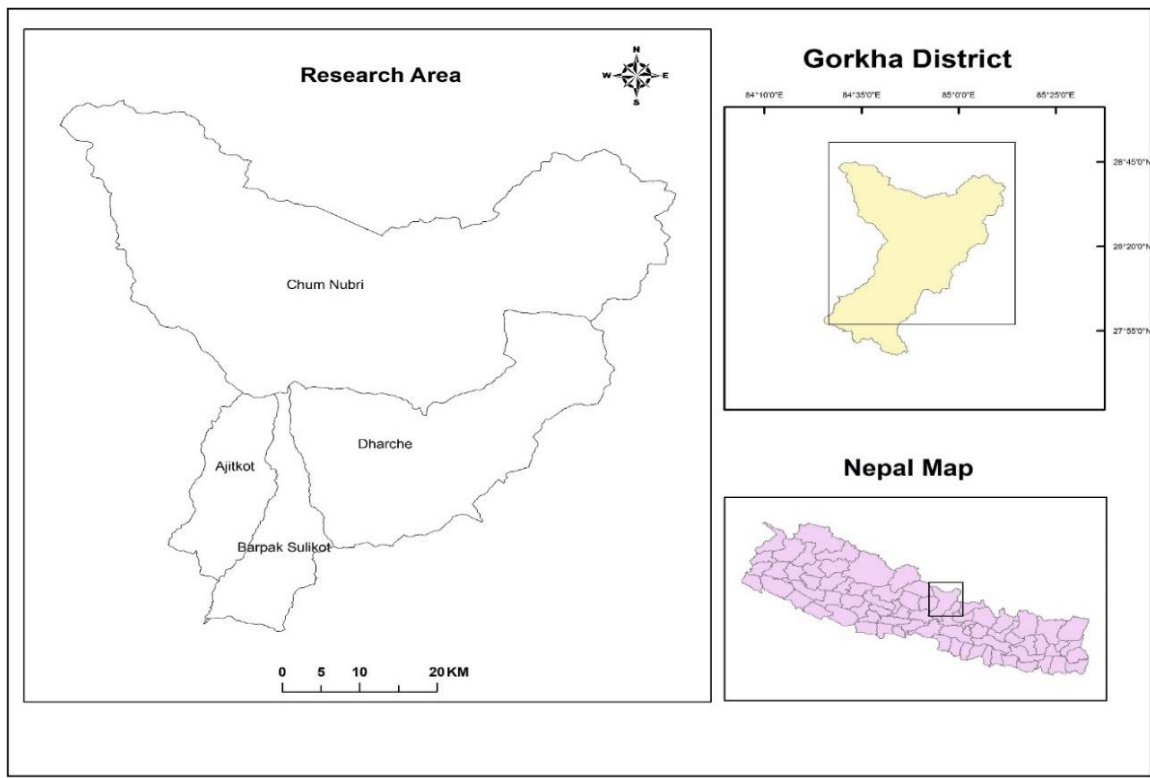
uniqueness as part of a particular context and interactions. In the qualitative method, Malterud (2001) states that various strategies are included for systematically collecting, organizing, and interpreting textual material obtained while talking with people or through observation. The data collected from interviews are transcribed in the field as well. After reading individual responses, the relevant and valuable information is translated into English and narrated in the report. After that, a detailed dialogue between literature and narration is done.

A separate note is prepared where narratives are coded according to the respondent's name. Finally, these consolidated narratives are analyzed, as narrative analysis is specifically used to gain an in-depth understanding of transhumant herders' lives and experiences and their more profound understanding of transhumant pastoralism.

3.4 Selection of Study Area and Rationale

The researcher chose Sirdibas, Barpak, and Ghyachok as the study areas. This is because the number of transhumant pastoralists practicing sheep herding was primarily available in these villages. This area also has a long tradition of transhumant pastoralism as a Gurung livestock-keeping system. However, the number of transhumant pastoralism cases has decreased significantly in these areas.

During their seasonal movement, most transhumant herders start their journey from the higher pasture lands of these villages and travel down to the lower hilly areas and river banks of *Daraudi*. Some travel up to the Lamjung district for fresh pastures and water during winter. However, while traveling towards the Lamjung district, most transhumant pastoralists spend around three months during winter in the vicinity of *Kaltu Byasi*, *Ghyachok*, *Barpak*, *Saurpani*, *Baluwa*, *Simjung*, *Melem*, and a few other neighboring villages.

Figure 3.1***Map of Research Area***

Source. Skilled Corner, 2020

3.5 Universe and Selection of Sample

The researcher considered all the shepherders who practice transhumant pastoralism in the northern Gorkha district as the universe of this study. Although proper data was unavailable for transhumant pastoral households, locals informed that 12 households in *Sirdibas*, 11 in *Barpak*, and five in *Ghyachok* villages practice sheep herding. The researcher considered the total number of shepherders in three villages as a universe of the study and selected participants as a sample from the same universe.

Sampling is one of the most critical aspects of qualitative research. This study applies the non-probability sampling method (purposive sampling) to select research participants (herders). The criteria for selecting research participants were that they should be herders who have been practicing sheep herding for at least a year. In the study areas, due to fewer transhumant pastoralists, only 14 herders (five from *Ghyachok*, five from *Barpak*, and four from *Sirdibas*) were selected on a purposive sampling basis. The

reason for selecting five from *Ghyachok* and fewer from other areas is their presence in the herding area. Herders from *Ghyachok* were reachable as they practiced sheep herding in small areas, which was different for *Barpaki* herders and herders from *Sirdibas*.

The rationale for selecting a smaller number of transhumant herders is that fewer transhumant herders are available in each research area. Another reason is the herder's quick mobility around the study area, making it difficult for the researcher to contact the same herders repeatedly for detailed information and follow-up. So, the researcher has to pick any herders that are easily accessible and readily available.

In addition to the herding group, the researcher interviewed three ex-herders to gain in-depth knowledge about their past experiences in sheep herding. The researcher also interviewed two teachers (one from *Sirdibas* and one from *Barpak*) who were observing the sheep herding profession separately.

The researcher also interviewed local farmers at *Kaltu Byasi* to understand their current agricultural activities and relationship with migrating herders. To enrich the understanding of other issues associated with transhumant pastoralism, the researcher also selected key political figures (Ward Chief) at the local level and a district livestock officer located at Gorkha bazaar. The researcher selected all the research participants (including herders) on a purposive sampling basis. The rationale for applying purposive sampling is that the selected samples can fulfill the purpose of the study.

3.6 Method of Data Collection

The practice of transhumant pastoralism is declining worldwide as well as in Nepal, and in such a scenario, locating sufficient research participants (transhumant pastoralists) remained challenging for the researcher. The primary aim of this study is to find out how herders practice transhumant pastoralism and maintain their livelihood. To find the answer, the researcher visited the selected study areas for a week to build initial rapport with the villagers and local bodies and explain the purpose of the visit. After spending about a week there, the researcher also explored other information about the research site, such as geographical setting, land type, route, community forest, household composition, village setting, and basic social norms within the community.

On a purposive basis, first, transhumant pastoralists were identified with locals' help (after conversing with the local people). Before starting the interview with the research participants, the researcher briefed them about the rationale of this field visit and the study. The researcher also took verbal consent from them to participate as interviewees. The researcher also travels with them to the campsites after interviews.

The researcher selected herders and interviewed them with open-ended questions. Similarly, a few household heads in lower hilly areas (*Kaltu Byasi*) are also interviewed to explore how they perceive transhumant pastoralism. In case of the absence of a household head, another household member who has knowledge of transhumant and its cycle was also interviewed. A local language translator was used where translation was required. The selected household heads of lower hilly areas were interviewed with open-ended questions followed by probing questions. In an interview, how they perceive transhumant pastoralism, how their household is adopting livelihood strategies, and what the relationship status between herder and the local community was. After receiving saturated answers, interviews were closed.

The secondary data, such as the number of transhumant pastoralists, ex-herders, and migrant families, are extracted from the Rural Municipality. In terms of understanding the current issue, the Forest Act (1993), community forestry guidelines (2008), climate change policy (2011), and rangeland policy (2012) were reviewed. The publications by different INGOs, specifically WWF and ICIMOD, in terms of community forest and rangeland management were also reviewed.

The abroad migration status and household demography of the research site were also gathered from District and Rural Municipality offices. To understand the overall composition of livestock status in Nepal, publications from the Government of Nepal-Ministry of Livestock Development and Central Bureau of Statistics of different years were also checked.

Interviews and focus group discussion methods are implemented to generate primary field data. The rationale for such implementation is due to the nature of the research and questions raised in chapter one, which brings data that are of a qualitative nature. These data were collected during the field visit by interviewing the selected

herders and lower hilly household heads and via Focus Group Discussion. Rapport building was essential before implementing data-collecting tools. Hence, the research sites were visited in January 2019, prior to the implementation of major research tools in the community, in order to meet the local bodies and possible research participants. Local bodies are also consulted in order to receive their consent to conduct this research in that location. During rapport building, respondents were also identified. The researcher conducted a field visit from 12 January 2020 to 28 February 2020, where different data collection tools such as interview schedule, key informant interview, and focus group discussion were applied. With the help of methodological pluralism (combining different methods), the data generated through these methods have high validity.

3.6.1 Interview Schedule

According to Bogand and Biklen (2007), an interview schedule is a detailed outline that guides the interviewer's use of questions, probes, and follow-up questions. It helps researchers to gather relevant information from participants with a list of questions. Where required, the researcher can probe deeper into specific areas of interest. This is particularly useful when the research aims to explore complex topics and gather in-depth insights from participants.

In this study, an interview schedule is applied to gather several quantitative data from the respondent herders. The interview schedule is applied to collect quantitative data on demographics, land ownership patterns, educational attainment of young members from pastoral families, number of pastoral households in the study area, and family size of shepherders. This information is presented in tabular forms in chapters four and five. Although little quantitative information is used in this study, the orientation of this research study will be qualitative.

3.6.2 Interview

A total of 25 interviews were conducted during the field visit that started from 12 January 2020 to 28 February 2020 at three research areas (see Appendix B1). The rationale behind selecting an interview is to collect detailed information from the research participants in terms of transhumant pastoralism. An open-ended question

checklist was used to ask about different aspects related to transhumant pastoralism. Questions such as how they perceive transhumant pastoralism, their perception toward community forests, state policies and climate change, the reason behind shifting exchange relations at low-hill communities, and their current livelihood strategies were asked. Before starting an interview, a warm-up question is asked to bring the respondent into his/her comfort zone. Probing questions were also asked during interviews.

To avoid chances of receiving biased information from research participants, information is triangulated from other research participants as well, such as FGD sessions. The interview is conducted with selected transhumant herders, ex-herders, and locals residing in winter grazing areas (*Kaltu Byasi*). Community members who have other detailed information in terms of the livelihood of transhumant pastoralists in the area were also interviewed. Such research participants were selected on the basis of local information.

During the data collection process, the researcher also received help from a research assistant. For data recording, a notebook and a mobile phone (for voice recording) were used. Keeping in mind the busy schedule of the selected participants (active working hours), interviews were done during off hours (during the evening and morning for herders. For others, generally during the morning). Before the start of the interview, a brief introduction of the researcher and the intent of this study was shared with the participants. Participants' verbal consent was also taken. The interview time ranges from 30 minutes to 62 minutes for different participants. The local translators who can speak both Nepali and their local language helped the researcher where language translation was required during the interview. Such translators were identified through the motel owners, where the researcher stayed during field visits.

3.6.3 Focus Group Discussion (FGD)

Focus group discussion “is not a problem-solving session...not a decision-making group...but it is the focus interview” (Patton, 2002, p. 387). So, to explore detailed views, beliefs, and ideas about transhumant pastoralism, two FGD sessions were conducted during the field visit (see Appendix B2). The first FGD was conducted at *Ghyachok* (15th January 2020), and the second at *Barpak* (17th February 2020). FGD

sessions helped to gather transhumant pastoralism-related information quickly from the group and provided opportunities to clarify responses. To avoid some participants dominating others during FGD sessions, group composition is carefully chosen to represent the diversity of participants for effective interaction.

In FGDs, those who had a handful of information about transhumant pastoralism and the changing context were selected. They were selected as per the researcher's conversation with them directly and as recommended by other locals. The FGD members were school teachers, older people of the village, the village chief, a government representative, staff from the development sector, and herders. The total number of participants in FGD was seven in both discussions.

In the FGD sessions at *Barpak and Ghyachok*, how they perceive transhumant pastoralism, why transhumant pastoralism is decreasing in the research area, why and how transhumant pastoralist are continuing their traditional system, what is the current herding status and how youth perceive this system were asked to the participants. As a probing question, their challenges to continuing this system, their mitigation of such problems, and their needs for developing transhumant pastoralism were also asked and discussed. The reason for not conducting FGD in Sirdibas was that herders and locals needed more time to commit to FGD due to the agricultural work rush during a field visit.

3.6.4 Observation

Young (1960) writes that observation is the process of looking at things and thinking about what you observe. During the field study, a nonparticipant observation method was implemented to capture and collect information related to transhumant pastoralism. The researcher observed how the transhumant pastoralist reared their sheep at high altitude areas of the research area. The intent is to observe herder's everyday work without participating and gather much information in a natural setting without disturbing their normal flow of events/ everyday work.

Nonparticipant observation is implemented while interviewing locals, CFUG heads, and teachers to triangulate this information about decreasing transhumant

pastoralism. After each day of the field visit, the researcher kept notes of all the activities of herding practices. Later, this information is incorporated into finding sections.

3.7 Data Triangulation

Triangulation is the way through which researchers attempt to improve research reliability and validity. Giddens (1995) writes each study method has its own set of benefits and drawbacks. So, if different methods can be integrated into a single study, accurate information and conclusions can be drawn. There are different types of triangulation, such as methodological triangulation, researcher triangulation, and data triangulation. As per Denzin (1970), triangulation allows the researcher to offset the weakness of one method with the strengths of another. For instance, the weakness of the interview schedule is that the researcher must assume that a respondent is providing true information.

In this study, data triangulation is applied to enhance the validity and reliability of data, and an interview schedule, including interview and FGD, is conducted to produce similar results. In this study, these are applied at different spaces as well, namely *Sirdibas*, *Barpak*, and *Ghyachok*, to reduce biases and produce accuracy in the findings in terms of transhumant herders.

Interviews with respondents of different backgrounds, such as herders, ex-herders, locals, government officials, teachers, and CFUG heads, also helped to triangulate the data in terms of transhumant herders and their relationship with the market and the state. This has further provided an accurate understanding of transhumant pastoralism and its declining relationship with the market and the state.

The researcher has also observed how transhumant herders operate during winter, moving in lower hilly areas as well as high altitude areas. Observational field notes were triangulated with information provided by other respondents. With such triangulated information, the researcher has come closer to accurate findings and conclusions.

3.8 Data Analysis, Presentation and Interpretation

In this study, different strategies were used to collect data. Quantitative data related to education attainment, income sources, and family size are interpreted through

the use of simple statistical tools and summarized in the form of numbers and percentages in tabular and spider net forms. Qualitative data related to decreasing transhumant pastoralism, the influence of the market, the state and community forest, herder's livelihood, et cetera, are discussed qualitatively to explain the relationship between them.

3.9 Ethical Consideration

Research ethics are a set of principles, and the researcher or the research team has to conduct research within that research ethics framework. The reason to imply ethics in research is because of its interconnection with human life, society, and culture. In no way, whatever the reasons are, the research should have any direct or indirect negative impact on the lives of research participants or other locals of the research field. In other words, a 'no harm' policy to research participants, local culture, and animals must be implemented accurately.

In order to conduct research in a more professional way, compliance with research ethics plays an important role in it. Further, ethical behavior helps protect individuals, communities, and environments and offers the potential to increase the sum of good in the world (Israel & Hay, 2006). However, ethics are not that simple because what's popularly ethical today may become popularly unethical tomorrow and vice versa (Bernard, 2006).

During field visits (data collection), such as in the FGD sessions, the researcher facilitated non-directive, free, and open conversations to generate common answers from the group, as suggested by Neuman (2003) and Sarantakos (2005) in order to extract unbiased responses. For ethical considerations, first off, verbal consent is taken from all the research participants (herders, ex-herders, teachers, elders, District Livestock Officer, Ward Chief, and research participants from the community forest user group) prior to the interview. This was necessary, as Faden and Beauchamp (1986) noted; research participants need to understand what they are involved in and what they are authorizing. With this, a mutual understanding between the researcher and research participants was established, which helped to communicate in a good flow.

Second, winning the hearts of the respondents involved in the research was very important, and this was possible with confidentiality. Any information obtained from research participants during the research was maintained confidential. Keeping information confidential also means protecting them from harm by others (people or the legal system). Prior to the interview and focus discussion, the research participants showed reluctance in terms of using their real names in the dissertation, so codes have been used for all respondent's actual names except Kali Maya Gurung from *Kaltu Byasi*, who gave her consent to use it in the dissertation.

Third off, research participants were not exposed to any physical or mental stress throughout the research. Research participants were not forced to disclose any sensitive or private information. The reports generated through this research are not against the local rules or against any research participants. Research participants were informed that if they felt uncomfortable with their responses, they could withdraw their participation or all the information provided.

3.10 Limitations of the Study

The study is conducted among the shepherders of the Gorkha district, so the delimitation of the study is that the finding of this study does not generalize other hilly areas of Nepal where similar transhumant pastoralism is practiced.

3.10.1 Theoretical Limitation

In this study, modernization theory, social exclusion theory, and exchange theory are reviewed. Modernization theory explains how traditional society transforms into modern and advanced society and, in this process, how such social change affects individual behavior, including their livelihoods. However, applied theory can fall short of explaining changing livelihoods in rural areas. Similarly, although social exclusion and exchange theory are included in this study to best explain the changing livelihood of transhumant pastoralists, these theories can fall short due to the existence of multiple forms of social exclusion and exchange relationships at the local level.

3.10.2 Methodological Limitation

This study is conducted carefully to avoid any methodological issues that can impact the reliability and validity of the research. Despite this, the sampling issues

leading to problems in the generalization of findings are still there. The possibility of social desirability bias has been tried to minimize during interviews by avoiding any sort of leading questions. Responses are qualitative in nature, so these responses, such as views toward community forest, the state's responsibilities upon herders' communities, and market dynamics, cannot be generalized in other herder communities inhabiting different parts of Nepal.

During the Focus Group Discussion in *Ghyachok* and the interview with the Livestock Development Officer, participant teachers, and government officers were over-claiming the state's provisions toward the herder's community. This can be due to the Hawthorne Effect upon them. Further, the data has been collected and interpreted impartially; however, as the researcher belongs to the same geographical location, researcher bias in terms of interpretation of data can appear, and questions on biased results may appear. Similarly, the selection of respondents on the basis of convenience can lead to biased results.

3.10.3 Empirical Limitation

There are several practical difficulties during the data collection period from the field and also during the analysis of these data. Firstly, a small sample size, just 14 herders and five key informant interviews is small sample size. Although this number was chosen based on the availability of respondents in the field, it can affect the generalizability of the findings.

The actual field study was conducted for two months, including a week-long field visit prior to the actual field study visit. Herders were interviewed during their winter movement, so the researcher believes some core information is still lacking in this study. Due to Herder's busy schedule, there are few chances of responding to the researcher's question. Most importantly, as this study is based on a qualitative method, reliability issues will always be there.

At *Sirdibas* (one of the remote research areas), it remained quite difficult to communicate with the research participants, so a local interpreter was mobilized to interview herders. Due to this, information gathered from *Sirdibas* can have validity issues. Due to this, the overall finding may have been affected, so it will be premature to assume similar herding-related issues in another part of the country despite the transhumant pastoralist issues and problems being considered common.

3.11 Personal Challenges Experienced

Biddle (1993) noted that researchers might have several field-based challenges (such as harsh environmental conditions, animals, parasites, vector-borne diseases, degenerative diseases, robbery, physical assault, and crimes) that can deter researchers from conducting successful fieldwork. During the field study, communicating with the research participants and convincing them to participate in group discussions and interviews, geographical difficulties for movement, cultural differences, and language barriers remained the most challenging.

The geographical terrains are rugged in research areas. The path up to these villages could be more extensive and narrower. The cantilever bridge near *Yaru Bagar* (toward *Sirdibas*) has eased the villagers' movement, including the researcher's. However, slippery trails toward *Sirdibas* and structural risks on the way to *Barpak* caused by the recent earthquake in Nepal have made the movement difficult. Vehicular movement was accessible toward *Barpak* and *Ghyachok*. However, the vehicle route for *Sirdibas* is accessible only up to *Soti*. Any travelers heading toward this location's northern area must walk from *Machhe Khola*, which takes one day to get to *Sirdibas*. The herding place was at a high altitude (around 3300 m and above), which added some difficulty in reaching that height to observe the herding activities.

A preliminary field visit was conducted in 2018 to identify possible research participants in *Sirdibas*, *Barpak*, and *Ghyachok*. The visit also aimed to observe the local geography and transhumant work using local resources and techniques in high landscapes. During the first days of the visit, local community members of *Sirdibas* distrusted the researcher. This might be because of the risk to them from an unknown person in their community. Few community members even asked whether the researcher was there for the illegal trade of medicinal herbs or to buy sheep in bulk. The community members responded that the purpose of the visit was to study the sheep herding system.

While heading toward the research area, the researcher came to know about Mr. Narayan Gurung from *Bangsingh*, the resident and a petty business person in that community, to whom the researcher intended to use as an informant for extracting

further information regarding sheep herding households in the same community. He runs a homestay business in that village, so, initially, the researcher visited his house to gather initial information about the village and sheep herding practices of that locality. He remained accommodating in sharing different situations of the transhumant system in that region. He used to upkeep sheep earlier, but now he runs a homestay, a small retail shop, and a mule transportation business. The researcher found Narayan very helpful and open-minded during information gathering in terms of the political economy of the transhumant system and how it remained a primary livelihood in the early decades. Different households keeping sheep were also identified. Similarly, while conducting a preliminary visit to *Barpak* and *Ghyachok*, the researcher obtained help from Sunil Gurung, a resident of *Kaltu Byasi*. No such hurdles are faced in this area.

The researcher's second visit was in January 2019 with a list of questions and curiosity to find answers to research questions. Initially, the researcher visited the high-altitude grazing land of *Ghyachok* and spent around three days observing the daily life of transhumant pastoralists. After returning from rangeland, a few villagers, ex-herders, and elders were also interviewed regarding transhumant pastoralism in that region.

At first, as a researcher, I planned to enter the research field by contacting one of the local representatives of *Chum Nubri* Rural Municipality, *Barpak*, and *Ajirkot* Rural Municipality. However, such prior attachment can have a biased impact on the research work. Pandey (2003) has shared his experience similarly when he writes:

During the early days of fieldwork in Remi village, my stay with the vice-chairman raised curiosity among other political leaders. They were suspicious that I might have some political interest in the village. Many carefully watched my activities to identify whether my interest was only in academic research. (p. 64)

This issue became so prominent during the researcher's fieldwork. If the respondent is from a different political belief, they may make superficial judgments against the researcher and provide false information, where possible. With that in mind, researchers avoided contacting political figures to acquire a smooth research process and unbiased responses from the research participants. The researcher had an informal talk with the

homestay owner (where the researcher stayed) about the site and people with in-depth knowledge and experience on transhumant pastoralism. After collecting a handful of information, the researcher selected the core site for the visit and possible research participants for other data collection processes.

During the data collection, the elder pastoralists were suspicious upon the researcher's arrival to their area (at *Sirdibas* and *Barpak*). Due to this, the rapport-building process took longer (three days) than expected. Because of such hesitancy, the information shared by a couple of research participants (pastoralists) was difficult to validate. So, stakeholders such as district livestock officers, ward chiefs, teachers, and ex-herders were also interviewed to triangulate the information shared.

Similarly, in the research site, transhumant pastoralists speak their local language, and due to this, there was more or less communication difficulty during fieldwork. However, to resolve this issue, local translators were used. Finding the right translator in this context remained difficult because such youth migrated to urban or abroad to earn their living.

In *Barpak*, the respondent herder remained unconvinced that the researcher was visiting his campsite for academic research. Instead, he thought the researcher was there to collect detailed information on *Ghumti Goth Pranali* (transhumant pastoralism), which the researcher would use for other benefits. Even after the clear discussion and repetition of the purpose of the visit, the herder sounded hopeful for any support for their herding system.

Furthermore, the moral disposition of fieldwork is always challenging and questioning because academic research is basically for knowledge production, and such research does not work to enhance or uplift villagers' livelihood and lifestyle. However, such fieldwork becomes morally inappropriate if its findings create more hardship in the life of the population that has been studied (see Macfarlane, 1976). So, the researcher was very explicit regarding the research background, field setup, possible hassles, and outcome. Not only that, but the researcher takes full responsibility for all the research outcomes.

Sometimes, moral questions arose within the researcher's mind. Academic researchers are mostly in such moral conflict. Pandey (2003) was also in a similar state of confusion when he wrote:

While collecting field-level information, I found myself conflicted between the research's professional needs and the field situation's moral constraints. For a researcher having no ability to help the poor in their mundane problems of livelihood generations, it was morally socking to ask questions as to how they arranged for the gruel that they have been using in the kitchen...it was pretty disturbing and painful to touch on these delicate issues for a purpose that bears no use to the informant families. (p. 68)

Despite having moral questions and challenges, researchers entered the village to conduct the research. In such a situation, research ethics helped researchers to be bias-free and build sound rapport among the villagers, specifically the research participants. Such activity helped to lubricate the relationship between the researcher and research participants during the fieldwork.

CHAPTER FOUR

CURRENT SHEEP HERDING PRACTICES AT NORTHERN GORKHA

This chapter explains current transhumant practices in Northern part of Gorkha district. It describes about how transhumant pastoralists are practicing their pastoralist work, what challenges they are facing and how they are mitigating such challenges/problems associated with transhumant work. The research participants were also asked about differences between past and present transhumant system, different actions during seasonal migration toward lower hilly areas during winter, migrating route, and education status, gender roles, income and present relationship with the lower hilly communities.

4.1 Field Setting: The Livelihood Context

Gorkha district comprises 306,010 hectares of land, where agriculture-suitable land is 46,220 hectares, and only 9,476 hectares of land is fallow. Agriculture land is further divided into all the year cropping land (3,018 hectares) and seasonal (12,036 hectares). The maximum area of the total land is covered with mountains and rivers (192,628 hectares), followed by forest area (112,676 hectares). Gorkha district comprises a range of climate zones ranging from Lower Tropical (less than 300 meters) to Trans-Himalayan (6,400 meters) (National Planning Commission, 2017). Gorkha district comprises 251,027 total population (CBS, 2021). The Gurungs³², ethnic inhabitants, dominate in all three locations. There are 11 municipalities in the Gorkha district in a new federal structure. The study areas have recently been restructured in new Rural Municipalities.

4.1.1 Ghyachok: A Hilly Village of Ajirkot Rural Municipality

Ghyachok is a hilly village in the *Ajirkot* Municipality of Gorkha District. *Ghyachok* village lies in the Subtropical climate zone (1,000 to 2,000 meters high). The village is surrounded by four villages: *Dhansira* in the north, *Mathar* in the

³² The Gurungs are a tribe living at an altitude of between four and seven thousand feet in central Nepal...and they share these hills with many other tribes and groups...' (Macfarlane, 1976).

south, *Dawal Swora* in the east, and *Chathala* in the west. The primary agriculture farms are at the bottom of the village near *Dawal Swora*. The forest area remains at the northwest, and the *Daraudi* River at the northeast is around 800 meters down. The river starts from the base of Bauda Mountain, and different small rivers and water springs join the *Daraudi* River at different contours. This river also separates *Ajirkot* and *Barpak-Sulikot* municipality.

Since *Ghyachok* is located on steep terrain, there are no irrigation facilities. Due to this, agriculture is based on rain-fed and locally managed water facilities. The road connectivity has recently linked *Ghyachok* with Gorkha Bazaar. The road is operational mainly during winter, and the movement of buses and other vehicles will be minimal during the rainy season. The road connects villages such as *Mathar*, *Simjung*, *Dhoteni*, *Chanautte*, and Gorkha. This village also comprises a school and health posts. After the 2015 earthquake, houses were rebuilt at the exact location. The earthquake epicenter in 2015 was in *Barpak*, which is to the east of the village, but *Ghyachok* and surrounding other villages were also severely affected during that time.

Land use data is not available separately for this village; however, with the simple observation of its geographical terrain, nearly 30% of the settlement area is covered. The cultivating area is around 25%, and the forest area on the northern side is the maximum. Most of the northern side (around 1 kilometer uphill) is forested. Several green patches are available at the top of the hills called *Paatal* and *Naage Pokhari*, where sheep herding practices are feasible. The dominating ruminants of this village are cattle, buffalo, sheep, and goats. The villagers have adopted a mixed herding system in *Ghyachok*, where all environmentally suitable livestock are reared in one place—the herders of *Ghyachok* rear both *Baruwal* and *Kaage* sheep in their area.

The forest area is divided into both community forest and personal forest areas. Personal forests are insignificant compared to community forests. The villagers fetch wood for their daily use. They also fetch forage from community forest areas for their stalled-based livestock. The principal trees found in the vicinity of *Ghyachok* village are *Sal*, Nepalese Alder (*Utis*), and needlewood tree (*Chilaune*) are the significant trees that can be found in the vicinity of During winter (fallow period); agricultural fields near

the village and at the eastern steep agricultural fields are used for grazing purposes. The land near forest areas (in the north) is unsuitable for agriculture, especially during winter due to extreme cold. The land in this area seems abandoned and fallow for many years.

The main crops of this village are millet, potatoes, wheat, maize, and paddy. The farmland near the village is suitable for millet, maize, and potatoes, but the farmland near the *Daraudi* River is suitable for maize, paddy, and wheat. The paddy is cultivated during the summer season. A portion of land near the village is also used for paddy cultivation; however, such paddy cultivation is based on rain-fed cultivation. Due to the drying out of spring water and the watershed area above the village, paddy cultivation near the village is vanishing. Other grains and vegetables are cultivated according to different suitable seasons. All the farmlands (near the village and *Daraudi* River) remain fallow for nearly two months during the winter season after the crop is harvested. The villagers transfer livestock dung (manure) to the farmland to recharge the soil.

Ajirkot Municipality only comprises 18,802 people. *Ghyachok* village comprises 130 households with a total population of 630 (322 females and 308 males). Almost all inhabitants of this village are Gurungs except for a few households belonging to *Gharti* and *Dalits* on the outskirts of the village. Although the main livelihood of these villagers is agriculture and pastoralism, the growing trend of labor migration abroad has created several opportunities for the villagers to travel abroad and earn their living.

Local shops are available within the village; however, for shopping, villagers must travel nearly two hours down to *Baluwa* Bazaar or toward Gorkha Bazaar, which is nearly 4 hours of bus travel from this village. The road connection and movement of vehicles have made villagers' lives easy, as well as transportation of daily consuming items within the village. The village also comprises schools up to 10th grade, and many students from surrounding villages travel to *Ghyachok* daily for their formal education.

4.1.2 *Barpak*: A Hilly Village of *Barpak-Sulikot* Rural Municipality

Barpak village is also a hilly village in *Barpak-Sulikot* Municipality of Gorkha District. This village also lies in the Subtropical climate zone (1,000 to 2,000 meters high). The total household in this village is around 1,400, and the population is 5,801. *Barpak* Village comprises two wards, Ward Number One and Ward Number Two. Ward

Number One comprises 1,681 population, whereas 4,120 population inhabited in Ward Number Two (as per telephonic conversation with Purna Bahadur Gurung, Ward chief of Ward Number One during a field visit). The population of *Barpak* has slightly declined due to several households migrating to Kathmandu and the U.K. The population was nearly seven thousand a couple of years back.

This village is famous for being the earthquake's epicenter that cost around 9,000 people in 2015 A.D. This village is surrounded by *Laparak* at the northeast, Bauda Mountain at the north, *Daraudi* River (around 1.2 km aerial distance down toward the west), and *Mandre* at the southwest. Hill maize seed/grain production is very suitable in *Barpak*. A motorable road also connects this village; however, this road is fully operational during winter but remains irregular during monsoon.

Barpak is one of the most populated villages in Gorkha and is equally popular with British Gurkhas. *Gaje Ghale* (Victoria Cross recipient during the Second World War) belongs to this village. Until now, one of the primary sources of income for *Barpaki* is remittance from British Gurkhas; however, nowadays, many British Gurkhas from this village have migrated and settled in the U.K. Besides a dream of joining British Gurkhas, many youths are now in different countries to make a living.

The dwelling structures are mostly concrete-based after the 2015 earthquake. Two secondary-level schools, a college, a Bus Park, several motels, and Buddha Park are in *Barpak*. The cemetery area is just above and near the village. The motorable road northeast of *Barpak* links with *Laparak* and *Gumda* (it takes nearly one and a half hours by vehicle from *Barpak* to reach *Laparak*). *Barpak* is a marketplace for inhabitants of *Laparak* and *Gumda*, as many of them visit *Barpak* for a range of shopping.

Inhabitants of *Barpak* are mostly Gurung and Ghale, with several households belonging to Bishwokarma. Despite Gurung and Ghale, their linguistic orientation does not match that of the Gurungs of the Western side, such as *Ghyachok* and *Simjung*. *Barpak* is surrounded by thick vegetation, and farmlands seem fully utilized by the locals for various cultivation. The farmland surrounding the village remains fallow during winter when the villagers transfer animal dung from their *Gothsaal* to their farm to recharge the soil. The soil color below the village (around 400 meters toward the east) is

grey and black. Different pig farms and poultry farms are established in these areas. The dominating ruminants of this village are cattle, buffalo, sheep, and goats. In terms of sheep, the herders mainly rear *Baruwal* sheep, which mix with mountain goats.

The sloppy terrain on the southern side has no land but is covered with thick vegetation. *Sal*, Nepalese Alder (*Utis*), Chir Pine (*Sallo*), and needlewood tree (*Chilaune*) are the major trees that can be found in the vicinity of *Barpak*. The land use data is not available; however, it can be seen that cultivating land expansion is mainly toward the north and west of the village.

Barpak is also a destination for domestic tourism. Several hotel businesses can be taken as an illustration. People around the district visit *Barpak* due to its popularity since the 2015 earthquake. However, there is a tug of war between *Barpak* and *Laprak* for claiming the earthquake's epicenter. Going uphill to the east, *Mamche* Hill is a famous destination for many tourists and travelers. *Lapraki* claims the epicenter of the 2015 earthquake in *Laprak*, which is close to *Mamche* Hill. A huge NRN (Non-Resident Nepali) funded project has constructed 573 houses for *Lapraki* near *Mamche* Hill, but none of the villagers seem to be living in these houses.

The dwelling structure in *Barpak* is mixed with modern structure and few traditional ones. The modern structure of house are similar to typical houses that can be found in Pokhara. Particularly after the 2015 earthquake, the dwelling structure has rapidly changed from mud-mortar to cemented pillars. Further, the use of Corrugated Galvanized Iron (CGI) sheets is maximum in *Barpak*, which has slightly changed the beauty of proper Gurung village (mud mortar and stone-slab roof). The village also looks like scattered glitters from the top of *Barpak*.

4.1.3 *Sirdibas*: A Hilly Village of *Chumnuhari* Rural Municipality

Sirdibas is a high-altitude hilly village located in *Chumnuhari* Rural Municipality. This rural municipality is in the north of the Gorkha district and is also connected to China. *Sirdibas* village comprises a total of 572 households. According to MoFALD (2017), *Sirdibas* comprises 2510 inhabitants out of a total population of 7,417 (*Chumnuhari Rural Municipality*). Different crops, such as millet, wheat, and corn, are cultivated in *Chumnuhari*. However, potato production is feasible and popular due to the

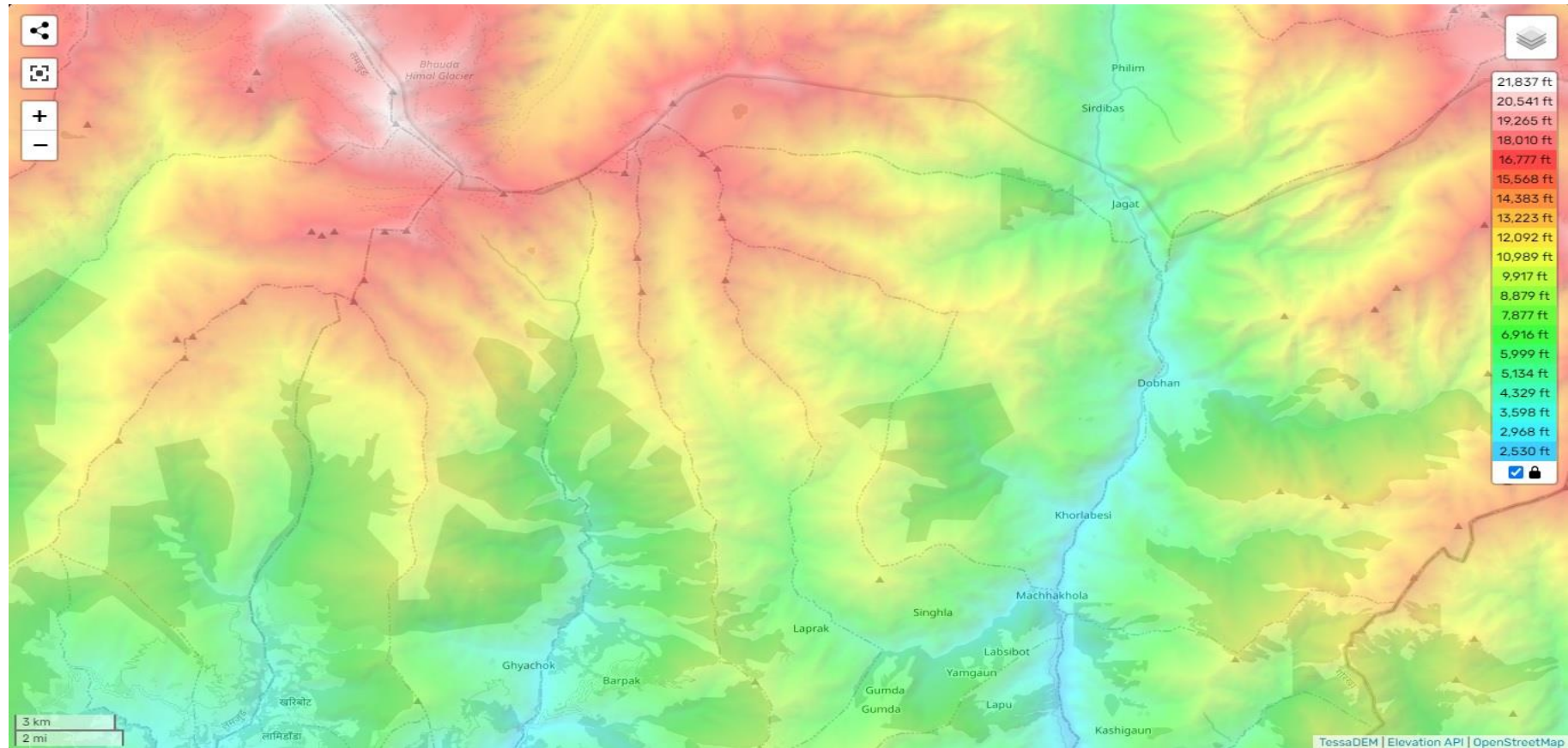
cold environment, and because of this, potato is also a staple crop for locals residing in this rural municipality. At the higher landscape of *Sirdibas* village, potatoes are the main crop, and corn is cultivated near the basin of the Budi Gandaki River.

Sirdibas village lies in the Alpine climate zone (4,000 to 5,000 meters in height) and is surrounded by dense forest and pasture area at the west, Rocky Mountains at the north, *Philim* village at North-east and *Jagat* at the south (see topographic map of the study area Figure 4.1). *Sirdibas* and *Philim* lie in the *Mansalu* trekking route, and the *Budi Gandaki* River separates these two villages. *Sirdibas* lies in sloppy terrain, and it takes nearly a day's walk from *Machha Khola* and one hour from *Salleri* village. The land use data is not separately available for *Sirdibas*; however, from the researcher's general observation, it can be figured out that most of the area is covered with hardy and rocky terrains. This might be why there are fewer farmlands and fewer agricultural products.

The inhabitants of this village are Gurung. However, their linguistic orientation differs from that of the Gurung of Western villages of the Gorkha district. The trail from *Machha Khola* toward *Sirdibas* (*Manasalu* trekking route) is rocky. The Nepalese Army is working to link this route up to China. Due to rocky terrains and very few agricultural fields in *Sirdibas*, the villagers' prime livelihood is livestock farming, tourism, and agriculture. Shops and motels established on the route toward the *Manasalu* trekking route and near *Sirdibas* village demonstrate that *Sirdibas*' livelihood is not limited to agriculture and pastoralism.

The green patches at the plateau of the hills show that the location is suitable for livestock rearing and development. These green patches fall in high-altitude rangelands used by livestock keepers, especially shepherders. Although the dominating ruminants of this village are cattle, sheep, and goats, mules and horses are also raised for transporting different materials to different villages; in terms of sheep, the herders of this locality rear both *Bhaylung* and *Baruwal* mixing with several mountain goats. The sheep are also used to produce manure for the local farms available in *Sirdibas*.

Figure: 4.1

Topographic Map of Study Area

Source. Topographic map. <https://www.topographic-map.com>

Note: Blue lines are river basins, green and yellow areas are rangeland area and red areas are mountain ranges. The movement of sheep herders are from yellow to blue river basins.

4.2 Transhumant Pastoralism as a Traditional Practice

Transhumant pastoralism was human's early form of livelihood, which is mentioned by various scholars such as Lenski (2005) and Aryal et al. (2018). Likewise, Geddes (1983) argues that transhumant exploiting diverse areas in the Pyrenees had origins in the Mesolithic era (around 15,000 years ago) and supports the idea that transhumant pastoralism is traditional. Regarding the Middle East area, pollen and beetle analysis showed that transhumant was practiced in the high mountains near Neor of Iran at least 6500 years ago (Ponel et al., 2013).

From the field observation, transhumant pastoralists using different equipment such as *Baku* (woolen cover), sheep skin as a ration sack, sheep skin used as a fire blower, uses of *theki* to make buttermilk, et cetera, suggest that transhumant pastoralism is the traditional livelihood option of the people living in the research area. Regarding the cure for poisoned sheep, Bikash Gurung from *Sirdibas* said, "...sheep eat every shrub on their way, and due to such, they get poisoned sometimes. In order to cure such sheep, we do not use veterinary medicine, but the local forest tree mushroom as a medicine..." (Bikash Gurung, personal communication, January 25, 2020). This illustrates Herder's traditional practice and implementation of traditional indigenous knowledge, demonstrating that transhumant pastoralism is a traditional practice in the study area.

During interviews, the locals were unsure about the start year of transhumant pastoralism in their area. Bikash Gurung says, "...we believe this practice has been in this geographical region for many generations. Per my grandfather, we are the eighth generation in transhumant pastoral work. This practice has been in place for many centuries" (Bikash Gurung, personal communication, January 25, 2020). However, almost all research participant herders believed their traditional practices and knowledge slowly faded as new societies, social behaviors, and practices emerged.

There is no doubt that humans adopted transhumant pastoralism as a primary form of livelihood in the beginning; however, as the agricultural system expanded across different societies, agriculture and pastoralism became symbiotic. Agriculture became more dependent on pastoralism, especially on livestock manure. However, this symbiotic relationship between pastoralism and agriculture has been delinked due to various factors that emerged in recent decades.

In an interview, herders were initially asked if there was any change in the transhumance system compared to current practices. Further, participant herders were also asked about the state's intervention before and now and the tax system. Janak Tamu from *Sirdibas* responded, "...I am not aware if there is government (state) in such mountains. All we know is our daily routine (sheep herding)...I do not know either about taxes for us..." (Janak Tamu, personal communication, January 28, 2020). This statement illustrates the absence of state mechanisms in the rural sector and among those people whose sole livelihood is transhumant pastoralism. However, Shyam Bahadur Gurung from *Barpak*, who has experience in foreign labor for nearly three years, is aware of the state and its interventions. He said, "...the Nepal government is there, but the government does not know if we are here...there is no plan, policy and financial support for sheepherders in this area" (Shyam Bahadur Gurung, personal communication, January 14, 2020).

In terms of gender roles, Birkaji Gurung from *Barpak*, who has been working as a sheep herder for several years, states that "...role of young female is changing as young daughters are mostly engaged in household chores and school now" (Birkaji Gurung, personal communication, January 13, 2020). However, Bikash Gurung, who has been working as a transhumant herder for over 20 years, countered this argument. According to him:

In an early transhumant pastoral society, male counterparts were mainly directly involved in the transhumance of the sheep herd. The roles of females in the household used to support logistical parts for the whole transhumance cycle, such as transporting food items (grains and liquor) at different campsites. In addition, the household work has remained extra for such female house members. (Bikash Gurung, personal communication, January 25, 2020).

The presence of government remained less in this area in the earlier three to four decades. However, roads are now being expanded to the villages, and international and domestic tourism has started pouring in. Different government offices (mainly at a representative level, such as the Manasalu conservation office, forest office, and police station) and the municipality office have been established in these areas. Several decades

earlier, with no state presence, communities were unaware of state taxes, especially after selling sheep. Due to its mobile nature, it was practically difficult to monitor the pastoralist's location, including all the transactions occurring at different locations. It is still a challenge for government officers to track transhumant pastoralists and keep up-to-date records about the sheep count and their transactions. Still, there are no insurance policies for their sheep, as pastoralists are barely attracted by any insurance policies offered. They also used to take their livestock across the international border toward the Tibetan area (across Lo and Pro areas that are the border to Tibet) for grazing purposes, but this has been banned as informed by local pastoralists.

The higher rangelands available in various villages seem untouched and unexplored by external factors. The density and area of vegetation available on such rangeland are the main pushing factors for sheep herding. These locations are destined for sheep herding purposes. All the pastoralists (research participants) and elders of villages had yet to exact information regarding when sheep herding started in their village. However, as the villagers offer sheep to their deities in every ritual, it can be imagined how deeply sheep herding is embedded in their ritual. With this, the transhumant sheep herding practice is linked with traditional practice in the research area.

4.3 Present Status of Transhumant Pastoralism

Transhumant pastoralists are still practicing similar ways of pastoralism as earlier because of the grazing areas and specific seasons for herd migration. They must remain at high grazing lands during the summer and rainy seasons, whereas they migrate to lower hills during winter. Despite all the changes in the surrounding societies, family structures, exchange relationships, and others, some family members are still dedicated and continue their traditional livelihood.

One reason for continuing transhumant pastoralism in northern Gorkha is the global pandemic (COVID-19) and people returning home from abroad. Further, the pandemic has heavily impacted the rural household economy, which includes remittance and tourism. As such, people in the research areas have again started some of their left-behind professions- transhumant pastoralism. Similarly, few returnees from abroad in the

research area have restarted transhumant pastoralism again as they found this is better than hard labor abroad. Prakash Bahadur Gurung from *Ghyachok*, who returned from labor migration abroad, rejoined the sheep herding profession again before the COVID-19 crisis. He said, "...I am following forefather's profession and there is lots of happiness in sheep herding as there is no boss nor time pressure to finish particular work" (Prakash Bahadur Gurung, Personal Communication, February 16, 2020). He adds, "I worked as a construction worker in Saudi Arabia for two years. During that period, I missed my village. Thinking of the possibility of doing a lot in my own society, I have returned to my parental profession" (Prakash Bahadur Gurung, Personal Communication, February 16, 2020).

This is a representative story of a transhumant pastoralist of the study area. Many of them have traveled to the Middle East in search of new professions and life opportunities. Several young members of pastoralist households have traveled there at the whim of foreign labor migration. However, the contradicting part is that they found the new land very challenging regarding both the environment and working modality. Hard labor above 40 degrees Celsius was found to be an environmental shock for such people, and they were working under strict procedures that had never been in their culture. In this sense, the high altitude areas where people such as Prakash Bahadur Gurung have spent most of their lives are found to be more than heaven, from environmentally, working modality (freedom) and from profit dimension. On the one hand, international labor markets are dragging away such herders from their traditional professions. However, herders such as Prakash Bahadur Gurung are also returning to their original traditional profession.

The Nepal government is currently responsive toward the holistic development of transhumant pastoralism, but the activities required for those herders are almost near zero. This is one of the reasons for tagging transhumant pastoralism as a less lucrative profession and forcing people to opt for alternative livelihoods. If the government had created job opportunities and secured livelihoods for those herders, they would have never left their traditional profession. On the other hand, the decrease of such traditional professions is also the loss of traditional knowledge of transhumant pastoralism among the new generation. This was evident among new pastoralists in the Barpak

and *Ghyachok* area, where new herders are more profit-oriented than the sustainability of sheep herding. Further, the loss of traditional knowledge discourages remaining herders. This further leads to the loss of traditional values in the study areas.

Several other herders have had experiences similar to Prakash Bahadur Gurung's. The obstacles they faced in foreign labor jobs are one of the prime reasons for them to return to their traditional profession. Indra Gurung, a 37-year-old male, appeared only up to a fifth class from *Ghyachok* School, shares his story of rejoining the sheep herding profession as below:

I have passed only fifth grade in the school. However, I got technical training and a certificate of training completion in Kathmandu and received my working visa (general labor) for Saudi Arabia. I flew there and started working as a general laborer (road maintenance). Due to my education, I started lagging, and I couldn't do much in front of other colleagues who were more educated than me. Most of the time, I used to receive unkind behavior from my supervisor and teammate. The temperature also remained very unfriendly for me, and I was sick twice during the eight months of work. So, I decided to cancel my visa after one year and returned home. I am here again, working in my previous profession. I couldn't cover the cost I lost for foreign employment, but I am happy that I flew twice on an airplane. (Indra Gurung, personal communication, February 16, 2020)

For Indra Gurung, low-grade education and high temperature in Saudi Arabia became a hurdle to making a job abroad as a livelihood. Such workers in foreign lands must adapt to new cultures, work environments, and technologies. However, due to such lag, the competitive market has pushed them back to the highland areas of Nepal again. The market needs qualified and competitive labor. Despite Indra Gurung's aspiration to test his luck on foreign soil, the international market has pushed him to his original job back in the highland pastureland of Nepal.

4.3.1 The Seasonal Movement and Its Necessity

The herders were asked about the necessity for the seasonal movement. According to them (a total of 14 herders), there are several reasons for the movement,

but the most important reasons are a) search for grazing sources and water points, b) to maintain temperature for sheep, c) to sell livestock, and its product, d) to collect medicinal herbs. As per the responses provided by different research participants, “in search of grazing sources and water point” is prioritized by all the herders.

Figure 4.2

Responses from Herders for the Necessity of Seasonal Movement



Source. Field study, 2020

During the interview, the research participants stated different reasons for the necessity of seasonal movement of sheep herds. All the respondent herders replied that seasonal movement is to search the grazing area and freshwater points for the sheep. At the same time, only 12 herders replied that the seasonal movement of sheep is to maintain the temperature for sheep. Herders expressed This traditional knowledge through their long experience with transhumant pastoralism. Sheep are sensitive to the local temperature, so extreme cold or extremely warm temperatures are unsuitable for sheep, as per the herders. One of the participants, Babuji Tamu, explained that “in case herder could not figure out the temperature that sheep need, a large group of sheep can die within a few days with different diseases and without a symptoms” (Babuji Tamu, personal communication February 15, 2020). A total of 11 herders accepted that seasonal movement of the herd is targeted for selling their sheep and other products made up of sheep. Very few (only two herders) replied that seasonal movement of the herd is done for medicinal herb collection and selling them to locals at lower hilly communities during a winter move.

The shepherders were also asked to describe their seasonal movement according to different months and elevations. Almost every herder explained a similar type of seasonal movement, as shown in Figure 8. Their highest elevation during summer is around 4100 meters, where the herds are grazed for nearly six months. Tasi Gurung, 58 an old from *Barpak*, has been working as a sheep herder for 22 years. Now, he owns around 250 sheep. His wife also helps him to look after those sheep. According to him:

During summer, especially after ice melts, the high-altitude grazing land is full of green vegetation. Our sheep takes several days to graze on one patch of the pastureland. There are several patches at high altitudes. Once they finish grazing over one patch, the sheep start moving to the next patch, and we, too, shift our temporary shelter according to the vegetation available. Once winter and pastureland are covered with snow, we have no choice but to move downward to the valley and lower hills in search of green pasture and water sources. We have to maintain the grazing areas. (Tasi Gurung, personal communication, January 12, 2020)

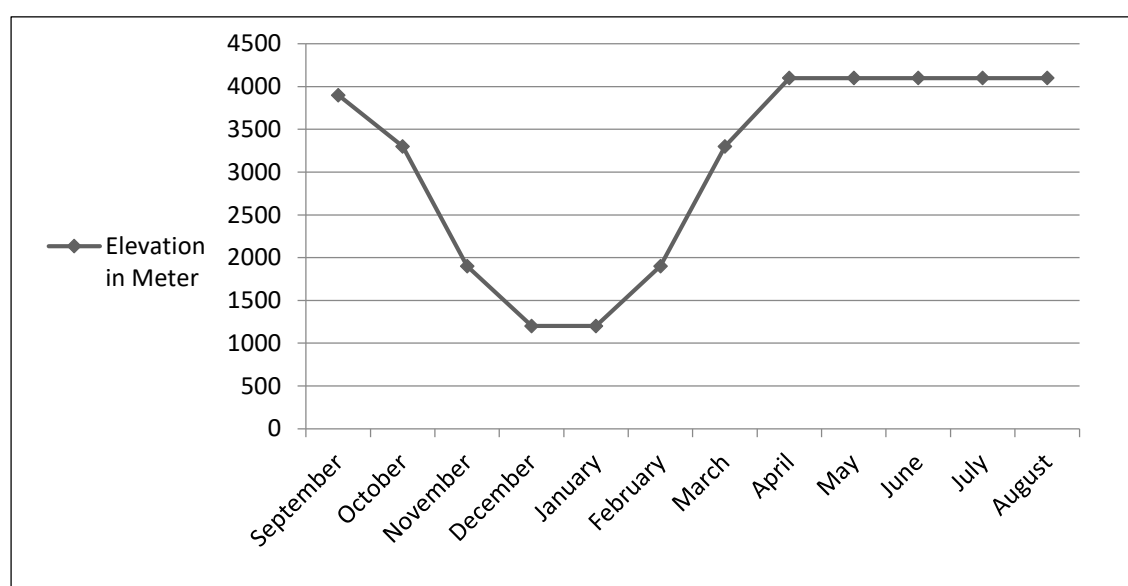
The described scenario is from the high-altitude grazing area at the base of *Bauda Himalaya*, which stands high on the northern side of *Barpak* and *Ghyachok*. The high-altitude pastureland, no doubt, is the ocean of green grasses for those sheep. They take several days to finish one patch of the pasture land, as Tasi Gurung described. Whereas during winter and snow, the only option they have is to move downhill in search of pasture and water sources. The underlying reason for such vertical movement of sheep is not only because of high pastureland covered with snow but also because of an extreme cold in which sheep cannot survive. While moving downward, they descend to the lower valley and hilly areas at around 1000 meters and graze their sheep around similar heights for three to four months.

Before the start of the summer season (around March and April), they again travel up to the same high-altitude pastureland. It shows that the temperature and availability of pasture and water are other deciding factors for the vertical shift of the sheep herd. Those who travel at a bit longer distance (across Lamjung district) stay around four months in lower hilly areas, and they, too, move to the high pasture land to

spend the rest of the summer months. The transhumant system in the research area is also a cyclic movement of sheep to maintain the grazing areas. The herders are very knowledgeable about maintaining the grazing areas. They know overgrazing or undergrazing in these high- or low-grazing fields can lead to other problems. Though they might not have detailed scientific knowledge in terms of biodiversity hazards due to overgrazing, they seem champions in maintaining the grazing field of their years of experiences.

Figure 4.3

Seasonal Movement of herd at Different Elevation Across Various Months.



Source. Field Study, 2020.

Note. Elevation in meters (above sea level).

“In terms of herd movement decisions (from high pastureland to lower valley), it is the snow that determines their movement. Likewise, the herd movement from Byasi to Lek, warm temperature or rain decides” (Ram Gurung, personal communication, January 12, 2020). Ram Gurung is a sheep herder from Barpak who has been in this profession for more than five years.

Like Ram Gurung, other respondent herders also answered the same. This traditional knowledge of sheep herding has been transferred from one generation to another through different indigenous stories and rigorous practices. Respondent herders know that sheep are delicate to the temperature. Although sheep are meant for a cold

environment, they cannot resist cold temperatures with snow. In one of the FGDs conducted in *Ghyachok*, the participant herders agreed that “sheep generally live under an open sky but too cold or too hot is also not preferable for them” (FGD_G5, FGD session, February 17, 2020), and some have claimed that they lost their sheep due to adverse temperature a few years back.

In a different view, Harka Bahadur Gurung, who is 51 years old from *Barpak* and has been working as a sheep herder for a few years, states that temperature does decide the herd movement, but it is not only the herder’s decision. Echoing his words:

We decide as per the temperature and climate. However, the sheep show that symptom. If they start moving here and there in the night, that means they are feeling warm. Due to this, they cannot sleep and move around. If their belly starts to look thinner at high grazing areas, we have to understand that they are getting cold now. It is similar to our body. If we are not healthy, we cannot eat our regular diet. Likewise, if the sheep are not feeling well, they do not even look at the grass. They keep moving to find a cooler place if they feel warm (due to the warm temperature). These are the main symptoms they show, and we must be cautious and ready to migrate to another place to adjust the temperature. (Harka Bahadur Gurung, personal communication, January 12, 2020).

This statement seems more convincing than Ram Gurung's earlier statement. This shows how vigilant herders are upon every activity their flock shows before and during seasonal movement. This hint is solely based on the animal's activities, and the clever herders can figure out such activities minutely. They learned this traditional knowledge from their older generation and rigorous practices in the herd movement for so many years. Harka Bahadur Gurung also warned that the inability to recognize the illness of sheep due to cold and delaying migrating the campsite to a lower altitude would lead to a weight loss of the sheep. Such sheep can also die due to continuous diarrhea within a few days. Both consequences, death of sheep or weight loss of sheep, are a severe economic blow to the owner.

Further, if the campsite is not shifted promptly, sheep also start moving here and there at night. Sometimes, these sheep also enter the local crop. To prevent such an

incident, the herders cannot sleep like a log, even for a single night. This shows how hard their life is. If the sheep damage the local crops, this again leads to disharmony between the local residents and the herders, which can shut the door for campsites next year. Sometimes, even the herders are required to pay for the crop damages done by the sheep.

Several other herders also admit that local temperature is the key to determining when the campsite shifts to a lower or upper landscape. Otherwise, they must be ready to deal with numerous consequences that it can lead to.

However, the resources (forage and water) available at the next camp are another determining factor for when and where to migrate; the herders are explicit regarding grazing areas where these resources are available during herd movement. However, the challenge has been added to finding grazing areas for mobile herders due to increasing agricultural lands and community forests in the lower hilly areas and around transiting routes. As mentioned earlier, such a phenomenon has increased conflict between herders and landowners in lower hilly areas and along the migrating route. So, herders found showcasing their negotiation skills while talking with the locals to avoid conflict. They sometimes talk in the local language and offer sheep at a lower price. Not doing so can block their transiting route and campsites for next year. *Kaltu Byasi* (see Figures 17 and 18) is also one of the winter destinations where they roam around for nearly a month before heading to Lamjung (for longer distance transhumant) or while returning to higher rangelands.

The transhumant pastoralists keep close exchange relationships with the locals during the winter grazing movement. They know the locals closely because they have been transiting or grazing their herds in such areas for many years. If there is any marriage or other rituals near their campsite, they participate in such functions if the herding time and situation permit them. By exchanging medicinal herbs, aromatic (*Jimbu*), cheese, et cetera, with locals, the pastoralists maintain a good safety net with the locals. In return, the locals, especially land owners who have established temporary campsites, provide grains and homemade liquors to the pastoralists.

Navaraj Gurung, 47 years old from *Sirdibas*, has been involved in transhumant pastoralism since he was 15. In terms of the seasonal movement of the herd, he argues

that the availability of grazing resources is the main factor for transhumancing the sheep herd. However, in a bit of an indigenous rights-based sense, he said:

Nowadays, we are more bound by different local customs, rules, and regulations. If we are unsure about the grazing areas and water points to our destination, we cannot move our sheep to such a destination. It is all due to the increasing number of community forests and their rules...we know forests are necessary for them to get forage, wood fuel, and many other purposes, but these forests and grazing areas are also our rights. We have been using those for grazing purposes for generations, which they do not understand. (Navaraj Gurung, personal communication, January 25, 2020).

Indeed, other interviewed herders also agree with the dissatisfaction poured by Navaraj Gurung. The community forest and its rules prohibit transhumant herders from bringing their herd during the winter season. All stakeholders must resolve this issue to create a win-win situation for transhumant herders and lower hilly communities relying on community forests as an alternative livelihood. Also, traditional grazing areas for such a herd are turning into agricultural lands (though many such lands are fallow due to the adoption of abroad labor migration, market, and remittance-based economy). This also adds more challenges for herders in finding the right grazing place for their herd. Some grazing lands have been turned into community forests by the local community, which is what several herders, including Navaraj Gurung, are unhappy about.

Navaraj Gurung further adds, "...we have been raising *Bhyanglung* for many generations and this the only type of sheep that suits our ecology so either we must be given our traditional rights or the government must do something good for us" (Navaraj Gurung, personal communication, January 25, 2020). *Bhyanglung* is a particular sheep that is mostly used for long-distance migratory herding systems. The total population of *Bhyanglung* is just 4% of the total sheep in Nepal which are raised above 2500 meters height (Central Office for sheep-goat development, 2015, p.11)

Ex-herder/teacher_1 at Barpak was found to be aware of the indigenous rights of transhumant pastoralists in the grazing area and rangelands while interviewing him.

From the indigenous rights perspective, the herders who have been using such traditional grazing areas and forests for many generations also have rights in these areas. However, they are not enjoying indigenous rights in grazing areas and rangelands as indigenous rights. Some villagers from the lower hilly area found it soft toward the herders. The head of a community forest group in *Ghyachok* and Barpak are letting those herders in their forest. According to Kasi Ghale from *Ghyachok*:

They are our villagers. Yes, we used to stop them from entering the community forests, but it was due to recent tree plantations and the availability of tiny buds, which are prone to sheep. They eat everything, including such buds. Now, the trees have grown up, so there is less chance of getting damaged (CFUG Head-2, personal interview, February 16, 2020).

Further, the head of the community forest group from *Barpak* also replied in the same vein. He added that there is no such monitoring from the state, so it is no harm to let our herders graze in the forest as the plants are well grown up by now. To reciprocate this, the herders also provide sheep manure to the landowners and sometimes sell their sheep at a lower price.

On the other hand, transhumant pastoralism does have multiple advantages other than just the economic uplift of the locals. This includes balancing the bio-diversity both at high and lower grazing lands. Birkaji Gurung is another sheep herder from *Barpak*, whom the researcher encountered near *Saur Pani* in the same municipality. According to him:

The sheep are known to be *Kodali* (spade) and *chura* (knife). Their legs are much like *kodali* and their mouths are like *chura*. They just flatten all the vegetation in the jungle and eat the top part of every plant on their way, trimming as a knife. (Birkaji Gurung, personal communication, January 13, 2020).

Such movement in the forest clears small vegetation that has the potential to absorb all nutrition for other valuable trees. One of the unnecessary vegetation is catweed or Mexican devil (*Banmara* in Nepalese language), the best plant to feed the sheep. The sheep movement also clears the route in the forest and makes it easy for other locals. In between, such a herd of sheep drops their manure on the way, which helps as nutrition

for other plants and vegetation. However, some community forest user groups oppose such a concept. As per the head of the community forest user group of *Baluwa Bazaar*:

We completely disallow sheep movement in our community forest. They are not just sheep but a herd of demons that destroy everything in the forest. I agree that the sheep eat all the plants, but those planted recently have been destroyed in the past, so this is affecting our timber growth and production (Hira Gurung, personal communication, February 17, 2020).

This is a common problem observed by other community forest user groups in that area. The community forest program is designed to save greenery, maintain biodiversity, and especially support local livelihood based on timber production and other medicinal herbs. Community forests have become one of the livelihood options for the locals on the lower hills. However, mountain livelihood-sheep herding is equally essential for mountain people; they need seasonal migration and winter feed. However, per the conversation with the district livestock officer at Gorkha, the government seems quite unaware of how mountain livelihood is sustained and how restricting pastoralists at lower hills during winter can affect overall mountain livelihood, biodiversity, and economy.

Regarding livestock keeping at higher rangeland, Ingty (2021, p. 7) states, “traditional grazing systems and livestock play an important role to disperse seed in grasslands and how grazing can increase spatial heterogeneity thus increasing habitat diversity.” Since livestock remains in higher rangeland for an extended period, these may modify soil properties directly by recycling nutrients and concentrating them from a larger area into small patches through their dung and urine deposition (McNaughton, 1985). Similar processes can be anticipated while these livestock are brought down the hills during winter migration. All these play an essential role in preserving the biodiversity of the local environment. If this is not the case, forests, grazing lands, and higher rangeland would have gone extinct many centuries earlier. The integration between livestock (sheep) and grazing areas thus has a close nexus that the concerned authority has overlooked since the beginning.

In short, the study unboxes that the sheep herd and their movement depend on the availability of forage and water sources at the migrating route and lower hilly villages.

However, in contrast, it is also the sheep itself that decides to move upward or downward to adjust the local temperature. In terms of using local forest and grazing land, in some places, the herders are welcome to use the local grazing area and the forest, whereas some villagers are still against the herding system in their area.

4.3.1.1 The Migrating Route

Different herders were interviewed to explore the idea of the sheep herd migration route. According to respondents, herders always use the same route while descending during winter and ascending toward high rangeland before the summer starts. They also establish temporary camps in different fields, and those fields will be the same as in earlier years. Bishal Gurung is from *Sirdibas* and is encountered on their migrating route near *Dharche*. He and his two colleagues have been in this profession for nine years. Explaining the herd migration route, he said:

We follow the same route while descending during winter, ascending back to higher rangeland before summer, or shifting camps from one place to another. We have two routes down the valley. We select the route according to the resources available on that route. Our sheep and dogs also know the route in general. We also establish our camps near the same field and areas where we established earlier (Bishal Gurung, personal communication, January 28, 2020).

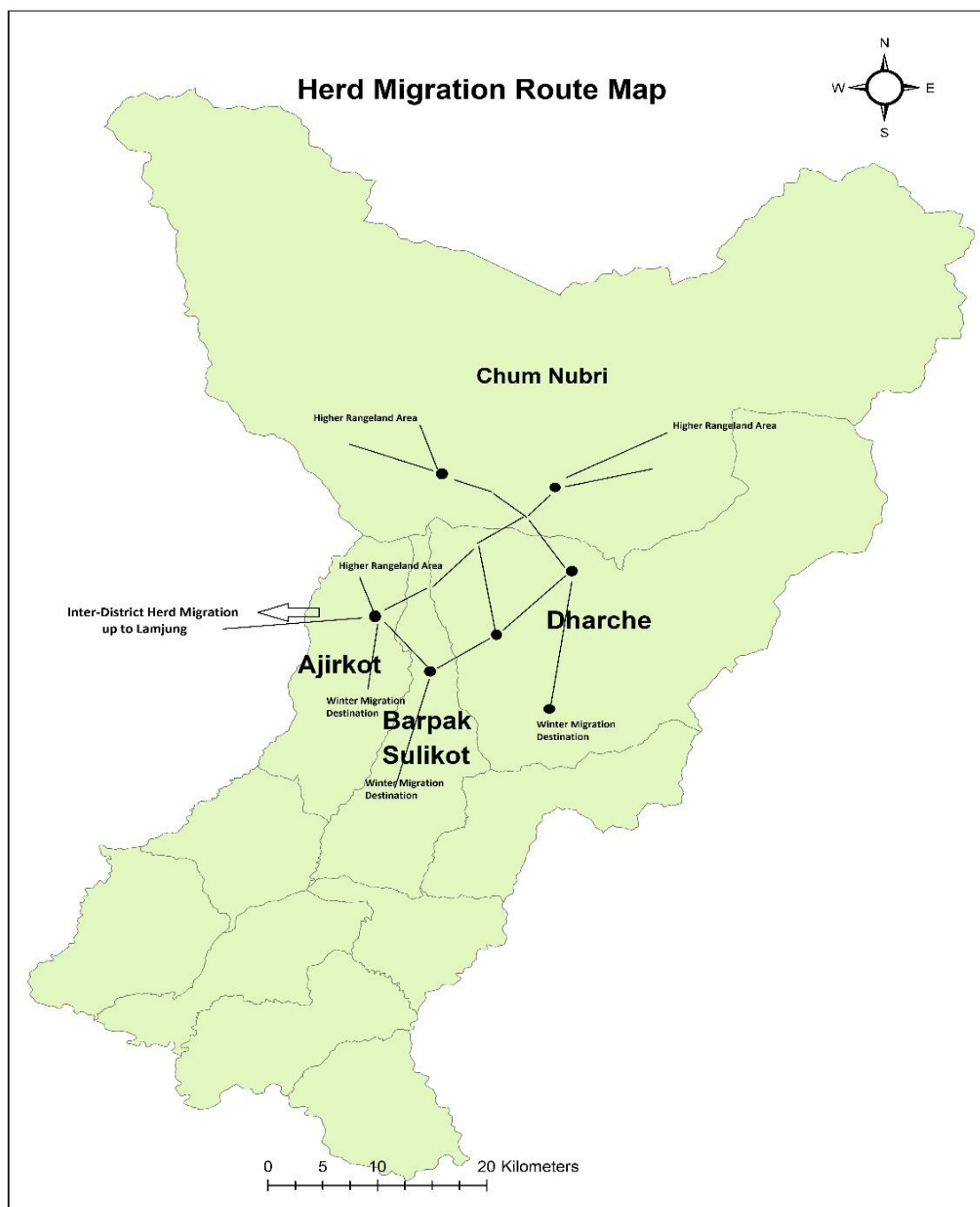
From the above statement, it is evident that transhumant pastoralism follows the same route as earlier. According to other pastoralists, they used almost the same routes throughout many years, as shown in Figure 4.4. Most importantly, the reason for using the same pre-established route is also due to the availability of pasture and water. In recent years, they also used alternate routes that are available in the foothills, but due to the formation of community forests and farmlands, they now use the lower route less.

From the interview, it is found that the routes for pastoralists from various locations are different. Some travel a long distance up to Lamjung (Pastoralist from *Chum Nubri*, *Nyak*, and *Sirdibas*), some travel a medium distance from *Barpak* to *Saurpani*, and some are pretty short distance in comparison to other pastoralists, such as in *Ghyachok*. These short migrants from *Ghyachok* use their high rangeland (during summer) and forage available at lower heights (during winter); however, due to different

municipalities and requirement of various documents, they do not cross the political boundaries of municipalities. Instead, they transfer their herds within the same municipality. If one herder is required to cross the boundary and graze in another municipality, they need to take permission from that municipality prior.

Figure 4.4

Migrating Routes of Transhumant pastoralist in Gorkha District



Source. Field Study, 2020

Regarding the medium-distance migratory herding system, Bomjon Gurung from *Barpak* looks pretty confident in terms of the availability of grazing areas and grazing systems in *Barpak*. According to him:

I used to graze sheep around any forest in Sulikot, as there was no restriction. I used to travel from the bottom of *Bouda Himal (Kharka)* to the end of Sulikot and cross the *Daraudi* River during winter. But now permission is required from another rural municipality to take my sheep herd to their forest and grazing land. Also, community forest groups in that area do not allow herders from separate municipalities (Bomjon Gurung, personal communication, January 14, 2020).

There is less or no tension for those herders who move around the same rural municipality. However, the problem is more significant for those who have to travel across different rural municipalities. Further, one of the elders from *Laprak-Dharche* expressed that transhumant pastoralism has almost faded from their village. This is due to conflict between *Laprak-Dharche* and *Barpak* regarding the highland pasture area. According to him, *Barpak* rural municipality and their village used to share a common *Siir* (highland pasture area that is close to *Boudha* mountain), but since the people of *Barpak* claimed that higher altitude rangeland in the territory of their rural municipality, due to lack of such higher altitude rangeland, most of the pastoralists have left this profession and started to work in another non-farm job such as in tourism.

One of the women ex-herders of *Laprak-Dharche* has 14 sheep even though she quit her herding profession a few years back. According to her, it has been four years since she left transhumant herding work after the earthquake in Nepal in 2015, which killed nearly 60 sheep near her village. She now has handed over these remaining sheep to one of her relatives (herder) at another village.

The reason for using the same route is also the relationship with the landowner at lower hills during winter. It is not only the herders and sheep who require fodder and other resources, but the exchange relationship between such transhumant herders and the local community has existed for many generations. Generally, the landowner, who requires sheep manure for their cultivating lands, contacts the migrating herders while they hear sheep bleating around their village. 48 year old herder (Janak Tamu)

from *Sirdibas (met at the migrating route near Dharche)* expressed his view in terms of using fields in migrating route as:

Generally, the local landowner approaches us to establish a camp on their field for two to three days. But sometimes, when we have to move our herds to a new area where pasture is available, we send one of our herding members to those households to ask if we can bring our camps to their field. If they disagree, we turn our herds to other fields where other landowners are demanding. But if we have an earlier relationship, they normally do not reject our request. (Janak Tamu, personal communication, January 28, 2020).

Based on different interviews with the herders, they always look for pastures and water necessary for their herds. Due to the dryness they have been facing for a couple of years, the difficulty has been added in finding fresh green fodder and water points, especially during the winter season. It is also due to the 2015 earthquake that dried water points at the migrating routes and destination areas (lower hilly villages) during winter. This has added an extra challenge for transhumant herders, due to which some have left this profession, and some have confined their movement around their municipality areas only.

This year, the pastoralists faced the winter quite early and the warm. Babuji Tamu of *Ghyachok* said, ‘early winter has confused several transhumant pastoralists in terms of exact migrating time.’ He adds, “...our father used to travel up to *Dudh Pokhari* of Lamjung for sheep herding...but now there are many hurdles to get there through different villages. Some villages don’t permit us so we are forced to limit our herding area” (Babuji Tamu, Personal communication, February 15, 2020). Similarly, Tasi Gurung from *Barpak* responded that

...herding is easy within our municipality, but crossing the Daraudi River for grazing purposes is not suitable now. It is unsuitable for us to travel a day to Ajirkot Municipality just for permission. On the other hand, community user groups on the other side do not permit us there, so what is the use? (Tasi Gurung, personal communication, January 12, 2020).

Both these responses demonstrate that the emergence of the federal system, Rural Municipality, and state-led community forestry programs are now confining transhumant pastoralists within specific areas. Due to such new developments, the migrating routes have also changed in different forms. Those from Sirdibas and Bangsing take a long route to travel to at least four municipalities during winter. As per Navaraj Gurung, "...we do take permission ahead. Now, due to less number of herders, it is easy, but we visit only those areas where our father and grandfather used to go. Winter transhumant is our necessity, and we have no other choice." (Navaraj Gurung, personal communication, January 25, 2020).

Based on travel restrictions and the areas covered by transhumance, three types of transhumant pastoralism are identified in the research area. The first is Long Distance Migratory Transhumant Pastoralism (LDMTP), Medium Distance Migratory Transhumant Pastoralism (MDMTP), and Short Distance Migratory Transhumant Pastoralism (SDMTP). In *Barpak*, both Short and Medium Distance Migratory Transhumant Pastoralism can be found, whereas LDMTP is practiced by *Sirdibas* and SDMTP found to be practiced by herders of *Ghyachok*.

In terms of SDMTP in *Ghyachok*, they graze their sheep on high pasture land called *Naage Pokhari* (lake), where the herders have established a common shelter near the lake. The sheep stay overnight under the open sky surrounding the lake, whereas the herders live in the same shelter. During winter, their herd migration has become very short. They bring their herd only up to *Ghyachok* to recharge their farm with the sheep manure. They used to take their herd up to *the Daraudi River*, but due to abandoned farmlands below the villages, they graze these sheep around the villages and the nearest forest.

Due to all of the above developments in terms of new political boundaries, community forests, and grazing land, the herders seem less interested in the sheep herding profession, and several herders have left this profession already. Their livelihood has been changed from herding to abroad labor migration and other non-farm wage work at urban locations such as Kathmandu, Chitwan, and Pokhara. However, due to such restrictions and changing routes and pasture land, some have started commercialized

sheep farming, which is discussed in the next sub-heading. Commercialized sheep farming is a new changing pattern of livelihood options in the local area. However, this is practiced only in one village in the research area

4.3.2 Transhumant versus Stall-fed Sheep Farming

As per the information provided by the ward office in *Barpak*, Washing Gurung has started commercially stall-fed sheep farming. While talking with him over the phone, he said his team has been struggling in this profession for one year. Upon the researcher's interest in visiting his farm, he refused this idea. However, as per a short telephonic interview with the commercial sheep herder, this commercialization of sheep is a necessity only for consumption in *Barkpak-Suikot*. Upon the researcher's query about how they have been doing such commercial sheep farming, the herder replied that they do not travel much like other transhumant herders. They have set up their sheep farm at a mid-range altitude, near the grazing area, which is hardly 4-5 kilometers. Most of the time, they collect the fodders with the farm helper. Such commercial sheep farms and herders were found to be seeking development funds from the district and province levels.

On the contrary, other herders criticize such stall-fed commercialized sheep farming. According to Bomjon Gurung:

The meat quality of such sheep is not comparable with that of transhumant sheep. In fact, the taste of transhumant sheep is much better than that of those barricaded and confined in a limited area. Sheep reared in such areas might also have other kinds of diseases (Bomjon Gurung, personal communication, January 14, 2020).

The locals have a similar version to Bomjon Gurung. The local teacher also shared a similar line that people like transhumant sheep rather than stall-fed commercialized sheep. This is because transhumant sheep consume several medicinal herbs found in the forest and grazing areas. Most importantly, travel and exposure to different climates make transhumant sheep much better than commercialized ones.

The researcher observed that the value of transhumant sheep is higher than that of commercialized sheep; however, it is equally fulfilling the meat demand of the increasing population around the vicinity areas. Suppose sheep farming can be commercialized in a larger and better context. In that case, such farms can provide job

opportunities for youth, support the economy, help better understand sheep farming, and many more. On the other hand, promoting the transhumant system is about the identity and revival of declining transhumant practices and knowledge.

As per Bomjon Gurung, he was once contacted by a stall-fed commercial sheep farmer of the same village, who requested him to teach specific skills they were unaware of. This conversation shows that transhumant pastoralism is superior to newly established stall-fed commercial sheep farmers regarding local knowledge of rearing sheep. According to Bomjon Gurung, “such new sheep farmers, stall-fed, are not aware of different behavior of sheep, herding system, their sickness, other associated problems and possible solutions” (Bomjon Gurung, personal communication, January 14, 2020). This indicates that transhumant herders are rich in traditional sheep herding information: how to rear them, what diseases they are facing, what fodder they like most, at what temperature sheep should be kept, and how to transhumant. This is the knowledge that traditional transhumant herders are wealthy in. Promoting commercialized sheep farms and uncaring transhumant could lead to the extinction of the transhumant herding system following all indigenous knowledge of herding society.

However, the local Barpak admits that with the increasing demand for sheep from their villagers, surrounding villages, and urban areas, especially during different religious functions, transhumant pastoralism cannot fulfill such demand single-handedly. So, a stall-fed commercial sheep farming system knowingly or unknowingly is bridging the gap in sheep demand in Gorkha. Further, this has become an identity of Gurungs living in the Northern part of Gorkha, such as *Barpak-Sulikot*, *Dharche*, and *Chum Nubri*. It also indicates that the Gurungs of lower hilly areas lean more toward modernity. Even some Gurung youth seem surprised to see such a sheep herd during the winter migration of herding groups.

4.3.3. Education among New Generation of Transhumant Pastoralist

Education remains one of the significant changes in transhumant pastoralist society. Although they do have traditional ways of learning for their livelihood, new generations are under pressure to tackle the new changes around. Schools are now close to their villages and parents are becoming more aware about educating their children like others. It can be seen in the village that new generations are heading toward their school

which is around 45 minutes' walk from their village holding books and bags. As per different pastoralists, this is a new change in their society. Before they used to go (during their age) to the monastery for education (*lamanism*³³).

Table 4.1

Education Attainment of Young Members from Pastoral Family

| Level of Education in Pastoralist Family | <i>Ghyachok</i> | | <i>Barpak</i> | | <i>Sirdibas</i> | |
|--|-----------------|--------|---------------|--------|-----------------|--------|
| | Male | Female | Male | Female | Male | Female |
| Primary (1-8) | 5 | 4 | 3 | 3 | 5 | 2 |
| Secondary (9-12) | 4 | 1 | 5 | 3 | 2 | 1 |
| Bachelor | 2 | - | 1 | 1 | - | - |
| Total | 11 | 5 | 9 | 7 | 7 | 3 |

Source. Field Study, 2020

Among the pastoralists interviewed in *Ghyachok*, *Barpak*, and *Sirdibas*, young members of pastoralists are less educated than those at higher levels (Table 4.1). However, a maximum number of young males have enrolled and completed primary education. Compared to male youth, female members of pastoralist households are minimal, and fewer have enrolled in primary education. Hari Ghimire (32-year-old male school teacher at *Sirdibas*) is interviewed to inquire about the educational lineage of the herding community. According to one interview with a teacher at a local school in *Sirdibas*:

This level of participation of youth members from pastoralist households in education is increasing compared to 10 years earlier. Nearly 10 to 15 years back, less than 20 children were in school from transhumant pastoralist households. It was because they had to support their family members in household chores and, importantly, to transport ration to their elders at the herding location (Campsite). The pastoralist parents have also realized the importance of education for their children. Competition is high; they cannot get a job without an education, so they regularly send their children to school. (Hari Ghimire, personal communication, January 26, 2020).

In addition, the researcher observed a growing number of schools around other villages, attraction toward tourist guide jobs, and petty business along the trekking route. Hari

³³ Studying Buddhism and spiritualism.

Ghimire also confirmed that “earlier, our school used to have around 850 students but since several schools opened in different villages, number of student in our school has significantly dropped” (Hari Ghimire, personal communication, January 26, 2020). For all these reasons, formal education is becoming important among pastoralist families. If the youth cannot upkeep the sheep, they need alternate livelihood for survival, and they believe education can play an essential role in it.

One of the villagers, a certified, licensed tourist guide, informed me that more than 80 accredited tourist guides and porters are in their town. This staggering figure could explain the detachment of locals from traditional professions such as transhumant pastoralism. Due to fewer herding professions, their children are now engaged in formal education near the village. Those with a primary education level can work in several other sectors (off-farm), including running petty businesses along the trekking route.

Around 65 years old, an elder herder (Navaraj Gurung) from *Sirdibas* village expressed the importance of education to today’s generation. He believes education is vital but is equally worried about his fading profession. He further adds:

It is very good that our young generations are struggling with new changes. I am happy to see my grandchildren are taking formal education that is very necessary for their generation. But I am worrying about our traditional culture and work. We are from a pastoral family. If our children go to school for the whole day, there will be a lack of human resources at home. I am also worried about our sheep herding profession. I am sure our new generation will step ahead and take care of our traditional work, which is very important in this region. (Navaraj Gurung, personal communication, January 25, 2020).

This worry is common among older pastoralist who spend their lives in sheep herding. The new generations are not interested in following their path but opting for different professions other than sheep herding. The change in a global context, connectivity both in terms of route and media, change in a market system, etc., are exposing and linking them with different worlds, changing society and profession. Due to this, the youth are more interested in tourism as this is the best they can do now. The global connectivity and famous trekking routes have now become the livelihood of many youth in this region.

Education, on the other hand, has unboxed various livelihood opportunities within the country. Mr Om Prakash Gurung (31 years old, male participant who is also the ward chief of the research area) is a well-educated person, and he knows well how locals earn by marketing their culture. He articulated the current scenario of globalization and changing professions well. Still, as a responsible citizen, he is also worried about the fading local culture that needs to be conserved. According to him:

Sheep and Gurung have symbolic attachments. If there is no sheep, there will be no wool. Without wool, there will be no traditional skills, knowledge, and culture. Without skill and culture, Gurung identity will vanish sooner or later. I am more concerned with the culture. We should always stick to identity-based advocacy. Political-based advocacy can lose its ground, but identity-based advocacy will never fade away because it holds the issue of our (Gurung) society. (Om Prakash Gurung, personal communication, January 16, 2020).

There are rituals and history of how Gurungs are closely attached to sheep herding. From a political background, he articulated the importance of sheep herding with the identity politics of indigenous groups. He believes the culture and practices must be spread among other societies and countries to protect their identity and traditional cultures. For that, tourism can be a good platform for them to earn a living and spread their culture and identity to engage youth in traditional professions. This is a good roadmap for the overall development of local and surrounding villages, and to achieve success in this, education can play a vital role among the people. However, in other words, such change is dependent on society. The way society behaves, either from local society or from another country, the thinking can shift from one pole to another, one side to another at different times. This is where globalization plays an important role. Currently, the shift is toward the market, and due to this, traditional professions and cultures need to be in focus.

However, Banu Gurung of Barpak has contrasting views on Herder 12. According to him, new and formal education is necessary for the new generation. In his optimistic view, he urged that “the government must open a new school in their village so that their children do not need to walk about an hour or two every day for their formal education.” (Banu Gurung, personal communication, January 14, 2020). He seems to be quite hopeful about formal education and the positive changes that formal education has

brought to life. This is growing awareness in terms of the value of education, and on the other hand, such pastoralists seem to be on the verge of traditional professions and modernization.

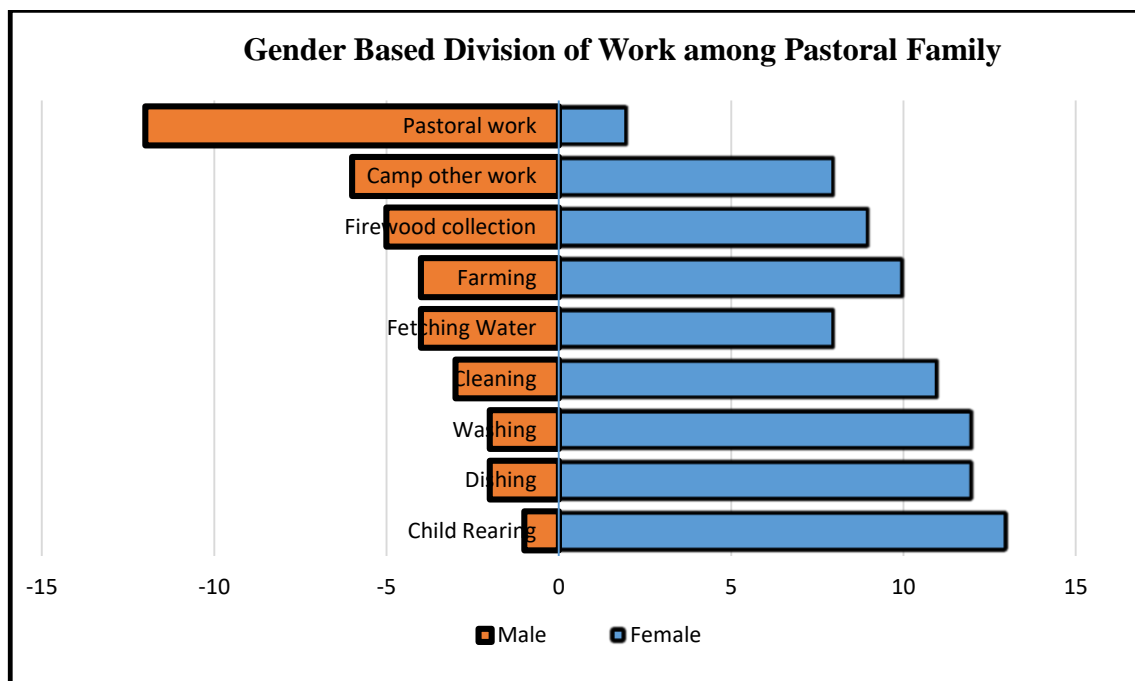
4.3.4. Transhumant Pastoralism and Gender Based Division of Labor

In compared to other ethnic group (Brahmin/Chhetri, Gurung, and Tharu) of Nepal, Devkota (2005, p. 135) claims “Gurung women have comparatively higher access and control³⁴ in their household and this could be due to prolonged absence of male household members”.

In terms of transhumant pastoralism, the researcher has observed female pastoralists working shoulder-to-shoulder even during winter migration of sheep herds. Female herders are fetching water for cooking, collecting firewood, and shifting shelter materials from one location to another. To find if there is an existence of gender based labor division among transhumant herder groups, the herders were interviewed with different questions related to daily basis work.

Figure 4.5

Gender Based Division of Work Among Transhumant Pastoralist Family



Source. Field Study, 2020

³⁴ Control of crop income among Gurung (Male 19, Female 74), control of livestock income (Male 30, Female 61), control of off-farm income (Male 24, Female 60)

Out of the total interviewed pastoralists, as shown in Figure 4.5, gender roles and responsibilities are higher in Gurung female members of transhumant pastoralist families except for herding work. This signifies that symmetrical gender roles are absent among transhumant pastoral families of the Northern Gorkha district.

Field observation also suggests that if any female member is fully working as a pastoralist, she is also responsible for shifting and transporting temporary shelter kits from one location to another, in addition to sheep herding and camp-related chores. The work division is unequal among male and female members. Traditional gender roles and responsibility are found among herder families.

Data demonstrates that gender-based labor division is available in almost every household in Nepal, so transhumant pastoral families found no difference from other households in terms of this issue. This is evident from Figure 4.5 as well. Per the field, women from pastoral families are mostly engaged in all works except deciding grazing land, dealing with locals, and selling sheep.

As per the interviewed herders, the current gender-based division of labor is the continuity of their forefather's tradition. In this sense, in transhumant pastoralism, the major responsibility of male members is in the herding system, whereas women are mostly in the supporting role. This composition on division of labor also demonstrates transhumant pastoralism is impossible without women's support in each pastoral family.

4.3.5 Income Sources of Transhumant Pastoralist

Household as an income pooling unit, Wallerstein and Smith (1992) noted that every household has multiple sources of income. In that sense, transhumant pastoralists hold two or more income sources. These two major income sources are subsistence transhumant pastoralism and farming. In this sense, the whole process is also known as agro-pastoralism in hilly areas of Nepal. As Nepal has also connected with the global market, younger generations of pastoralist households are more attracted to labor markets within and abroad. Foreign labor migration is now a common phenomenon for many transhumant pastoralists. However, elder herders are very worried about the profession (transhumant pastoralism) that they have adopted and practiced throughout their lives.

One of the respondent herder (Babuji Tamu) from *Ghyachok*, who is now in his mid-forty, expressed why youth are getting away from this sheep herding profession with a bit of worrying face:

In the sheep herding, one can make a good profit of more than ten lakhs per year. On the other hand, it is equally tiring work that demands much effort around the year. We need to run after sheep for almost all the year. We must constantly worry about herds, pasture, water sources, wild animals, climate, and possible conflict with the community. We do not have a fixed social schedule except for migrating these sheep to selected destinations. Our son and daughter are not interested in doing such a tiring job, so they are working other office jobs in Kathmandu. (Babuji Tamu, personal communication, February 15, 2020).

This is becoming a common scenario for many pastoralist families in northern Gorkha. Although the profit from this profession is lucrative, a 24/365 job is a real challenge for every transhumant pastoralist. This profession does have handsome payback for transhumant herders, but they have to wait for a specific festive season. Sometimes, their profit is washed out by wild animals, which Babuji Tamu worries about. Unfortunately, suppose these sheep are killed by lightning during pre-monsoon season at higher pastureland or killed by other wild animals during grazing in the forest. In that case, their profit will turn immediately into loss. It is also impossible to insure every sheep they hold as it costs quite a lot for them. The herders also admit that insurance is not a solution for them as sheep are for consumption. For instance, if those insured sheep are sold, consumed, or killed by wild animals and natural disasters, there is no clear idea or policy on how to claim such an amount.

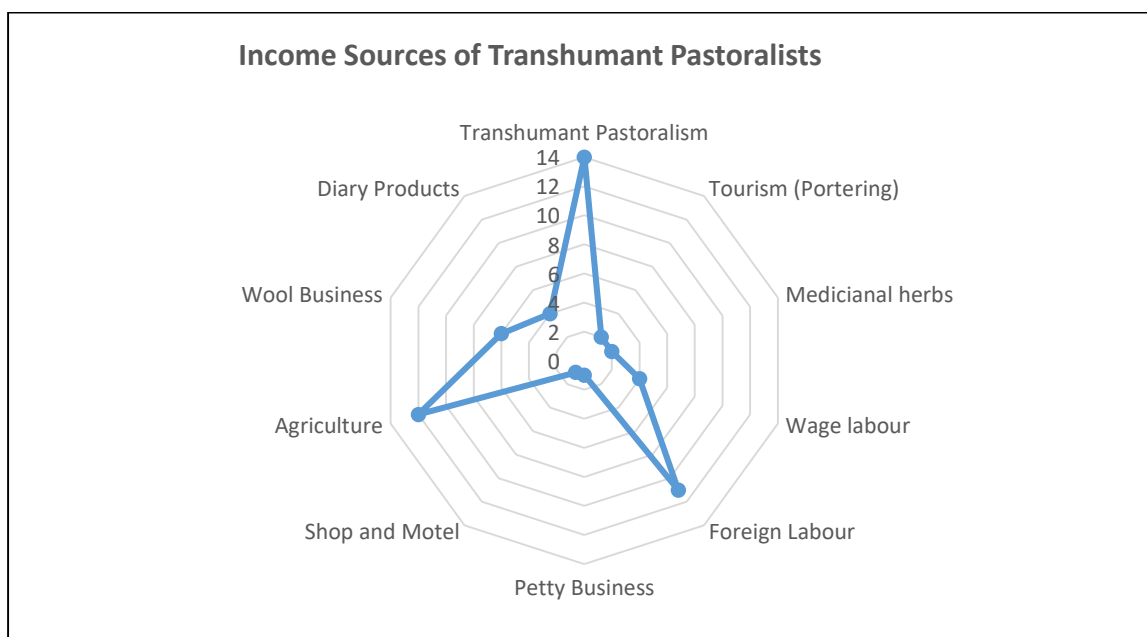
In terms of government program and insurance policy for transhumant pastoralism, one of the government staff (27 years old, Mr. Manish Pokharel) in the district livestock development office informed that:

Despite having a program for them, we haven't reached that location due to geographical hardy terrain. Around 80% of our staff has not crossed Sirdibas... We have an insurance policy for *Ghumti Goth Pranali* (transhumant pastoralism), but we cannot reach there to provide this service. Due to hardy terrain Let's say

one pastoralist has done insurance for his sheep, and, unfortunately, if he loses four sheep at that altitude, they may receive around 19000 rupees as insurance reimbursement. They need to come here to make a claim to receive that amount, but it may cost more than 10,000 rupees to travel up to Gorkha Bazaar. So, just for 7000 to 8000 claims, they won't disturb their daily routine. (Manish Pokharel, personal communication, February 28, 2020).

Government services are far away from such communities that traditionally rear sheep using their sole local knowledge in high pastureland. Due to harsh geographical topography, it can be predicted that none of the government staff have reached that pastureland. It can take 3-4 days to walk (now the road access has shortened the travel duration) to reach the high altitude rangeland of that area from Gorkha bazaar. So, in case the pastoralists have insurance for their sheep, they might hesitate to travel up to Gorkha bazaar to claim reimbursement for livestock loss due to travel time. Further, per the researcher's observation, 3-4 herders will be in one herding group. If one of them is absent for a week-long, the fulfillment of human resources is impossible in such conditions. On top of all, the herders are busy with their busy herding schedule. They worry about the pastureland, route, water, and their sheep. There is no time to think about how state policy is working, how insurance will work, or what the state thinks about them.

Because of all these multiple hurdles, transhumant pastoralism is not becoming a charming profession for most of the young generation from pastoralist families. They are gradually taking their hands off from their family profession-sheep herding. Now, almost all the pastoralists are the older household members who go for long-distance shepherding around the year. New generations are engaged in other types of income-generating professions such as remittance, office work, labor work, and tourism, et cetera.

Figure 4.6***Different Income Sources of Existing Transhumant Pastoralist***

Source. Field Study, 2020

The dominant income source among transhumant pastoralists is transhumant pastoralism (sheep herding), followed by agriculture and foreign labour migration. It seems that fewer pastoralists have chosen shops and petty businesses as alternative livelihoods.

4.3.6 Landholding Size of Transhumant Pastoralist

The landholding size of transhumant pastoralists varies in three different research areas. Nonetheless, all the pastoralists reported that most of the land in the area is unsuitable for agriculture. Nine pastoralists (four from Sirdibas, three from Barpak, and two from Ghyachok) replied that they held less than four *Ropani* of land, mostly *Pakha Bari* and *Khar Bari*. The remaining herders were found to have more than 10 *Ropani* of land (*Pakha Bari*). Their lands are in slope hilly terrain, and such land cannot produce sufficient grains for them. This is the main reason why they diversify their livelihood options. Earlier, there was no other option than farming and livestock rearing, so they intensively practiced livestock keeping rather than farming. The grains (millet, buckwheat, wheat, and maize) that they need are partially produced from their land; however, for more grains, including rice (that is grown and produced in lower hilly

areas), they mostly barter with sheep, sheep products (wool, hide), mountainous medicinal herbs and sheep manure (by establishing temporary camp at the farmland of lower hilly community) at different altitude and different communities. Due to this, hill and mountainous livestock-keeping practices came into existence and remained important from generation to generation. Hari Ghimire from *Sirdibas* expresses his opinion in terms of the impact of cultivating land and food grain necessary for each household in the research area:

Yes, they have sufficient land (15-20 *Ropanies*) in our village, but they are mostly useless. The soil quality is suitable only for certain types of crops, such as potatoes and millet, but other than these, food crops are impossible here except for a few green vegetables. The government also does not have any plan to improve their livelihood through agriculture here. Due to this, our people have diversified their own livelihood options. Earlier, sheep herding was the most beneficial work despite being a very tiring profession. However, new generations are looking for opportunities in new sectors such as labor migration abroad, petty business, mule business, etc. (Hari Ghimire, personal communication, January 26, 2020).

The above condition is evident during the field visit as well. The farm soil is mainly grey and sandy. Apart from this, most of their crops are rain-based cultivation. During the field visit, it was observed that farming lands were mostly uncultivated. Upon the researcher's query as to why their farmland is left uncultivated, the villagers replied that they had similar problems in terms of soil quality and limitations on agricultural products. This has forced the villagers, including pastoralist families, to opt for different livelihoods to make their living. It is also evident in the research area that due to the lack of state intervention to improve local livelihoods and the low availability of cultivable soil, villagers are forced to opt for different livelihoods other than transhumant pastoralism.

Another ex-herder (Manab Tamu) from *Barpak* shared how his land size has become smaller, and due to this, he is forced to opt for alternative ways to make his living. According to him:

I lost my house during the earthquake in 2015. To rebuild my house, the government provided us with only three lakhs, which was insufficient. So, I sold all my sheep (around 110) to support a house rebuild in the same location. In the same incident, my farmland at Rangrung was also cut off due to a landslide. Now, I do not have sufficient land to farm. So I do sharecropping on other farms. I pay the grains to the owner. (Manab Tamu, personal communication, January 16, 2020).

Natural calamities are very common among those people living in hilly areas. Because of natural calamity and its severity at rural and sloppy hills, landslides have become an annual process in such regions. Further, it shows how rural people are very connected with land for their livelihood. Once Manab Tamu had lost his land due to a landslide, sharecropping remained the only alternative to him, including all others who suffered from natural calamities. The state or government seems unable to stop and preserve the hilly soils eroding by any means except delivering response materials to affected zones and households. As land remained a prime option for their livelihood, those who lost their land in the research areas, including transhumant pastoralists, found sharecropping on barren farmland to make their living, but still, such sharecropping is not sustainable in nature.

On the other hand, the land holding size per household is decreasing in every generation. The patriarchal society, equal sharing of parental properties to their son, has fragmented agricultural land for a longer period of time. As of one herder (Manish Gurung) from *Ghyachok*:

My father had around 46 ropani (around 2.34 hectare) of land in and around the village but this has now been divided equally among three sons. Now I have around 15 ropani (0.76 hectare) of land and this will be again divided into two sons. Now they have to look for another source of income apart from agriculture. (Manish Gurung, personal communication, February 15, 2020).

If land fragmentation continues, no household will be able to farm and make their living through this land. It is not surprising that some have opted for alternative livelihoods, such as joining the military or foreign labor migration, through which they are

accumulating some portion of land. However, the main issue is the patriarchal system that is splitting up agricultural lands, further decreasing the size of land and farm production to sustain household needs. With the fragmentation of farmland, the livelihood has slowly diversified from one to many.

4.3.7 Herder's Relationship with Lower Hilly Communities

Since the beginning of the transhumant system, the relationship between pastoralists and lower hilly communities has been totally based on resource use. As stated earlier, the lower hilly communities provide land for camping, forests, grazing areas for sheep, and food for the herders. In return, the pastoralists used to set up night camps at designated land so that sheep left the manure necessary for lower hilly communities for their fields and farms. This exchange relationship seems more or less equal and contends for both parties.

The relationship between pastoralists and lower hilly communities is almost the same. As per Kali Maya Gurung (local resident from *Kaltu Byasi*), "...we still look for sheep manure. We have a couple of pastoralists from higher land who always visit this location during winter. We always welcome them as we need sheep manure for our farm". However, the relationship between herders and those close to *Baluwa Bazaar* is unhealthy. The livelihood of people who reside close to the bazaar is agriculture, wage work, petty vending, road maintenance, and driving. This livelihood diversification, including their easy access to the market, has reduced the dependency upon land and agriculture and their relationship with such herders. On top of this, due to community forest and grazing land restrictions, the conflicting relationship between them has escalated to such a point where the lower hilly community does not want to meet them. According to one of the locals, the shepherders are called *Vingya*, a small quantity of a dominating or bullying word for the herders. During the researcher's field visit, Om Prakash Gurung (Ward Chief) also admitted this. According to him:

Even though we are all Gurung, the Gurungs from the other side of *the Daraudi River* call us *Vingya* to dominate us. Although we are also Gurungs, our language is different. Our language is different in the upper land. From that point, the Chinese border is different (Om Prakash Gurung, personal communication, January 16, 2020).

With this response, it can be imagined how the transhumant pastoralists from northern parts are treated around the lower hilly community. Such dominance and hate have increased in recent years. Their language, attire, and work are considered low-level around the lower hilly area. Due to this, the pastoralists regularly face the word *Vingya* (those who have dirty work) from the locals. However, some local residents appreciate their knowledge and intelligence. According to Kali Maya Gurung, "they know how to tackle different people with different situations. They know how to trade. Importantly, they know our language too. They are really clever traders as well" (Kali Maya Gurung, Personal communication, February 17, 2020).

Transhumant pastoralism has been moving from one place to another for many generations. The pastoralists are well-versed in geographic knowledge, community, and their language and food attire. They can even identify the landowners in lower hilly areas by discussing the land type. The pastoralist also knows almost all the villagers from *Kaltu Byasi* (an area for winter grazes). Some pastoralists have also married the local girl during their herding process many years ago. However, the locals have now stopped marrying their daughters or sons to pastoralists. They have stopped with the pastoralist and any household on the other side of *the Daraudi River*.

Knowing every resident of the winter grazing area is also due to their continuous engagement with the community every year. As per Kali Maya Gurung from *Kaltu Byasi*:

The herders from the northern villages used to visit *the Mukhiya* of our village before they brought their sheep into our land and forest. After Mukhiya's permission, *Katuwal* announced that herders wanted to bring sheep into the area. On that basis, those with no livestock or manure, in another sense, used to welcome herders on their farmlands. The *Nogarya noba* system was also there to work on the farmland and control the forest use by the villagers/outsideers. However, nowadays, herders ask local representatives before bringing their sheep in our area. (Kali Maya Gurung, personal communication, February 17, 2020).

This shows that the use of forest and grazing land in winter grazing areas was controlled by the local customs led by the *Mukhiya* (head) of the village. Most importantly, the

"*nogarya noba*" practices at winter destinations where Gurungs used to manage their farmlands and forests do not exist now. Those customary (*de facto*) practices are now replaced by legal (*de jure*) practices such as community forest user groups, which is why herders now have more difficulties getting permission to graze their herd compared to earlier times. This is also one of the reasons behind the thinning-out of the relationship between Herder and the lower hilly communities.

However, the herders from *Barpak* contend with the sheep herding profession as they do not need to travel to another rural municipality to graze their sheep. Their municipality has let pastoralists graze around different grazing areas and forests in the same municipality. However, such herders still need to coordinate with the locals of the same municipality for campsite and herd movement prior.

Other than such herding, those herders who travel from higher pasturelands to lower hilly areas have conflicting relationships with the community of lower hills. Bishal Gurung from *Sirdibas* shared his experience with a sad face:

It is not easy to travel with our sheep. These are hungry animals looking for fodder available on the route. Every time before selecting our destination, we select our route very carefully. However, despite our route planning and full control over the herd movement, sometimes our sheep enter the local farm. I have personally paid fines three times last year. There is no barrier at the farm, and even though one sheep enters their farm, we have to settle the loss. The locals bargain for high settlement. (Bishal Gurung, personal communication, January 28, 2020).

His experience demonstrates a conflicting relationship between herders and locals every year. Due to the absence of concerned authority, sometimes such herders had to pay a much higher price for the damage done by their sheep. However, such a conflicting situation is rare for those pastoralists who graze their sheep within the same municipality. As per the Bishal Gurung, such locals have no such exchange relationship (manure vs. campsite) with the transhumant pastoralism, due to which locals keep their farms open without barriers. Due to such conflicting relationships, it is tough for herders to conduct their seasonal movement every year. In the same line, Manish Gurung

from *Ghyachok* expressed, "due to conflicting relations with the locals, it is quite dangerous sometimes as the fight escalates up to physical insult, so many herders have left this profession due to this problem as well." Indeed, this is one of the main problems that caused the decline of transhumant pastoralism around other villages. With both views, herders who are required to travel across different municipalities do have problems with the lower hilly local communities rather than those who travel within the same municipality.

The relationship has never remained the same. The social change in lower hilly society (increasing consumerism, labor migration, detachment from traditional agriculture, and changing household size and pattern) has brought slight changes in an exchange relationship (exchange of sheep versus grazing area) between these mobile pastoralist and local communities. The community forest policy much more guides the local communities, so their relationship could have been stronger. Indra Gurung, who is 53 years old from *Ghyachok*, has been in this profession for 21 years. He explains his problem during migration as such:

We always migrate our sheep from lakh (high-range land) to Byasi (lower grazing lands). The locals on the route are our friends. We always establish a temporary camp on our friend's land as per their request. As a friend, they offer us Kharcha. Such a relationship was from our grandparents' time, but now, the new generation is less involved in farming, so we are less entertained by them (Indra Gurung, personal communication, February 16, 2020).

Indra Gurung is just one example of someone who has experienced such change. Several herders and ex-herders have similar experiences. Out of the total interviewed herders, most of them experienced changed relationships with the Lower Hill community members.

The changing relationship between herders and lower hilly communities is not only because of the consumption of forest herbs and the damage to local farms by sheep. The fallow land is consistently increasing at the lower hills where lower hilly communities reside. Two significant factors are increasing fallow lands at lower hills, so lower hilly communities are avoiding or unwelcoming these herders nowadays. Firstly,

the livestock-keeping disintegration from the agriculture cycle of these people. In earlier decades, agriculture was mainly based upon animal husbandry as they excrete manure, which lower hilly communities used to recharge soil for subsequent production. However, as a community forest user group formed in the village, forage collection from the nearest forest has been limited, thus leading to the avoidance of livestock keeping. This disintegration of livestock and agriculture led to increased fallow land and the sidestepping of transhumant herders.

Secondly, the increase in fallow land is also due to soil quality. Due to rainfall, soil and nutrition are swept away every year, leaving dry and nutritionless soil behind. Due to climate change, one of the elders from the lower hilly community informed me that insistent rainfall damaged crops the next day after the sowing. All these incidents encourage people of lower hilly communities to find alternate livelihoods than agriculture. Due to these reasons, fallow land is continuously increasing around lower hills. People started working abroad; thus, fewer people were also in agriculture.

However, "farm labor shortage, alternative livelihood choices, government policies and climate change are main factors for the decline in the transhumant system" (Boone et al., 2008, p. 13). The researcher also found more or less similar conditions for the declining transhumant system in the research area. Soil erosion and decreasing greenery are connected with climate change, which brought up the concept of community forests to protect nearby forests. This delinked the whole chain between agriculture and animal husbandry. This further disintegrated locals from their agriculture and forced them to opt for alternative livelihoods. Once they are less dependent upon agriculture, the necessity for sheep manure or the presence of sheep herds is less now.

4.4 Livestock Production and Transhumant Pastoral Economy

From the field study (interviews with herders), it is found that transhumant herders have different sources of income. Though the primary source of income for the respondents' (herders) household is shepherding, they also have secondary income sources such as agriculture, petty business, tourism-related work, wage labor, and foreign labor migration. Two focus group discussions conducted in *Barpak* and *Ghyachok* (with a heterogeneous group with seven members in each session) reveal that only a

transhumant pastoral economy is insufficient to make their living, so herders have to depend upon multiple income sources. One of the discussant herders revealed that they also sell medicinal herbs to different communities while migrating to lower hilly areas. However, due to fear of legal actions and possible moral obligation, other FGD participant herders refused to comment on the transaction of medicinal herbs. They stated that their family members are involved in agriculture, labor migration abroad, and tourism-related professions.

Most of the research participants during the discussion claimed that their leading economy is based upon agriculture and pastoralism. According to one of the FGD participants (female) from *Ghyachok*, "...we also need manure for our small farm located at high altitude farmland. After we return from higher grazing areas before winter, we keep our sheep in our field for manure collection purposes." One of the FGD participants (FGD_BS_3) of *Barpak* explained that he is no longer interested in the sheep herding due to various challenges they are facing. So, he started a small shop at his house, and this business made good money for his family.

The participants of *Barpak* replied that they wanted to continue this traditional profession, but the government had to look after them with various programs. Among them, one of the FGD participants (FGD_BS_2) said, "...if we receive proper grazing areas around lower hills during winter, we have no problem as our municipality has already let us graze from high grazing to some part of the *Barpak*". The same question has been asked of the herders of *Ghyachok*, but they plan to quit after they cannot continue this profession. The FGD participant of *Ghyachok* said:

Both our sons are in the Indian Army. They have been telling us to buy a readymade house at Gorkha and settle there to rest for our retirement. There is no one after us to look after these sheep, so we are planning to quit sheep herding after we are unable to do so (FGD_G_2, Focus Group Discussion, January 15, 2020).

Another focus group discussant from *Ghyachok* also said that:

Sheep herding is no longer a profitable occupation. Income from sheep herding used to be sufficient for a whole year, even 10-15 years back, but it is not now. It

is tough to manage forage and grazing areas for sheep. So, instead of such a profession, we are running a petty business at our new house built after the earthquake. This does not require effort as we used to put for sheep herding. (FGD_G_7, Focus Group Discussion, January 15, 2020).

From the discussion, it is unboxed that their dependency upon sheep herding is followed by youth members' agriculture, petty business, and foreign labor migration. Similarly, in terms of crop production and transhumant, in both villages, livestock and crops were integrated livelihood activities. Livestock were the only source of manure, with no availability of chemical fertilizer, and this fact has been accepted by focus group discussion participants of both villages.

The changing relationship between transhumant pastoralists and lower hilly communities in different places has different reasons, such as environmental change, infringement of state arrangement, expansion of the market, and the emergence of community forest programs. However, all these reasons are interconnected to each other. For instance, environmental change affects high altitudes where transhumant pastoralists reside. Then again, because of environmental change, the concept of a community forest program was introduced in Nepal during the 80s and 90s, and the state embraced and upheld such projects. In between, the pastoralists have lost many of their customary grazing lands in the lower hills where they bring their sheep, especially during winter.

4.5 Summary

Despite the importance of transhumant pastoralism in hilly areas, this practice is gradually declining across different geographical locations, including in the researched area. This chapter presents the current situation of transhumant pastoralism at Northern Gorkha, including the reason behind seasonal transhumant, migration route, occupational difficulties at different altitudes, gender-based work division (gender roles) among male and female members of transhumant pastoralists, income, education, landholding size of pastoralist households, current relationship with lower hilly communities, relationship with communities of migrating routes. The perceptions of the interviewee were based on their lifetime experiences in terms of transhumancing, migrating routes, gender roles, and others.

Regarding the need for seasonal movement of sheep herds, most research participants replied that they needed a grazing area (forage) and water sources to move to that location. A few of the research participants also claimed that sheep are vulnerable to warm temperatures, so they adjust the temperature they do the seasonal movement of sheep. Similarly, selling livestock and pastoral products is also claimed by a few pastoralists. Very few herders claimed that seasonal movement is intended for medicinal herbs. This might be the hesitation due to the forest and other Nepal legal clauses that the least number of research participants responded to in this issue. However, long-distance herd migration has drastically reduced due to various challenges and conflicts that appear during the herd's seasonal movement.

Interviewed pastoralists are worried about such a decline as their young generations are no longer interested in this untiring profession. The conflict with different communities during seasonal movement and difficulty in route selection are other challenges. So, it is found that pastoralists are confined to grazing their sheep within the forest of the same rural municipality. As per their argument, this restriction has impacted the whole transhumant cycle.

Due to cultural and religious values, the demand for sheep has increased in *Barpak*, so a group of people has started to farm sheep in a confined area. This is the commercialization of sheep, but their knowledge of herding and other indigenous knowledge has yet to reach par. With proper scientific management and funding, such commercial farms can boom up to meet the demand of Gurung in the surrounding villages and urban setups.

The awareness of the importance of education is similar to every herder, but they are worried about the workforce required for transhumant pastoralism. They are happy that their children and grandchildren are attending formal education necessary for new challenges. However, they are equally worried about the fading transhumant pastoralism system as they believe new generations will not follow their path to continue one of their traditional professions. They know how vital sheep herding is for their culture and identity.

In terms of gender-based work division, the study found no difference in gender roles from other societies. The female members bear a heavy load, from household work to full-time herders. In contrast, male members are less involved in different household work but are primarily involved in the herding profession. This shows gender role disparity is similar in transhumant pastoralists' families as well.

Similarly, income sources are still sheep herding for those pastoralists; however, with growing different income sources around the villages, youth are engaged in petty business, mule business, hotel business, tourism, and non-farm labor work. This shows the diversity of livelihood options, which has directly played an essential role in lowering the importance of the transhumant herding system in their community. Those herders still in the sheep herding profession are not blissful with the government and insurance policy for their livestock due to various operational challenges.

Despite all these new challenges, the herders are trying to continue their profession. Due to various land-related updates and policies, land sizes, community forest, and grazing area policies (local), these pastoralists are facing problems with the lower hilly communities at lower hills during winter migration. Significantly, due to the disintegration between livestock keeping and agriculture at lower hills (winter migration location) due to limitations on community forests, agriculture practices have declined, leading to an increase in fallow land. This has also forced locals to sidestep transhumant herders in their locality during winter.

CHAPTER FIVE

TRANSHUMANT PASTORALISM AND CHANGING LIVELIHOOD OF SHEEP HERDERS

Sheep rearing is the primary livelihood of transhumant pastoralists. This chapter highlights the changes in transhumant pastoralism practices due to several factors, such as market, labor migration, and state-imposed community forest policy. Despite the importance of transhumant pastoralism to the local economy, agriculture, and biodiversity, its decline has also brought a major shift in the livelihood of transhumant pastoralists.

5.1 Introduction

In globalization, social, cultural, information, economy, services, capital, ideas, technology, human resources, goods, and much more flow from one country to another, so this has emerged as an irresistible force that is becoming impossible to control. So, nothing possibly can stay away from this global process. Similarly, globalization and state policies can impact people living in different parts of the country differently. One such impact is on the livelihood of people living in rural areas. Globalization, coupled with the market economy, has untiringly changed rural areas' old concepts, practices, and systems. As said earlier, globalization has a higher impact on rural than urban settlements.

Select research participants were interviewed to find the differential impacts of globalization and state policies on the transhumant pastoral system. As social change is much dependent on the surrounding society, lower hilly community members such as the CFUS head, locals, and Ex-teachers at lower hills were also interviewed.

Transhumant pastoralists residing in rural sectors are more vulnerable as they have fewer livelihood options. As per Om Prakash Gurung, "...sheep are the only capital for the herders and their family back in home cultivate less due to unsuitable land for farming. They have to depend upon different supporting organizations in the area for various support..." (Om Prakash Gurung, personal communication, January 16, 2020). Such communities depend on agriculture and pastoralism; however, agricultural options are fewer due to sloppy terrain and less fertile land. Further, according to Om Prakash

Gurung, the coping capacity toward various vulnerabilities of herders is lesser than that of others with multiple income sources.

In this chapter, different factors associated with globalization and state policy are discussed and linked to their effect on changing the social structure of transhumant pastoralism in hilly and mountainous societies. Apart from herders, school teachers and elders were also interviewed. As per interviews with research participants and the researcher's general observation, it is found that the number of households practicing transhumant pastoralism in different villages is changing dramatically (Table 5.1). So, the interview was designed as open-ended, and research participants were asked to focus mainly on how globalization and state policies have been playing an essential role in changing transhumant pastoralism's practices and structure.

Table 5.1

Changes in the Number of Households Practicing Transhumant Pastoralism

| Name of village | Tentative Pastoralist HH before 1990s | Pastoralist HH until 2019 | Declined percentage |
|-----------------|--|------------------------------|------------------------|
| <i>Sirdibas</i> | 33 | 12 | 63.63 |
| <i>Barpak</i> | 16 | 11 | 31.25 |
| <i>Ghyachok</i> | 8 | 5 | 62.50 |

Source. Field visit, 2020.

Based on conversations with locals, the number of households practicing transhumant pastoralism is decreasing in the research areas compared to the 1990s. Further, in *Sirdibas* and *Ghyachok*, the transhumant pastoralism practice is significantly declining (63.63% and 62.50 compared to *Barpak*). Although the number of pastoralists is decreasing in the study areas, transhumant pastoralism has not withered completely. As per the researcher's observation in the field, especially at *Barpak*, except for transhumant pastoralists, other households found up-keeping sheep in a small number. However, in such cases, the mode of rearing sheep is not transhumant but stall-feed basis. In different interviews with herders, most felt that their lives were not economically safe with this profession. One of the old pastoralists (Prakash Bahadur Gurung) from *Ghyachok* revealed that:

In the sheep herding, herders can make a good income (12 lakhs to 16 lakhs) per year. Hilly people also depended on us for sheep manure during the winter season. The demand for sheep, specifically during their festive seasons and other ritual ceremonies, was quite high. However, now, villagers rely on market products. They buy goats and chicken from the nearest market/vendor. They do not buy items from pastoralists now. They do not even seek sheep manure in their fields because most of their lands are fallow. Others who are continuing agriculture purchase other types of fertilizers from the market. Sheep herding is no longer favorable for us. (Prakash Bahadur Gurung, personal communication, February 16, 2020).

The above statement demonstrates that herders are now losing their professional ground in the face of a growing market. Although the market provides new experiences and opportunities for the locals, it pushes the herders away from their traditional profession. The herders can hardly compete with the price of meat products in the market now. The market products are produced and supplied in bulk, which makes them cheaper than the local production; thus, competition between market products and local production is incomparable. However, as different herders, they need nearly a year to rear a baby sheep to an adult. This is time-consuming but reared in a natural setting, so the price is a bit higher than other meat available in the market. However, as the market has already penetrated such hardy terrains and localities, its direct impact can be clearly observed with the decreasing transhumant system in this region.

Including the transhumant system, the products associated with transhumant pastoralism, such as wool and wool-related products (*Radi* and *Bakhu*³⁵, dairy products (buttermilk and cheese), etc., are also disappearing. Factory products, such as fur-based jackets and trousers, are becoming more dominant around hilly and mountainous areas, replacing traditional wool-made items. The female herders who used to apply buttermilk for their skincare now carry ready-made cream in their pouches. Similarly, sheep skins,

³⁵ *Radi* (mat) and *Bakhu* (cover) are indigenous materials made up of sheep wool. *Radi* is culturally and religiously considered sacred mat used during different religious and cultural functions. Similarly, *Bakhu* is a rectangular cover of nearly 4 feet long and 2 feet wide, used by hilly and mountainous people, including Transhumant herders, during winter. It is also used as a sacred mat in case no *Radi* is available during different rituals.

which were used by ironsmiths at iron furnaces in the villages for blowing air (*Khalati*), have also disappeared as factory-made air blower machines became accessible to many ironsmiths in the study areas. According to teacher_1, also an ex-herder of *Barpak*, this is a “worrying situation for herding communities at rural locations whose livelihood is only transhumant pastoralism where sheep products are replaced by factory-made items.” (Banu Gurung, personal communication, January 14, 2020).

In the study area, Kali Maya Gurung from *Kaltu Byasi* reported that “...fallow land is increasing in compared to 10-15 years earlier” (Kali Maya Gurung, personal communication, February 17, 2020). Dry and uncultivated lands at *Kaltu Byasi* are evident in her statement. This is a daunting situation for transhumant herders because, during winter travel toward these lower hilly areas, their relation with lower hilly communities and the availability of farming systems are the key to their survival. The herders need grazing land and campsites during their winter stay, and villagers require manure from such herds (from campsites in their fields). However, due to the growing market, non-farm labor, and labor migration abroad, the income sources of lower hilly communities, livelihood, and lifestyle are also gradually changing. Agriculture was their prime livelihood in earlier decades, but now, labor migration and non-farm jobs are becoming their dominant livelihood strategy. Those left behind in the villages live on remittances their family sends rather than regular farming practices. This has also partially cut off their relationship with the land and agriculture.

On the other hand, as per Kali Maya Gurung, “...the soil erosion, infrequent rainfall, increasing temperature, and drought are other reasons that are also hampering our crops...” (Kali Maya Gurung, personal communication, February 17, 2020). The Hira Gurung of *Baluwa* also expressed that “...production is decreasing every year...soil erosion that occurred last monsoon took away our cultivating land partially, and it is gradually taking away our land this year as well” (Hira Gurung, personal communication, February 17, 2020). He is unsure what the new monsoon will bring to his land, and his remaining land is already half the size it was before. These are concerning factors that force lower hilly communities to find alternate livelihoods other than just agriculture.

This has directly impacted land use and, thus, transhumant pastoralists. As said earlier, since there are fewer farming practices, the requirement for sheep manure has also declined at the same rate. On the other hand, the use of different kinds of fertilizers has also reduced the use of sheep manure in the villages. With this, the relationship between the villagers and transhumant herders is thinning out yearly.

Many other herders have similar problems regarding sheep herding as a sustainable livelihood. Another herder from *Ghyachok* expresses his view in a bit furious way;

We are also people from the same country, but we have been neglected by the government. We get nothing in donations nor other significant support from our government. Different development organizations in our areas are also biased regarding their work modality. Their support is more inclined toward the hilly community than us. We do not get any development funds. If this continues to happen, our traditional identities will remain in jeopardy. (Raj Kumar Gurung, personal communication, January 14, 2020).

Regarding development priority, transhumant pastoralists can be considered as left behind people of the country based on the unavailability of government facilities in their village, lack of government support, and lack of insurance for their herd. They are the people who have been playing an essential role in domestic production and balancing the livelihood of both hilly and mountainous regions. They have contributed to fulfilling local demands in terms of meat products and other different things, such as wool, hides, cheese, and manure for hilly agriculture, throughout the year. Using such local products, few entrepreneurs have produced cosmetics such as soap and cream with good market value. To continue using such local products in the first circle of producers, transhumant pastoralists and their profession need to be focused before its disappearance. As Indra Gurung has mentioned above, it is a bitter truth, and all the stakeholders associated with transhumant pastoralism, including the state policy, must get aligned to develop and encourage transhumant pastoralism. However, the scene is different for this region. Development agencies and state policies are focused only on hilly communities. Mr. Manish Pokharel from the district livestock development office also admits that:

There is no such conservation, protection, advocacy, or continuous support the state gives to transhumant pastoralists. Despite having a program for them, we have not reached that location yet due to geographical hardy terrain. Around 80% of our staff has not crossed *Sirdibas*. There must be around 20k to 25k sheep in that region only. They are rearing all these sheep based on their local knowledge. They have not received any new technical knowledge on sheep rearing. (Manish Pokharel, personal communication, February 28, 2020).

This response matches the statement provided by the herders in terms of priority to transhumant herders in the northern area of the Gorkha district. In the study area, the state's priority to the pastoralist seems minimal at *Ghyachok* and *Barpak* but nonexistent in *Sirdibas*. Due to the government's oversight of such production, transhumant pastoralists, who do not require much polish to escalate their productivity, are exiting from their traditional profession.

Linking the above statement with Table 5.1, *Sirdibas* is far behind *the Ghyachok* and *Barpak* villages. The pastoralists at lower altitudes, such as *Barpak* and *Ghyachok*, have received government programs and prizes, due to which the declining percentage is nearly half of *Sirdibas* within three decades of the period. Fewer development agencies have expanded their services to high-altitude communities. However, most of such services were found to be hardware (structural development such as the construction of trails, bridges, schools, and dwellings) and software (advocacy of different rights, health awareness, and women empowerment, advocacy of economic empowerment and conservation of forest through community user group). So, what Indra Gurung has expressed in his dissatisfaction with the exclusion done by both development agencies and, most importantly, by the government diverting development funds only towards hilly communities to support hilly livelihoods. Without government support or canalizing priority to limited sectors only, most importantly, excluding most rural livelihoods can lead to the vanishing of such traditional livelihoods and culture in the coming days.

The primary school teachers_2 from *Sirdibas* argues that:

Mobile sheep herding is symbiotic to nature. They balance nature and fulfill the human diet. In my view, this profession is very lucrative, and it can earn good

money as well. But people are leaving this profession due to various reasons. The young generations of pastoralist households are now attracted to other professions. This may cause a severe issue due to the lack of protein-enriched food items, which could lead to multiple health impacts in the future. People living in cold geography need to consume protein and fat (meat, ghee, and other fatty items) that help them survive in the cold, but if there are fewer or no sheep in the future, the whole society may remain in health jeopardy. (Hari Ghimire, personal communication, January 26, 2020).

This is becoming common to every transhumant herder's household, and they are exiting from their traditional profession (sheep herding) to find other non-farm jobs. Such attraction to non-farm jobs is due to various reasons, such as the growing number of markets in the vicinity, labor migration, and remittance culture. Importantly, young generations from pastoral households divert themselves to different livelihoods due to a lack of security in terms of pastoral business, a lack of government policy for pastoral livelihood, and continuous hard labor throughout the year. Indeed, the consumption of protein (meat) and fatty items (*ghee*) helps sustain in cold weather, and the disappearance of such pastoral culture denotes a lack of milk and meat (sources of protein and fat). This can definitely impact society in days to come.

On the other hand, some pastoralists showed positive interest in encroaching markets near their locality. In this vein, Babuji Tamu from *Ghyachok* expresses his view:

The market is a good opportunity for us. Before, we had to move from one village to another in search of sheep buyers. We had to wait for their festive season, but if there is a market near our locality and vehicles to transport sheep, this is a good opportunity for us to use such. As per the demand, we can sell to local vendors. People residing in different areas will like our sheep raised in the Himalayan region. This will boost our economy as well as spread our identity. (Babuji Tamu, personal communication, January 28, 2020).

Pastoralists such as Babuji Tamu are pretty aware of spreading the message regarding sheep herding and, at the same time, spreading the taste of Himalayan sheep. Babuji Tamu is very thankful for the development of the market near them. In fact, a small-scale

market has also been established near their village. For the bigger market, they must walk nearly 4 hours from their campsites at high altitude rangeland. Babuji Tamu, from the Gurung community, knows the cultural importance of sheep to the Gurung community. So, spreading identity means spreading the local culture of Gurungs among other societies. As the market is now near to them (*Bhachek*), different types of tourists pass through these villages during Himalayan trek, and this can be the best opportunity to show the Gurung culture, serve the taste of Himalayan sheep, and spread the identity of Gurung community. Along with spreading the identity of Gurung culture, boosting the economy is another opportunity the market provided them. So, in general, it can be sensed that Babuji Tamu is producing positive energy in the development of nearby markets.

In line with Babuji Tamu, another pastoralist also positively viewed the market. Bishal Gurung expressed how the market is essential for their life:

Look, we are working in such rugged terrain, but due to the market and development of such, our children are studying there to gain the required knowledge to compete in their lives. Many friends may not like the market, but everybody slowly depends on the market. So, looking at the positive side of the market, we must cooperate with the market system near us. (Bishal Gurung, personal communication, January 28, 2020).

The market or market system poses good and bad points. In several statements quoted above, some herders liked the market, and others did not. From the recent statement, the market has allowed pastoralists to sell their products faster than ever; they can sell sheep as per the demand. Importantly, in earlier periods, they had to travel with hundreds of sheep and had the opportunity to sell them only during seasonal migration or in case some vendors reached up to their campsites at higher rangeland. However, now, they can transport sheep to the market at short destinations as per the demand.

Most importantly, the children of pastoralists are attending formal education near the market area. As of Bomjon Gurung, “my son now studies in Boarding school in *Barpak* town to which he is thankful to his current pastoral profession and market structure that developed near their location” (Bomjon Gurung, Personal communication, January 14, 2020). He further adds that:

My father and grandfather used to travel to *Bhot* to carry sacks of salt. The herds need to be fed salt (ground salt in powder form) every 3-4 months. Now, our family members do not need to travel to *Bhot* just for grain-salt exchange. Instead, we can buy packet salt from the nearest market, and this has drastically reduced our worry and effort for salt management (Bomjon Gurung, Personal communication, January 14, 2020).

The decline in the number of transhumant practices in northern Gorkha is similar to other areas where researchers have presented a sharp decline. According to interviewed herders, sheep herding is no longer a lucrative profession. The entry of the market system made the herders and lower hilly communities far more accessible in terms of jobs, food, communication, education, transportation, and lifestyle. All these developments have brought changes in life aspiration among the herders. Although some herders saw transhumant pastoralism as a profitable job, due to a lack of proper support from the state, the pastoralists are hesitant to invest their time, effort, and money in this profession. Lack of proper monitoring from the state level, lack of pastoralist policies such as insurance, lack of funding, and advanced training force pastoralists to take their hands off the herding profession. With declining sheep herding practices, the herder's livelihood is diversifying in many.

5.2 Transhumant Pastoralism and Livelihood

From the field, it is found that several pastoralist households have changed their livelihood from sheep herding to non-farm and wage work. From a sociological point of view, the reason behind such change is altering social structure, such as changing economic structure in lower hilly areas. With the changing social structure in lower hilly areas, the social relationship between herders and locals has also changed, leading to a change in the livelihood of transhumant pastoralists.

The social structure of a particular society is the key to social change. Further, the social changes in another country, geography, or community also positively correlate with the change in such a particular society. The diffusion of different political ideas, social movements, and consumerism practices from other societies and countries can be taken as an illustration of the same. Increasing labor migration abroad is due to such

changes in society at the international level, which also impacted the social structure of rural villages like *Kaltu Byasi*. This further affected the livelihood of pastoralists. The changing livelihood of pastoralists residing in hilly and mountainous regions is connected with the changing social structure and practices of international societies. For instance, in today's globalized world, the change in social structure at lower hills (lower hilly communities) and the international market and society do have equal strength to bring social change to the communities having livelihood living in such hardy terrain as well. The change in such location and society has impacted the livelihood of these pastoralists, forcing them to adopt different forms of livelihoods other than transhumant pastoralism.

Table 5.2

Herder's Livelihood Options Before and Now (Priority Based)

| <i>Sirdibas</i> | | <i>Barpak</i> | | <i>Ghyachok</i> | |
|---------------------|-------------------------|---------------|-----------------|-----------------|-----------------|
| Before | Nowadays | Before | Nowadays | Before | Nowadays |
| Agriculture | Agriculture | Sheep herding | Foreign labor | Agriculture | Foreign labor |
| Sheep herding | Foreign labor | Foreign labor | Agriculture | Foreign labor | Agriculture |
| Foreign Military | Trekking | Agriculture | Sheep herding | Sheep herding | Hotel business |
| Herbal medicine | Hotel business | | | | Sheep herding |
| Trekking | Wage labor in urban | | | | |
| Wage labor in urban | Sheep herding | | | | |
| | Mule transport business | | | | |

Source. Field Study, 2020

The livelihood option is vastly diversifying in *Sirdibas*, *Barpak*, and *Ghyachok* areas. The above information is captured from the FGD conducted in *Ghyachok* and *Barpak*, 2020. Information on *Sirdibas* is managed according to the information collected via interviews. At first, different livelihood options were discussed

and identified by the FDG participants themselves. The participants later ranked those identified options; the highest form of livelihood was positioned at the top, and the lesser form was ranked in the subsequent ranking. The ranking was also done by the participant's remembering 20 years of time frame. That is, the livelihood option they had 20 years earlier and in the current year.

As per the information provided, although fallow land is increasing, agriculture is still practiced in all the villages. However, one of the traditional forms of livelihood, transhumant pastoralism, has gradually declined in recent years. Instead of transhumant pastoralism, foreign labor migration is the second most preferred livelihood in the research areas. This indicates that a new generation of pastoralist households is keen on non-farm wage work or agriculture rather than their traditional job—sheep herding.

From a sociological point of view, the shift of livelihood from farm to non-farm has its own reason within society. The growing modernity and expansion of the market show a positive correlation with the changing livelihood in other places of the country, including the northern part of Gorkha.

One of the ex-pastoralist from *Barpak*, who is currently running a hotel business, said:

I have been in the hotel business for three years. Before this, I used to rear sheep jointly with my elder brother. But since lightning killed nearly 80 sheep at the *lek* (high altitude rangeland), I felt no security in doing this business. After that incident, my brother went to Saudi Arabia, and I started this hotel business to make a living. This is a reasonably secure business, but you need to be updated on when the demand will be high and low. (FGD_BS_1, Focus Group Discussion, February 17, 2020).

Indeed, transhumant pastoralists are very vulnerable during monsoon season and when they are at the high altitude rangeland. Several incidents have occurred where herders and herds are killed due to lightning during pre-monsoon season. FGD_BS_1 adds, "...due to lack of state policy, insurance policy, our vulnerability during the pre-monsoon season is still high". In this regard, if the state had brought proper plans and policies in such a situation, they could have recovered from certain losses even during

crises and vulnerabilities. Because of natural disasters and improper state policy, highlander herders are forced to shift their livelihood from sheep herding to another profession.

Despite encountering the market, several pastoralists of mountain people are still engaged with transhumant pastoralism as their main livelihood. In several interviews, a few herders showed a strong relationship between their traditional profession (sheep herding) and their rituals. In different rituals, they need to offer sheep to their deities to make them happy and avoid various diseases and any untoward disaster within the family and village.

Prakash Bahadur Gurung responded why he is still with transhumant pastoralism:

Nowadays, many people have left this traditional profession, and many youth are not in the village, which is causing our *Kharka* (rangeland) to become dense with greenery. If this continues, there will be other spiritual incidents that have direct impacts on us (villagers). So, my cousin and I are after this traditional profession to keep our tradition alive and balance nature (Prakash Bahadur Gurung, personal communication, February 16, 2020).

His statement is close to Macfarlane's "*Sliding Down Hill...*" (2001). That is due to a smaller population, fewer natural resources are utilized, and natural forests and grazing areas are growing densely and high. Indeed, most of the youth are not at home. Many have left the country for labor migration abroad, whereas others have migrated to urban areas to find alternate livelihoods. According to Manish Gurung from *Ghyachok*,

"...the *Kharka* at the top of the hill where sufficient forage is available for sheep. This place is the main source for sheep for a minimum of five to six months. If no one is rearing sheep, this huge resource will remain unused and which can have a reverse impact on local biodiversity" (Manish Gurung, personal communication, February 15, 2020).

Similar to Manish Gurung, other herders also admit that *Kharka* is a natural resource meant for their livestock (sheep) and alternative resources for human use. By using various *Kharka* resources, they are able to upkeep sheep and fulfill the demand for sheep products from various societies.

The green forage available at grazing lands (situated at the lower and higher altitudes) fills the forage requirement gap for the livestock in this region. Locals use the green forage available in lower hilly areas for their animals. In contrast, in higher altitude grazing areas, only the herders exploit the high altitude grazing land due to movement difficulty and other management issues. Without sheep, the resources (green forage) would go to waste for no reason. On the other hand, the circular grazing practices in such areas help sheep graze fresh pasture, which can contribute to their health and reproduction. So, if transhumant pastoralism withers from this Himalayan region, the resources will remain unused, and the circular profit that transhumant herders generate will dry out, which may have consequences for biodiversity and the local economy and livelihood.

Similarly, an ex-herder from *Barpak* explains that he enjoys a profession different from sheep herding. According to him:

Before, I used to rear nearly 500 sheep with the help of my friends. However, since the motorable road has linked *Barpak* with other districts, including Kathmandu, I started running a homestay business here (in *Barpak*). We have more domestic tourists than from other countries. They came here to visit and see *Barpak* villagers, whom they had heard about during the 2072 (2015) earthquake. Herding profession keeps us away from our family, but my present business is at my own home, so I am happy with my family. (FGD_BS_7, Focus Group Discussion, February 17, 2020).

Further, using *Kharka* and up-keeping sheep herds is all sociological. The society itself demands the rearing of sheep for consumption purposes as well as for various local rituals. The continuity of herding is thus still alive in high hills and mountains. On the other hand, the erosion of sheep herding practices is also happening in this geographical setting. For many youths, the primary alternative for sheep herding is now abroad labor migration. The change in social structure and the changing dynamics of hilly and mountainous society are now affecting the long-standing transhumant pastoralism profession. Is labor migration abroad sustainable? We shall discuss this more in the next section.

In the research area, it is found that the livelihood of transhumant pastoralists has been diversified. The field study shows that sheep herding is becoming the lowest priority for the herders, whereas other forms of livelihood such as foreign labor migration, hotel business, mule transportation business, petty shop, wage labor in the market as well and the tourism sector are becoming more important and dominant. All these changing contexts show that globalization offers many options for people living in harsh mountains and high hilly areas. However, on the flip side, its extended hands-on state policy to protect forest and grazing lands has affected those traditional professionals whose livelihood solely depends on these forest and grazing areas.

5.2.1 Abroad Labor Migration

One of the most significant changes seen in the researched area is the labor migration of youth members abroad. Among the interviewed herders, the youth members (son and brother) of seven pastoralists were found to be engaged in labor migration abroad, mainly in Arab countries. Five pastoralists (two from *Sirdibas* and three from *Barpak*) reported that their son is in labor migration abroad. In contrast, two Ghyachok pastoralists reported that their son and daughter are in the Arab country. With a deep breath, one of the respondent herders expressed:

Our new generation does not want to get involved in this profession. They think this is a very engaging and tiring job. Instead they wanted a corporate job or petty business of their choice. So many of the herders have already left this profession. The number of herders is declining every year in this village. (Harka Bahadur Gurung, personal communication, January 12, 2020).

Transhumant pastoralism is a continuous, engaging work throughout the year. They do not have a choice other than running after the herd and continuously looking for the next camping locations for the sheep. The routine work from morning to night, continuous planning of the route, frequently inspecting the status of sheep, and dealing with various communities is indeed time-consuming. In this sense, Harka Bahadur Gurung has correctly noted that this job is challenging and tiring. These are reasons why youth are not attracted to this job. Instead, other market-related jobs and labor migration abroad were found relatively easy for them, as they put in certain hours for labor work. During

off-duty hours, they could utilize their time for leisure and travel. On the contrary note, not every family member of the interviewed pastoralist has left their traditional profession. However, it was also found that two of the family members (sons) had returned from Arab countries and continued the same transhumant pastoralism. This will be further discussed in the continuity and change section of this chapter.

Abroad labor migration has also benefited their family members in managing household expenses; however, its impact is significant in transhumant pastoralism and agriculture. Due to youth's engagement in labor migration abroad, there is a shortage of skilled and knowledgeable human resources required for transhumant pastoralism and agricultural work. With remittance support, some transhumant pastoralist sent their children to Kathmandu and *Bharatpur* in search of quality education for their children and other life opportunities. In a similar vein, one of the elder ex-herders from *Sirdibas* states:

...now there are less youth available in the village. Some have gone for trekking jobs, and some are in Saudi Arabia for labor work. Our traditional sheep-rearing profession is decreasing. I have already left this profession due to my physical condition, and I have handed over my 18 sheep to my neighbor now. He rears my sheep along with his. (Bikash Gurung, Personal communication, January 25, 2020).

Nowadays, old herders who cannot rear a large number of sheep by themselves hand over those sheep to other relative herders with mutual trust. The one who keeps the neighbor's sheep provides accurate count and transaction details (if any) to the owner. Further, Bikash Gurung said, "...he (neighbor) knows which sheep belong to whom and in case of sell, death or any loss of sheep due to incident, he will inform once he get back to the village" (Bikash Gurung, Personal communication, January 25, 2020). In return, such herders also benefit from the sheep's original owner. Handing over sheep to other herders (from the same village) also shows the social solidarity among the herders group. Such solidarity could be religious or professional among the herders.

Due to the lack of committed herders in the village who travel throughout the year, sheep herding practice is slowly declining in the study area. A teacher from

Sirdibas, Mr. Hari Ghimire, *stated that* "many youth are attracted to foreign employment, and many of them have joined tourism-related jobs after the volume of tourist influx through the *Manaslu and Chum valley* trek route" (Hari Ghimire, personal communication, January 26, 2020).

In line with Hari Ghimire, one of the FGD participants of *Ghyachok* also expressed the ongoing impact of foreign labor migration in the village. According to him:

Our village's soil fertility is very low, so agricultural production has decreased this year. As the younger generation has gone abroad, only the elders, children, and a few youths are in the village. Further, when the husband goes to Bides (abroad), their wife also moves to city and urban areas for their children's education. This has increased the labor shortage in our village, and farming lands are kept uncultivated. (FGD_G_6, Focus Group Discussion, January 15, 2020).

This is one of the direct impacts of overseas labor migration on village agriculture. Because of such conditions, the previous livelihood (pastoralism and agriculture) is in serious jeopardy. The FGD participants also reported that similar impacts of overseas labor migration can be observed in other villages as well.

Further, this is not only the case for the pastoralist community but also for the locals residing at the lower hills, who have a similar migration trend toward the city area. Due to this, the overall agricultural ecosystem has been impacted. According to one of the interviews conducted with locals (Kali Maya Gurung) in a lower hilly area (*Kaltu Byasi*), she is suffering from declining agricultural production, which is directly linked to labor migration abroad. She further adds:

Due to a shortage of agricultural labor, our farming lands have remained fallow for the last two years. We old couple are unable to maintain the terrace in our land, so the soil is getting dry and rough every year. Soil erosion is equally cutting our farmland, which is near sloping terrain. (Kali Maya Gurung, personal communication, February 17, 2020).

However, few households benefit indirectly from the labor migration pattern abroad in *Kaltu Byasi*. Kali Maya Gurung further adds,

...as farmlands are left uncultivated due to the village's agricultural labor shortage, the forest is growing closer to their village. It is now becoming easier to collect fodders for their livestock. So, some villagers have increased the number of goats in the past two years. This has secured their income and livelihood. (Kali Maya Gurung, personal communication, February 17, 2020).

However, the livelihood options of transhumant pastoralists are less and different. Their land is less fertile, and only specific grains and vegetables can be cultivated. Especially during winter, their farming fields remain almost barren due to cold and snow. The cold weather is not supportive to the plant in *Sirdibas*. In this, Hari Ghimire from *Sirdibas* states that:

The soil in our locality is not good. It is sandy, and due to steep terrain, rain water always flows quickly downward, and our land becomes dry in a very short period. This is the main reason for food insufficiency in our area. I think young villagers are less attracted to agriculture. Again, no government representatives work on agriculture in this area, further disinteresting youngsters in agriculture (Hari Ghimire, personal communication, January 26, 2020).

The situation described by Hari Ghimire matches the situation in the study area. The barren area in the villages' upper parts and dry soil picture declining agriculture in the study area. This is why the energetic youth are hardly available in the village. As per one of the older villagers (as per the researcher's casual conversation with him), many youths have migrated for labor work in *Bidesh* (abroad), and others are involved in seasonal business for trekking jobs. This situation is due to a lack of motivation among villagers for agricultural livelihood and the increasing trend of travel abroad for better opportunities.

The interviewed teacher from *Sirdibas* sounded unhappy with the foreign military opportunity. In the researcher's query, he answered that:

There is high competition among youth to become part of the British army. Every year, the youth of this village try their luck to be in the British army. It is because the pay is high, and they can quickly settle in a developed country (UK). Many ex-British army soldiers bought land and houses in Kathmandu and Pokhara.

They never returned to this land again. I heard many have settled in the UK by now. Due to such handsome salaries and fantastic lifestyles, the youth are now competing regularly to enroll in the British Army. Enrolling in a foreign army and enjoying their life is good. However, this has attracted every youth of this village, due to which other local and household work is affected daily. They do not even attend to their education correctly. (Hari Ghimire, personal communication, January 26, 2020).

The youth of Hilly and high hilly societies are well versed with the British army enrollment, its function, and remuneration. The lifestyle and settlement in the UK after the completion of the service have attracted many youths to Nepal. Those who failed to enroll in the British army tried their luck in the Indian army as well. Such a process has drained the human resources (youth forces) away from the country and the actual forces required for agriculture (farming and livestock keeping). Unsurprisingly, the Northern part of Gorkha, especially *Barpak*, has remained a soldier farm (Mikesell & Shrestha, 1985) for the British army from 1816 onward. The offer of the British army and the youth's involvement in the foreign military have indirectly destroyed the local economy and agriculture.

5.2.2. Markets near the Villages

The market is the motor of historical change (Collins, 1990). That means the market and transactions have remained pivotal in historical and social change. However, without social change, the change in the market system is also impossible. The market system was in a primitive stage several decades earlier, and the most common exchange system in practice was a barter system, specifically in the mountainous and hilly areas of the country. People of one society and geo-location used to move to the north or south to exchange their items with other items. After the emergence of the market, the barter system lost its ground, and transactions of materials with cash became dominant and vital. The market system spread worldwide and touched every corner of remote villages and households in Nepal.

In an interview, Banu Gurung from *Barpak* said, "...*Barpak* is a new market hub for several villages including *Lapprak* and *Gumda*. Villagers from around *Barpak* visit

here to purchase their daily items. Bus routes have also increased in importance in this area" (Banu Gurung, Personal communication, January 14, 2020). As responded by Banu Gurung, this village has now turned into a town. Cemented pillar houses have replaced mud-mortar houses, and retail shops are available on both sides of the route in *Barpak*. This also demonstrates the level of encroachment of the market system in this town.

People are changing their way of life not only in Barpak but also due to establishing a market close to other villages. People are becoming consumers more than producers now. Their young generation is abroad, and they are dependent on remittances. They market products that are easy to bring home and ready to cook.

This is one of the most significant reasons for Nepal's declining number of transhumant pastoralists. One of an older herder from *Barpak* replied that "...the market system is slowly engulfing all the local economy...we have never done shopping in their locality; instead, we used to exchange different products that we produced at our home and farm" (Ram Gurung, personal communication, January 12, 2020). Such reciprocity was quite strong a few decades earlier, but money makes everything more accessible now. The remittance they receive from their family members has made their pockets tight and bulky, so they can pick anything they want from the market.

Our society is changing a lot, and such a market system is new for many people living in rural areas. The mountainous people have a separate market and trading system: the barter. However, with increasing globalization and commodification, people from far and rural areas depend on market products and factory manufacturers.

Table 5.3

Exchange of Goods

| S.N | Earlier Exchange | In Market system |
|-----|-----------------------------|---|
| 1 | Exchange of grain | Buy grains |
| 2 | Exchange of salt | Buy gas cylinder as fuel |
| 3 | Exchange of Medicinal herbs | Buy factory made food items and medicine. |

Source. Field Study, 2020

5.2.3 Intervention to Forest: Disintegration between Livestock and Agriculture

Since the mid-20th century, the government of Nepal started intervening in local policy on forest and resource use more rigorously. During *the Panchayat* system, the central government started nationalizing local forests in view that the village *panchayat* would have good control over the forest resources. In the village, no such elders have detailed information about the forest conversion during *the panchayat* system; however, few older teachers were aware of this. As per one of the ex-teacher from *Ghyachok*, Mr. Tilak Bahadur Gurung (38 years old male participant):

The government nationalized all the local forests, and the panchayat was supreme to supervise them. This led to devastation. The local people refrained from going to the forest for forage and fuel wood. Despite such rules, people started exploiting the forest by other means. (Tilak Bahadur Gurung, personal communication, February 16, 2020).

Exploiting forests is a total deviation in society. As the locals refrained from forest use, they started exploiting forest materials differently. This led the state to establish a community forest so that locals have both resources and responsibility toward the forest. However, community forests are introduced not because of the state but the society itself. This means that the change in social structure is responsible for introducing community forests. The deviated society (exploiting forests illegally) is the change in social structure. Once the number of households increased in society, forest resource consumption increased, forcing the state to implement a community forest program in Nepal. With this, community forests are not a byproduct of the state or climate change but of the society itself. In a similar vein, the CFUG Head from *Ghyachok* illustrates that:

Previously, there were only 56 households in this village, but slowly, the number of houses increased, and people from other villages, such as *Dhansira* and *Siranchowk*, also immigrated. This led to more forest resource consumption. If the forest is manipulated multiple times by the locals, the state will definitely bring new rules, regulations, and a system against it. (Kasi Ghale, personal communication, February 16, 2020).

From the above statement of the CFUG head, the consistent contact and immigration of people increases the exploitation of natural resources. For instance, the *Kaltu Byasi* (a lower hilly society that lies at lower hills) came under consistent contact with other societies, which increased the internal migration trend and, thus, the consumption of forest material. Because of hilly societies, its impact starts evolving in Mountainous societies whose livelihood is based on transhumant pastoralism.

As of Hari Ghimire, "...the number of sheep herder has declined in *Sirdibas* in compared to previous few years...this is due to people's encroachment to forest and insufficient forage for sheep" (Hari Ghimire, Personal communication, January 26, 2020). The decline of transhumant pastoralism is distressing for the pastoralists, but its decline should be of high concern to the state, environmentalists, and many other stakeholders. It is the declining herd and the impact it can make on the local economy and biodiversity. The transhumant pastoralist holds numerous experiences regarding high altitude herding practices and indigenous knowledge of sheep, herding techniques, biodiversity, and traditional skills to produce sheep products. These aspects are also in danger, along with declining sheep herding. Om Prakash Gurung (Ward Chief as well as an Indigenous activist) of the research area firmly stated that;

Introduction of community forests and imposing restrictions on transhumant pastoralists' use of those forests and grazing areas is just a criminalization of their tradition, in which their communities have relied on these forests and grazing areas for many generations" (Om Prakash Gurung, personal communication, January 16, 2020).

Transhumant herders reported different impacts after the state and sub-national state-imposed restrictions on forest and grazing land. The first and foremost impact is in the transhumant cycle. This restriction has directly impacted the ecosystem of transhumant pastoralism. A transhumant pastoralism ecosystem means a balanced cycle where transhumant pastoralism works in such a way that the system is sustainable and friendly regarding their lifestyle and environment. Harka Bahadur Gurung, Birkaji Gurung, Bikash Gurung, Bishal Gurung, and Shyam Bahadur Gurung have a common voice that "high altitude rangelands are natural resources which are mostly used by sheep herders. The state does not have to work on forage development program in such area

and herders are fully utilizing to balance their ecology" (Harka Bahadur Gurung, Birkaji Gurung, Bikash Gurung, Bishal Gurung and Shyam Bahadur Gurung, personal communication, various dates, see Appendix B1). There is no doubt that transhumant pastoralism is one of the best and most sustainable livelihoods for mountain people. The pastoral system would have vanished long before if this was not meant for these communities and the environment. In that sense, it can be claimed that the transhumant herding system is a sustainable livelihood for mountain people.

Starting from the high altitude rangeland, before they bring their sheep to lower hilly areas (*Byasi*), the sheep herd is camped in their village to collect manure for their farmland. At the same time, the sheep wool is sheared just before the move toward the lower hilly area. They also sell their sheep on a demand basis at this point. Later, while wandering around lower hilly areas, the herders again sell their sheep on the local demand. Notably, sheep reproduction continues along with the transhumant cycle at any point.

Further, while migrating toward the mountain, the herders again sell their sheep, and they become very selective while selling their sheep at this time. Those sheep, which are old, weak, and injured from climbing high hills, are sold at fair prices to the locals. Such selectiveness is essential for them to avoid their further loss. The herders typically only sell their ram once and if necessary, as it is mainly for reproduction purposes. After reaching close to their village, they again shear the sheep wool, which they process and send to the bordering area of China or other local areas according to the demand. As such, their herding business goes round and round.

The meaningful learning from this ecosystem is that the higher the mobility, the greater the income. This means that if transhumant pastoralists had the freedom to graze their sheep continuously while traveling at different altitudes, the quality of sheep, their interaction with different community members, and trade would increase accordingly. This will increase the overall profit of the shepherders. For instance, in the above case of commercializing sheep at *Barpak*, the youth started sheep farming at specific elevations, concentrating sheep herding primarily at similar altitudes. This will limit the herders' movement and connectivity with other local communities. This also further breaks the supply of quality meat. As said by herders, the taste of transhumance sheep is better than that of stall-fed sheep.

However, the transhumance ecosystem is weakening daily due to community forests and restrictions imposed on traditional grazing areas. Along with the decline in sheep production, the profit for the herders is declining, and indigenous knowledge on sheep rearing (on a transhumant basis) is also dissolving. Most importantly, with declining transhumant pastoralism, the religious and cultural values and beliefs is also deviating from their original form. In addition, the foreign labor migration process has accelerated the declining transhumant process. With the decline in sheep production, one traditional wear, *Bakhu*, is also slowly vanishing among transhumant herders and lower hilly people. *Bakhu* is used by the herders and villagers of lower hilly areas annually for various purposes. Now, such *Bakhu* is replaced by shiny jackets that are readily available in the nearest market.

It is not only the herder group that is affected by the community forest program but also the locals of lower hilly areas who are equally affected in various aspects. The traditional culture and equipment are slowly vanishing due to the scientific management of the local forest. As per the rule, the locals cannot use the forest according to their needs and time as earlier, such as firewood collection and, most importantly, forage collection for their animals. Due to this, livestock animal keeping has slowly decreased in lower hilly areas. The connection between livestock (animals) and agriculture is very close. With the combination of both, hilly agriculture has been possible for centuries. The locals have been using animals for meat, dairy products, hides, plowing fields, and, most notably, manure, essential for agriculture. However, since the introduction of a scientific way of forest keeping system-community forest program, this has weakened and broken the close knot between livestock keeping and agriculture in the lower hilly areas.

Two components (livestock keeping and agriculture) are essential for the lower hilly community. Agriculture is dependent upon livestock keeping. The more livestock the farmer has, the more dung or manure can be collected for agriculture (to recharge soil for farming). However, due to sloppy hill terrain, soil nutrition flows with mud during rain. This natural phenomenon keeps continuous pressure on the hilly soil, and the farmers manage sufficient dung for the soil.

Now, if one component (livestock keeping) decreases, its impact will appear in agriculture. As shown in Figure 15, the entry of community forest programs in the lower hilly areas has restricted the villagers from using the forest and foraging as frequently as in earlier decades. Without sufficient forage, livestock-keeping practices gradually declined, as did agriculture.

The introduction of hand tractors in the lower hilly areas has also devalued the use of certain livestock, such as ox, which are reared specially for plowing purposes. However, as agriculture practices are already declining due to a lack of animal dung, its impact has diversified in local production, such as straw mat (*Gundri*) or *Gundri* weaving practices (cultural aspect). Such practices have now almost vanished in the lower hilly areas. Instead, plastic chairs, foam mats, and cushions can be bought from the market.

Other traditional equipment is *Jaabi* and *Ghum*. *Jaabi* is a carrying bag weaved in a net with significant holes. Such indigenous load-carrying bags are now replaced by easy bags printed and stitched in the factories. *Ghum* is a raincoat made of *Bhorla* plant leaf that is available in the forest. Due to the size of this leaf and its durability compared to other plant leaves, the *Bhorla* leaf is used mainly for making *Ghum*. Nevertheless, there is limited access to the forest, so the locals left making *Ghum*, and slowly, these traditional *Ghum* are peripheralized by plastic raincoats or plastic sheets, especially during the rainy season.

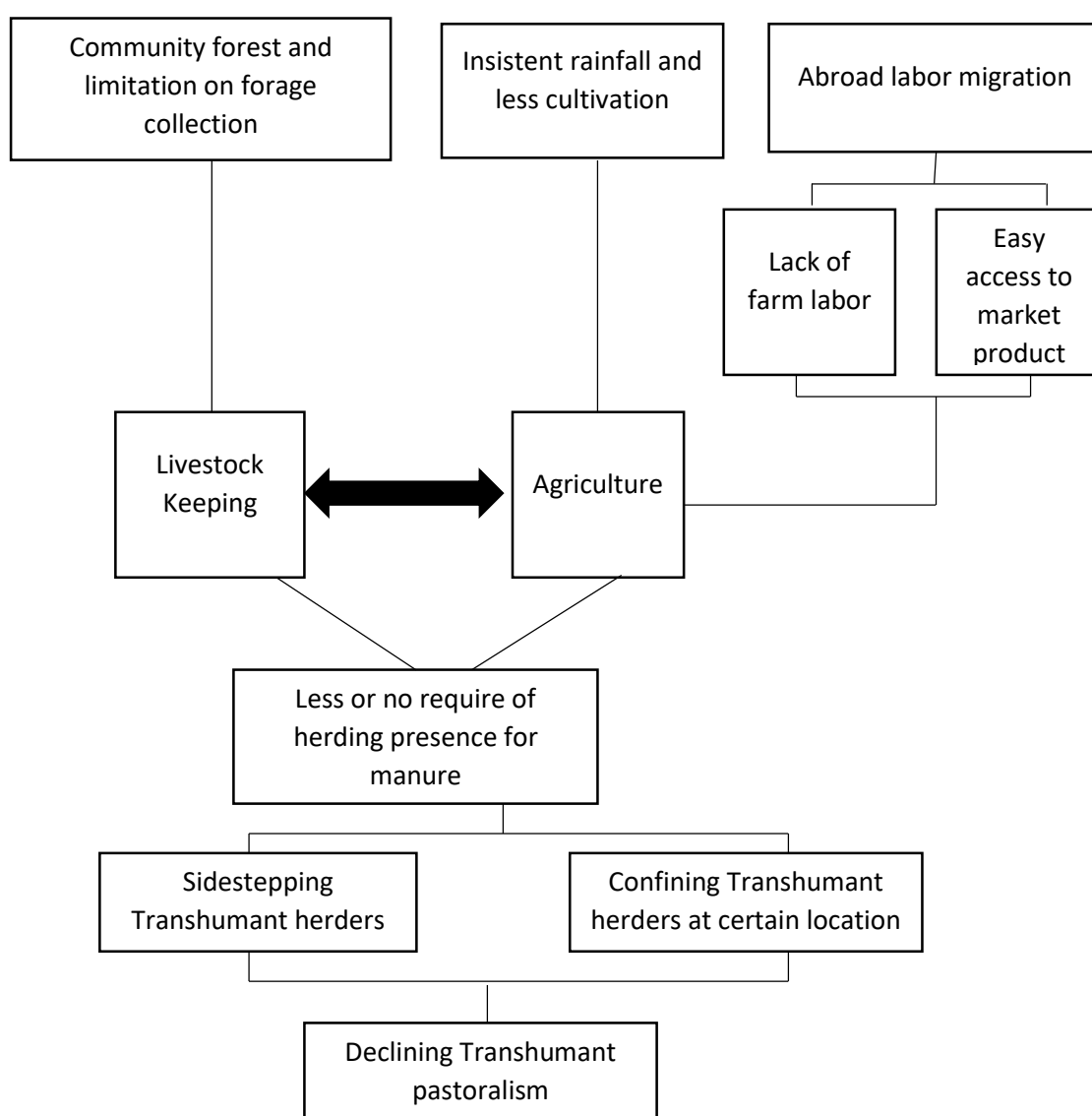
On the other hand, locals from the lower hilly area reflected that *Ghum* is helpful while working in their fields during the rainy season. However, as there are fewer farming activities (some have already left agriculture), the use of *Ghum* has completely vanished from this area. One of the residents of *Kaltu Byasi* expressed difficulty in making *Ghum* today. According to her:

To make durable *Ghum*, one needs to bring *Choya* (a thin type of bamboo) from the mountain area. However, as it is difficult to travel up to that place and also due to limited access to the community forest for *Bhorla* leaf, we have left this making or using. Instead, we use plastic sheets inside such *Ghum* nowadays. I personally have a plastic sheet to use during the rainy season (Kali Maya Gurung, personal communication, February 17, 2020).

It is not only a *Ghum* (local raincoat) that is replaced by plastic raincoats from the market, but due to disintegration between livestock keeping and farming, several indigenous food grains have also disappeared from the area. A female participant from *Kaltu Byasi* added that due to the modern lifestyle and increasing dependency upon the market products, locals have been producing *Khahnu*, *Sama*, and *Ghyaiya* for a long time. "Now the new generation (locals) do not even recognize these food grains" (Kali Maya Gurung, personal communication, February 17, 2020).

Figure 5.1

Disintegration between Livestock Keeping and Agriculture at Winter Destination



Source. Field Study, 2020

Most importantly, with decreasing agriculture and increasing fallow land, the villagers have started boycotting the herders from the north. They know welcoming sheep is for manure, but the herders do not fall under the hilly community's priority since there are fewer farms due to the disintegration process between livestock and agriculture. The community forest and its rule is another daunting part for both the villagers and herders.

5.3 Changing Social Structures

The social structure is the pattern set by and practiced by the people of that society. For instance, marriage, family, education, economy, and culture are all social structures. Such structures are the building blocks of every society. According to Bernardi and Requena (2006), social structure is institutional or cultural, and its basic elements are norms, beliefs, and values that regulate social action. Different societies bear different social norms, beliefs, and value systems. Generally, these are the social pillars of every society. However, such social pillars may change with time depending on the changing scenario across the globe or other societies. Nonetheless, some value systems remain unchanged for extended periods because of their embeddedness in human life and belief systems.

The social change depends upon its social structure. If these social pillars start changing, the social change will shift its orbit. According to structural functionalism, social change is regarded as an adaptive response to some tension within the social system. So, the change in norms, beliefs, and values is the change in social structure which leads to social change. However, from a conflict perspective, the social structures (social values, beliefs, and norms) change when the conflict arises between two parties and thus leads to social change.

One of the ex-herders, also the teacher (teaching in *Barpak* School), explains that:

I used to upkeep sheep when I was young. But you can see, the population is increasing here, and new technology, transportation, and other facilities have added to our lives, increasing the importance of labor in other fields as well. Some traveled to other countries for labor work, and some to urban cities. Now,

the forest and grazing land for sheep has also decreased, so I left my sheep herding and started teaching jobs in my town. (Banu Gurung, Personal communication, January 14, 2020).

This revealed that how their values in terms of transhumant pastoralism is slowly engulfed by other macro changes in terms of technology, road and transportation within the country and abroad. Due to such a change in value and belief, the structure of transhumant pastoralism is also drifting away from its original path. After the people started opting for new forms of livelihood, they thought their young generation would not fall again into the same hardy profession- sheep herding. Globalization and market expansion have hit rural societies' social and cultural pillars, forcing them to alter in terms of their livelihood, their way of living, and many more. Their social change is simply due to their exposure to the market and outer societies. Having said that, globalization and the market are not only the curse for transhumant pastoralists, but they are also opening new doors of opportunity. Commercial sheep farming is one example of balancing demand and supply chains nationwide.

However, highlander pastoralists from *Sirdibas* have two factors behind declining transhumant pastoralism in their area. The first is similar to what Ram Gurung has mentioned, but another reason is closely connected with the conflict approach. Their main conflict is with community forest user groups on the migrating route and the destination area. With increasing conflict with different groups and lower hilly communities, sidestepping them for various reasons (changing livelihood dynamics within) and not allowing pastoralists to enter their area are the main reasons for leaving transhumant pastoralism and opting for a new profession. On the other hand, such decline is not limited to the transhumant profession. However, it significantly impacts their indigenous knowledge, family structure, relationships, culture, religion, value system, beliefs, and many more.

The field interviews found that pastoralists' norms, beliefs, and values are gradually altering in Northern Gorkha. The market system that has encroached on their villages affects their norms, beliefs, and values. Further, globalization and market have assisted in changing the belief and value systems of both highlanders and lower hilly communities at lower hills, which has also increased abroad labor migration among youth.

5.3.1 Changing Family Structure and Relationship

Due to changes in the social structure of the transhumant system, its profound impact is severe on their household, family, and relationships. First of all, most of the youth from the family are staying away from transhumant pastoralism. Due to their youth member's engagement in different professions, income sources have been diversified. Notably, the number of family sizes is declining in all villages of the research area. Upon the researcher's query regarding changing family structure and relationship, Indra Gurung from *Ghyachok* reported that there used to be around eight family members in each family a few decades earlier. However, the family size has declined because of the villager's awareness of family size, which the government has suggested. He further adds that:

...out of three children, two daughters are studying in Pokhara, and my son is in Chitwan. No one supports this profession, so I cannot carry forward this tiring work after a few years without family support. So, I am planning to sell all my sheep and move to Chitwan with my wife. (Indra Gurung, personal communication, February 16, 2020).

Bishal Gurung also explained similar problems in Sirdibas. He said, "...we have huge lack of human resources required for sheep herding. So we are planning to quit and move to our son, residing in Kathmandu" (Bishal Gurung, personal communication, January 28, 2020). It is evident that in earlier periods, when agriculture and livestock keeping dominated the economy, their farmland remained significant, and the requirement for farm labor was also high. However, as stated in previous sub-chapters, land fragmentation into smaller lands directly shaped the family structure. On the other hand, as said by Indra Gurung, it is also true that the family planning program launched across the country is another factor that shaped the family structure. Due to a lack of human resources and support from family members, especially their son and daughter, the old couple plans to quit the herding profession forever.

From another perspective, the herder's family (including non-herders as well) is seriously affected by the globalization process. The flow of their members toward urban areas for work and study or traveling abroad for other work is a severe concern regarding the continuation of the transhumant herding system.

Babuji Tamu from *Ghyachok* expressed that the market provides both opportunities and breaks the family structure. According to him:

We are a family of four brothers and two sisters, and I am the second son of our parents. We used to stay together and work together even after our marriage. The ancestral property was not separated. However, two of my younger brothers have been working in market-related jobs since the market in our village. Their family is now asking to divide the ancestral property. If we live separately, I will get no support in this profession as my two sons are also in Kathmandu for higher studies. (Babuji Tamu, personal communication, February 15, 2020).

The long practice of joint family structure is slowly breaking into small nuclear families. This breaking of family ties (joint to nuclear) is growing gradually in the research area, which is also an indicator of modernization. On the one hand, globalization and the market are providing numerous opportunities to each individual; however, due to the same, transhumant pastoralism is crumbling down with the divided family and lack of human resources required for sheep herding. Similar transformations are in other herding communities. One of the ex-herders from *Dharche* had a similar story to share, and according to him, "...my only son is living in Pokhara with his own family. He barely visits the village. I feel happy when grandchildren visit us once a while" (Manab Tamu, personal communication, January 16, 2020). The market seems so powerful in both cases. It holds the power to uplift the living conditions of every individual. However, it has equal power to divide the family, dividing joint families into nuclear families. If the disintegration between family and traditional family profession continues, there is a slim chance of reversing such traditional transhumant practice in the research area. Lastly, it is all about human resources and their commitment to keeping transhumant pastoralism practices alive for the year. Globalization and market systems have successfully brought such change in the rural sector.

According to different interviews, comparing the average family size in three research areas, it used to be eight among transhumant pastoralist households of *Ghyachok* in the earlier period, but this number has dropped to an average of six. A similar dropping rate is in *the Barpak* and *Sirdibas* areas. In the earlier period, a higher

family number required labor power for agriculture, household work, and sheep herding. But now, the average family size has decreased, and its effect is in the decreasing number of transhumant systems in northern Gorkha.

Table 5.4

Average Family Size of Transhumant Pastoralist among Three Villages

| Average Family size of transhumant Pastoralist | <i>Ghyachok</i> | <i>Barpak</i> | <i>Sirdibas</i> |
|--|-----------------|---------------|-----------------|
| During 1990s | 8.21 | 6.01 | 7.3 |
| In 2019 | 6.6 | 5.12 | 6.34 |

Source. Field Study, 2020

Further, family sizes have also decreased in lower hilly areas. As per Kali Gurung (56 years old) from *Kaltu Byasi*, she had five sisters and one brother, and there were eight family members in her house, but now she has three children. Similar or even lesser family sizes are in this area. Small family size has a direct connection with the farming system. As per Kali Gurung, she has kept farmland fallow in different places due to a lack of farm labor. Her daughter is married in another district, and her only son lives in Chitwan, searching for work. The only couple is now unable to work in the field. They tried to hire farm labor, but the wages were relatively high, and such workers were attracted to market-based work as they could receive their wages within the same day. On the other hand, due to such fallow land, the connectivity and relationship with transhumant herders is slowly fading away.

5.3.2 Changing Cultural Value and its Effect on Transhumant Pastoralism

No society is stagnant. Societal, cultural, and religious values change according to the time and context that erupt within or in other parts of the world. Due to globalization and the movement of people, technology, ideas, different cultures, and values are diffusing from one society to another. In this process, newly arrived cultures can create ripples in the existing traditional cultures. Such a process ultimately brings change among people in terms of their culture, religion, economy, and politics.

In the study areas, the traditional culture is in a death trap. The religion associated with such culture also slips with such a changing culture. In terms of changes in culture and religion and their effect on herders groups, Banu Gurung of *Barpak* said:

Our society has been hammered by outer society, their beliefs, and values. Lately, I realized that I am also a victim of this hammering. To my knowledge and study, there was no such outer influence in our society, but since our youths started to get hired by the British, various foreign cultures entered. This changed our lifestyle and way of thinking about traditional work. Its direct impact is now the declining transhumant system in our village, which has important religious value among us. (Banu Gurung, Personal communication, January 14, 2020).

This statement shows the frustration of foreign cultures and values that are destroying their traditional values and institutions. Such foreign cultural values have directly affected one of the Gurung's identities, transhumant pastoralism. Banu Gurung from *Barpak* is also a social activist who continuously advocates for Gurung's cultural and social values, beliefs, and importance. As per him,

...declining transhumant system has important religious meaning among Gurung society and culture. Religious encroachment by Christianity by establishing Churches and praying houses in different villages around is a direct assault upon our religion, and this has diversified our religious values within the same village; we are not the same people anymore. (Banu Gurung, Personal communication, January 14, 2020).

His statement demonstrates how *Bon*³⁶ religious values are slowly fading and how Christianity has remained successful in stirring up the existing cultural and religious values within a short period of time.

Furthermore, such whisking within culture and religious values has pushed their traditional social values away due to the declining transhumant pastoralist households in this region. One of the ex-herders claimed that transhumant pastoralism has close ties with spiritual deities, and they pray and offer such deities, especially while staying at the higher grazing areas, to receive spiritual protection from them. However, several families, including pastoralist families, adopted Christianity, which caused disaster among such households. They believe Christianity is different and not soothing to their traditional values and culture.

³⁶ Bon is a religious practice in Tibet and the Himalayan regions based on spiritual and Shamanistic beliefs. However, research participants in the study area believe Bon to be Indigenous religious values that mainly worship earth, air, forest, and water.

5.4 Continuity and Change: The Revival of Sheep Herding

One of Gurung's traditional works is on the verge of extinction. As cultural and religious values back up such traditions, the local Gurung youth are working hard to bring cultural and religious awareness among Gurung societies. Due to such motivation, several Gurung youths are still working on their ancestors' professions, such as transhumant pastoralism, and few have rejoined recently. Three youth members of herder's family (two from *Barpak* and one from *Ghyachok*), who have wandered the gulf countries, returned to the herding profession again. The reason for such a return is "...continuity of ancestral profession" (Birkaji Gurung, Personal communication, January 13, 2020; and Raj Kumar Gurung, Personal communication, January 14, 2020). The herder from *Ghyachok*, who restarted transhumant pastoralism, believes that "...the hardship for their sheep herding is no different than camel ranch in Fujairah and Dubai" (Prakash Bahadur Gurung, personal communication, February 16, 2020). Further, all three returnees think that being a male person in the house, they must experience different places, societies, and countries. This looks like a gender discrepancy, but the male counterparts traveling abroad either for the British military, as an average worker in Gulf countries, or working as a shepherd is the story of many males in northern Gorkha.

Among several ethnic groups residing in the Northern part of Gorkha, one of them is *Ghale*, whose ritual practices are based on Buddhism and shamanism³⁷. Their cultural ties with spirituality demand sheep during different local rituals. There is an increasing demand for sheep from urban areas because urban people believe that sheep from high altitudes are grazed with medicinal herbs, so such sheep are organic and beneficial for their health. Such dietary importance has also kept transhumant pastoralism alive in the Himalayan region. In this, Banu Gurung of *Barpak* replied that:

The *Barpaki Ghale* uses sheep to offer their deities. They do not accept other fowl, goats, or buffalo in their kitchen. We consume sheep only during different festivals, such as *Dashain and Tihar*. Even when we are sick, we offer sheep to the deities. We do not even offer goats in such cases. This is not acceptable in our kitchen or ritual. Further, in *Barpak*, there are around 1400 households, and

³⁷ It is a religious practice that involves interacting with what practitioners believe to be a spirit world through altered states of consciousness.

during *Dashain*, if each household offers two sheep, more than 2000 sheep will be consumed in one festival. (Banu Gurung, Personal communication, January 14, 2020).

The above statement demonstrates that local rituals are one of the main reasons for reviving transhumant pastoralism in Northern Gorkha, especially in *Barpak* and *Sirdibas*. The culture that they hold in terms of sheep consumption is unique. Furthermore, the number of households situated in *Barpak* is significant (more than 1400), so the demand for and consumption of sheep is high compared to other villages in this region. According to the locals, over 2,000 sheep are consumed in *Barpak* annually. Each household consumes a minimum of two sheep yearly. Wealthy households consume even more sheep every year. It is not only during major festive seasons to consume sheep but also around the year during different rituals. As such, it can be estimated that the sheep consumption can go beyond 4500 in *Barpak* alone. This is also justifiable as *Barpak* is becoming a tourist hub, especially after the 2015 earthquake epicenter, and the number of hotels established is significant. The researcher also found that even the Dalits of *Barpak* have the same consumption pattern of sheep in different festive seasons. During the field visit, we learned that *Ghale* does not consume buff and chicken. According to Banu Gurung, "...buff and chicken items are not acceptable in *Ghale's* kitchen. The culture of *Ghale* to consume only sheep is making the demand for sheep even high" (Banu Gurung, Personal Communication, January 14, 2020). He further unboxed that "*Ghale* of *Barpak* prepared different items of sheep meat throughout the year, one of them is dry meat (*Sukuti*) that they send to their relatives in Pokhara, Kathmandu and even to the UK or other countries" (Banu Gurung, Personal Communication, January 14, 2020). This also shows that the number of sheep consumers is equally high outside the research area (within the country and abroad).

There are a few ritual differences between *Ghale* and Gurung in the study area. Although *Ghale* is also one of the caste groups within Gurung, they do not consume buffalo and chickens or offer them to their deities. They only use sheep. Due to such cultural and ritual practices, *Ghale* considered themselves superior to other Gurungs. One ex-herder (Gurung) in *Barpak* connects the sheep-rearing practices with *the Ghale* culture in the study area. According to him,

What to do? *Ghale* are the ones who only consume sheep during their rituals and festivals. Due to this, other Gurungs living in these regions also consume sheep, which is different from their usual food culture (buffalo, goat, and chicken). So, every Gurung and *Ghale* household rears at least 3-4 sheep at home, which are reared locally. (Shyam Bahadur Gurung, personal communication, January 14, 2020).

Due to sheep's ritual and cultural importance, Gurung and *Ghale* are rearing a minimum quantity of sheep at home. These locally reared sheep are neither for transhumant purposes nor sale purposes. Rearing the minimum quantity of sheep is easier than having a large herd, as large herds need separate management similar to the transhumant system. It is because local forage and water sources are not sufficient in the study area, and on top of that, it is rare to find a dedicated herder who works for a salary for such a difficult job. According to Banu Gurung from *Barpak*:

Gurungs are the ones who keep both livestock and agriculture. On top of that, the population is increasing continuously, and there is a high demand for sheep during different religious functions. To fulfill these demands and balance our economy, Gurungs have been up keeping sheep. We will try our best to continue this (Banu Gurung, Personal communication, January 14, 2020).

The above statement is also in the same vein as an interview from *Barpak*. This statement demonstrates the importance of sheep herding practices in Gurung and balances the supply-demand chain and economy of the people residing in that area. This indicates that demand is robust in the Northern part of Gorkha district. However, the number of ex-herders is very high in this area. Those who used to rear sheep primarily work as professional tour guides and porters in the tourism sector. Drastic livelihood change can be observed in this area.

In a bit of a frantic view, Navaraj Gurung from *Sirdibas* said that "pastoralists from *Sirdibas* are doing well without the help of the government and they have been doing this for many generations. Pastoralists do not need support from the state except letting them wander around their forest and grazing lands without any restriction." (Navaraj Gurung, personal communication, January 25, 2020). This is his dissatisfaction

toward the state/government. His faith toward the state is decreasing as transhumant pastoralism is more like a natural process. Rearing of sheep is only possible where rangeland and grazing areas are available. So, his only wish is to use forest for grazing purposes without any restriction.

Along with Navaraj Gurung, couple of sheep herders (Ram Gurung and Indra Gurung) are unsatisfied with the state policy that have been imposed on them. The state always tries to gather as much as it benefits from its subjects in various ways. Collecting taxes and revenue from the subjects, cheering its subjects for population rise so that the state can enjoy the domestic labor, implementing various state policies so that they can keep their subjects under their control and supervision. In return, the subjects are mostly empty handed, especially those living in rural and far-out from the urban setup. The bitter truth that Navaraj Gurung has expressed is somewhat true. They do not want evil eyes of the state on them. They look fine without the presence of the state or its representative. The history of the transhumant herding system is older than any state in the world. The herders have been herding their livestock for centuries without the state or state functionaries. It is a logical argument of Navaraj Gurung: Why now the state?

Further, a complete collapse of transhumant pastoralism is also impossible until everyone on this planet earth goes vegan or unless the sheep breed exists on this earth or a specific environment keeps favoring their existence. So, the researcher firmly believes that certain aspects of transhumant pastoralism will change, and other aspects will continue. This means the sheep herding style can change from one way to another or within the same political boundary. However, it must come under existence until its value exists economically, culturally, and religiously among the people of this region. It is a tug of war between the change maker and sheepherders, and as a synthesis, new practices in the herding system can emerge in between; some patterns will change, and some will continue.

Relating Hinduism and goat production in hilly areas, Om Prakash Gurung (Ward Chief) explains why sheep herding is essential. According to him:

People are investing in goat farming to meet the increasing population demand and urbanization. The demand for goats is around the year, from which they can

profit. As such, investors must be mindful of selecting specific geography, skilled workforce, and forage. Such will increase the investment rate; thus, the value of the goat goes up in the market, especially during the Hindu's great festive seasons. However, in transhumant pastoralism, pastoralists sometimes reared hundreds of sheep with their traditional knowledge and without any external support from the government. (Om Prakash Gurung, personal communication, January 16, 2020).

There are many examples of cultural revival around the world. In the research area, the sheep herding culture is declining due to various modernization factors; however, with the above reasons, extinction of transhumant pastoralism is impossible, at least up to another decade. However, should there be any unfavorable situation for transhumant pastoralism, or if this tradition comes under heavy attack from the state or nature, it may adapt to a new cycle and keep moving by leaving certain limitations. This would be the reproduction of cultural concepts.

The revitalization of transhumant pastoralism in the research area demonstrates that the effect of globalization and modernization is not the same in all places. The general perception that globalization and modernization can change social values accordingly is contentious, at least in this research area. The confrontation of globalization and localization is evident in this study. So, some components of society have changed in the research area, whereas others have the same values and belief systems. Changing livelihood from transhumant pastoralism is one of the changes. In contrast, religious and cultural value systems and society guide in the same manner, which is the continuity in the research area.

5.5 Transhumant Pastoralist and Their Challenges

The first challenge found in the research area is the declining number of transhumant pastoralists. In fact, this problem is not only in Nepal but also globally. The declining trend has put their traditional culture and practice in big question. Due to this, the new generation of herders is staying away from this traditional profession, migrating to urban areas or abroad for labor migration and adopting different livelihoods. This process reflects a severe social problem, such as a lack of workforce (herder) for this particular work. Those who are currently in this traditional profession are also in a state of confusion to continue it.

In early times, transhumant pastoralism had high status and benefits. Those with a big herd and more sheep were considered wealthy. But now, being a shepherd is no longer as lucrative and status a profession as it once was. The new generation is more into fixed-hour jobs rather than 24/365 jobs like sheep herding. This situation has many reasons behind and one of the prominent ones is encroaching on the capitalist world through the market.

Another critical challenge in transhumant pastoralism is securing grazing land for their sheep. During the winter season, the pasture becomes insufficient for sheep due to excess grazing at high-altitude regions. In the meantime, snow starts covering available grass, and falling temperatures make it harder for herders and sheep to survive in high-altitude rangeland. Although sheep's natural physiology is built to resist cold, they cannot resist extreme ice cold, which may lead to their death. Pastoralists are aware of this, so sheep are brought down to the survival temperature, where they let sheep graze for a few days to acclimatize to the local temperature before moving down to a warmer temperature. Another reason for bringing sheep down the hill is to easily get fresh pasture and water. However, these pastoralists do not have their grazing land downhill or in the destination locality, which makes their stay uncomfortable during the herd's seasonal move. To survive, they must negotiate with the locals or community who own the grazing land or forest. Forming community forests around their traditional grazing land is becoming another headache for the herders. The local communities where forests and grazing lands are located are becoming more vital regarding the legal aspect. The government gave these local forests to communities for their protection and growth and as an alternative livelihood. On top of that, forest laws and policies made the local communities more powerful who owned the community forest and grazing land.

Due to the volume of the herd, many times, in between seasonal moves from highlands to lower hills, they have to pay fines to locals after their herd enters private fields and consumes field production. Some herders were also threatened and attacked in such cases.

Another challenge for transhumant pastoralists is the encroachment of markets in their migrating destination locality. This market encroachment means locals' direct link

with the market and easy availability of chemical fertilizers for their arable lands. Access to such chemical fertilizers means rejecting manure from the transhumant pastoral system. Side by side, locals are abiding toward the local community forests and breaking relations with seasonal movers—transhumant pastoralists.

5.6 Summary

This chapter discussed the different livelihoods of transhumant pastoralists in the research areas. Further, it discusses how labor migration abroad affects the herding cycle and lower hilly communities. Due to labor migration abroad and the lack of family members to look after the herd, the herding system is thinning out. Similarly, the labor migration abroad contributes to increasing fallow land in lower hilly areas, sidestepping transhumant pastoralists during winter. From both ends, transhumant pastoralists have been affected. Also, it discusses how the market is playing an essential role in declining transhumant pastoralism and providing equal opportunity for transhumant herders.

In the further sub-chapter, the state's intervention in the forest (leading to the emergence of community forest) led to a disintegration between the livestock and agriculture in lower hilly areas. Such disintegration isolated agriculture, thus increasing fallow land. It is discussed how the lower hilly community started sidestepping the herding groups with decreasing agricultural practices at lower hills, impacting the overall ecosystem of the transhumant herding system. Further, such a declining herding system has been found to connect with the changing social and family structures of the herding group. The deflection of culture is also discussed, where it plays an essential role among *the Ghale* and Gurung communities, leading to a revival of sheep herding.

This study found that livelihood among transhumant pastoralists is slowly diverging. Those who have less or no alternative livelihoods are found engaged in this profession; however, those who are hit by different natural calamities and lack family members to work as herders have abandoned the sheep herding profession to secure their living by various alternative means such as hotel business, sharecropping in the village, abroad labor migration, teaching, and mule business. Table 9 also reveals the change in the number of transhumant herders within three decades of the period. The decreasing number of pastoralists is higher at *Sirdibas*. This is generally because of their need for

distance sheep herd movement and different developments against them such as community forest groups, restriction on grazing land at lower hills, conflict with the community at the migratory route, changing the livelihood of lower hills leading to barren farmland and sidestepping transhumant herder.

In terms of *Laparak-Dharche*, it is the political boundary that led them to take their hands off sheep herding. The high-altitude rangeland (*Patan*) is a subject of conflict between *Laparak* and *Barpak*. As the high-altitude rangeland falls under *Barpak*, the residents of *Laparak* are disallowed from using those resources. Without a high-altitude grazing area, there is no place to take their sheep, especially during summer. This led the herders to change their livelihood options in trekking and tourism. It is reported by the locals that more than 400 people are license holders for trekking jobs.

Further, the main concern is the labor migration trend in highland and lower hilly areas. The higher migration trend in lower hilly areas plays a dominant role in the decline of transhumant pastoralism in the highland area. Increasing fallow land due to abroad migration has forced the lower hilly communities to sidestep the long-distance migrating herders from the highlands and contributed to reducing the number of transhumant pastoralists.

The lower hilly areas are close to the market; thus, their dependency on such markets is high. Their meat dependency is also deviated from transhumant pastoralism to the market. However, the market as a historical engine provides equal opportunities for selling different products from the herder community. Most importantly, the state's intervention in the forest remained vital for the declining transhumant pastoralism in Northern Gorkha. The criminalization of transhumant pastoralism (if they graze over their traditional forest and grazing area) has affected the overall cycle of transhumant herding, including the profit cycle and ecosystem of sheep herding in the research area (see Appendix A5). One of the key phenomena explored in this study is the disintegration process between livestock keeping and agriculture in lower hilly communities, which can be further developed as "Disintegration Theory" to study a similar type of traditional decline associated with livestock keeping and farming system.

The farming system has a close nexus with livestock-keeping practices. All the manure they collect from their animal livestock is crucial for their farm soil to recharge annually. Since community forests, market systems, labor migration abroad, and shifting

of political boundaries, this nexus between farming and livestock kept declining, leading to a decreasing farming system and increasing fallow land. Once the fallow land increased at lower hills, welcoming transhumant pastoralists to such uncultivated farmland became pointless. Because of such disintegration, its impact is visible in the declining transhumant pastoralism system, food security, and biodiversity.

Secondly, this study demonstrates how a change in one society induces a change in another. The social structural change in lower hilly society accounts for a particular portion of social change in northern society or transhumant pastoralism. Notwithstanding, the change (livelihood) among pastoralists is also associated with the global process and change that they are facing at their location. Political change and changing political boundaries have also changed the occupational cycle of transhumant pastoralists in the study area.

CHAPTER SIX

SUMMARY, CONCLUSIONS AND THEORETICAL REFLECTIONS

This chapter summarizes the findings from the preceding chapters. The study's conclusion is based on theoretical reflection on transhumant pastoralism, its decline, and its link with livelihood. In addition, an area for future research is included.

6.1 Summary

The declining transhumant pastoralism is a common phenomenon worldwide, including Nepal. The falling number of sheep suggests Nepal's declining trend of sheep herding practices. This study started with three research questions in the center. So, to explore how the state and market, as independent variables, play a pivotal role in changing the livelihood of such pastoralists (dependent variables) at high altitude areas, this research has been conducted in northern areas of the Gorkha district. Modernization, social exclusion, and exchange theories are reviewed in the theoretical part.

It is found that three types of transhumant pastoralism are in practice within the same geographical region. Initially, there were only long-distance migratory herding practices. However, recently, with the development of community forests at different villages and political borders separated by the federal system (municipality to municipality), the herding migrating routes such as Medium Distance Migratory Transhumant Pastoralism (MDMTP) and Short Distance Migratory Transhumant Pastoralism (SDMTP) are found along with Long Distance Migratory Transhumant Pastoralism (LDMTP) in the research areas. Among the three, SRMTP is found in *Ghyachok*, MRMTP in *Barpak*, and LRMTP in *Sirdibas*. According to the herders, the new federal system has added challenges for them as they need to get permission from another Rural Municipality before moving their sheep to another municipality for grazing purposes. Because of such challenges, short- and medium-range migratory herding practices were developed and confined to their municipality's political border.

It was also found that transhumant pastoralism is based on the availability of pasture and water sources in the destination villages. It has also been found that sheep tend to move from one point to another to evade the temperature. The herder's responsibility and duty is to observe different symptoms among sheep and act

accordingly to plan the route and campsite for sheep. Further, herders are attracted toward market-based livelihoods with the development of the market system in rural areas. This can be taken as an illustration of neoliberal in rural areas, which is lowering trade barriers.

Along with increasing market consumption, sheep consumption has also increased in *Barpak*. Few youths have started working in stall-fed commercial sheep farming in *Barpak*. However, such new innovations have found a need for more funds, different technical knowledge, and indigenous knowledge to keep their sheep. The possibility of such commercial sheep farming can escalate if proper scientific management and funding are met.

Education is a dilemma for pastoralists as it is a new requirement for new generations, but they are equally worried that their new generations are not following ancestral footsteps (herding practices), which can lead to the complete fall of transhumant pastoralism shortly. In terms of gender-based work among pastoral families, the traditional gender-based work division can be found where female members are under a double burden (the household work including herding), but male members are primarily working with sheep herding, dealing with the community for campsites and selling of sheep. This shows gender role disparity among transhumant pastoralist families and workload leaning toward females.

Diversified income sources are found among transhumant herders; however, their major source of income still remains sheep herding. Due to the fragmentation of inherited land, the landholding size of pastoralists is also decreasing, which has directly affected their farming and, ultimately, livelihood change by involving themselves in different professions. The land fragmentation and loss of land due to landslide/mudslide at lower hilly areas (winter grazing areas: *Byasi*) is becoming a contributing factor for lower hilly communities to sidestep transhumant pastoralists during the winter grazing. Landslides and mudslides have also dried out various water sources at different locations, leading to irrigation problems and forcing lower hilly communities to exit from agriculture. In lower hilly areas, labor migration and remittance trends abroad, increasing monkeys and hedgehogs, dependency upon the market, etc., have also contributed to lower agricultural practices.

Due to agricultural decline, the relationship between the herders and lower hilly areas is slowly fading away. The functional interdependence between herders and the local community has been derailed, mainly due to the market and community forest program. In addition, there is no consistency in treating transhumant pastoralists in the research area. The local community from the southern side of *the Daraudi River* behaves differently from the pastoralists visiting from the northern side. *Vingya* is a popular but degrading word to understand those northern side pastoralists and less or no marital relationship across *the Daraudi River* (between herders and lower hilly community) observed.

The rupturing relationship between herders, lower hilly communities, and communities on the migrating route is worse than at least ten years earlier. According to several herders, a possible conflict can arise due to penalties imposed on herders by locals after their sheep enter the local farm and community forest, which discourages transhuman herders from maintaining sheep. Although the herders have been grazing in these places for many generations, their relationship with the local communities has not remained consistently healthy, especially after the introduction of community forests and the encroachment of markets in the vicinity areas.

Interviewed pastoralists are found to be worried about the declining transhumant pastoral system as their young generations are no longer interested in this exhausting profession. The conflict with different communities during seasonal movement, difficulty in route selection, temperature variability, market system, and its linkage with agriculture are piling challenges for pastoralists. All these problems are impacting the transhumant cycle as a whole. The primary income sources of the interviewed pastoralist are still sheep herding; however, with a growing market and opportunities near the villages, family members of pastoralists have started their engagement in petty business, mule transportation jobs, hotel business, tourism, non-farm labor work, et cetera to make their living. This shows the diversity of livelihood options, which has directly played an essential role in lowering the importance of the transhumant herding system in their community. Due to various operational challenges, those active herding members need to be more blissful with the government and insurance policy for their sheep.

Despite all these new challenges, the herders are trying to continue their profession. In between, due to various land-related updates and policies, land sizes available, and community forest and grazing area policies (at the local level), these pastoralists are facing problems, especially during winter migration. Notably, the disintegration between livestock keeping and agriculture in lower hills areas (limiting/restricting locals at community forests leading to a lack of forage for livestock, which further led to less or no collection of livestock manure for agriculture) led to increasing fallow land. This has further forced the locals to sidestep transhumant herders in their locality during winter.

The market, road connectivity, and communication system development have also helped shift the sheep herding profession to another. It is reported that transhumant pastoralism is continuous work throughout the year, so instead of such engaging work, the youth of pastoralist families are attracted toward fixed-hour and easy-money work, such as labor migration in Gulf countries and Malaysia. This is causing a shortage of human resources required for transhumant pastoralism, leading to the gradual decline of this profession.

The state policies regarding grazing land, community forests, and conservation and protection areas have also played an important role in bringing down transhumant pastoralism. This has abruptly disturbed the whole cycle of transhumant ecology in the research area. The closure of Tibetan grazing areas and community forest policies implemented by the state have restricted herders in many grazing lands in lower hilly areas during winter. This demonstrates declining functional interdependence between the study's herders and lower hilly communities. The CFUG chief and community forest members at Lower Hills believe sheep are forest destroyers. The sheep herd eats all types of plants, including medicinal herbs and other high-value plants, which are their alternate income source from the forest. This is why forest user groups are not ready to compromise their income by letting those sheep herd in their forest.

On the other hand, some pastoralists claim that the grazing areas located at lower hills are their traditional rights. From an indigenous perspective and claim, such grazing areas have been in use for many generations, so they cannot be exempted after

establishing new institutions and rules as those areas are closely linked with their livelihood. If there is no grazing land at lower hills, no herders can upkeep their sheep during winter. However, due to such entry of forest programs and their restriction to herders at the lower grazing areas, conflict between herders and locals is bubbling up while descending during winter. The traditional grazing lands of transhumant herders have been drifting away from the hands of these herders, leading to declining numbers of transhumant herders in the research area.

From another view, adaptation of modernity and the economic structural change in lower hilly areas has also contributed to the decline of transhumant pastoralism. Since the livelihood of lower hill communities has been shifted from agriculture to market and labor migration abroad, necessary human resources are lacking for agriculture, leading to increasing fallow lands. Those who continue farming at Lower Hills are using chemical fertilizers that they buy from the local market. This has also pushed transhumant pastoralists away from their locality, leading to the decline of the transhumant system in the research area.

It is analyzed that the transhumant pastoral system balances the ecology and agricultural needs of different communities in the transiting route, especially in lower hilly communities where they spend nearly 4-5 months. Unfortunately, this system and occupation are gradually declining, which can have negative impacts on biodiversity in the days ahead. Aryal (2015) is also worried that complete collapse of the transhumant system could be detrimental because grazing is one of the traditional ways to balance ecology and if such systems collapse, the whole ecology cycle might be affected.

The national policies for transhumant systems are still not suitable for transhumant systems, as per respondent herders. For instance, the government announced insurance for insuring herders' sheep, but if their sheep die in higher rangeland, the herders have to travel up to the district headquarters to report such deaths and claim insurance. It is informed by the herders that the travel cost for such will equal what they may receive as insurance. Most importantly, due to limited human resources in higher grazing areas, such an insurance policy is impractical for herders to claim their losses.

In coordination with local authorities, the government has established a grazing area close to *the Daraudi* River that comprises insufficient fodders for the large herd.

There are no alternatives if such grazing area is overgrazed within 2-3 days. The herders have to sustain around lower hills during the whole winter months in coordination with locals, and due to this, local communities are becoming more powerful on the basis of the resources they hold in their area.

All these factors force transhumant herders to shift their traditional livelihood from transhumant pastoralism to non-farm wage and labor migration abroad, which is evident in the research area. As per the research, the natural geography and environment that transhumant pastoralism requires cannot be fulfilled by state policies. The only thing they need is the availability of grazing land at lower hills that they have been using for many generations. However, their traditional practice is on the verge of extinction due to the lack of such grazing areas.

Not only the sheep herding practices in danger of disappearing, but local knowledge in terms of the whole cycle of transhumance, the local environment, medicinal herbs, and numerous local skills that such transhumant herders possess through their years of observation and work, including those devolved from their earlier generations, is also disappearing. The herders are urging that it is the state's prime responsibility to preserve and protect such wealth of knowledge and continue it to improve local biodiversity and economy.

The government and development organizations who work for community forest user groups have presented their views from their perspective only, such as saving the greenery, avoiding natural disasters, protecting the forest, increasing income, and securing local bio-diversity and women empowerment. According to the herders (and also different literature suggests), sheep play an important role in preserving local biodiversity, so their migration from higher altitude rangeland to lower hilly grazing areas must be accepted as part of the cycle in an ecosystem.

On the one hand, structural change in lower hilly communities due to market and labor migration is widening the relationship gap between the herders and the local community. Further, the community forest policy and Grazing Land Act have fuelled the tension between the migratory herders and locals at winter migrating routes. As such, it is reported by the herders and ex-herders that the transhumant pastoralists are taking their

hands off sheep herding (a traditional profession). However, the cultural aspect, on the other hand, is boosting the need for sheep and, thus, the herding system. As Gurungs and *Ghale* of this region are primarily the traditional shepherders as well as prime consumers of sheep, ignoring transhumant can affect both the transhumant herding system as well as the traditional culture of Gurung, at least in the research area. In the research area, the local cultural values (offering sheep to their deities at home, in the jungle, and in highland rangelands) are also found to be an important factor in increasing the value of sheep.

Because of the association between sheep and Gurung culture (for various religious and indigenous functions in the Gurung community such as *Dashain*, *Biaakh Purne*, marriage function, *Lhosar*, and *putpute*, also called *Chewar*), the people of the research area are rearing small number (less than five per household) of sheep till date. However, the number of transhumant pastoralists rearing sheep in bulk (400 and above) is decreasing. Nevertheless, cultural importance is revitalizing the need for sheep herding in the research area, and transhumant pastoralism has not entirely vanished in the research area compared to other geographic locations of Nepal.

The restriction on community forests and grazing areas has paralyzed the transhumant herding system and forced them to move from one to another suitable Rural Municipalities in search of green pasture and grazing areas. With such limitations, pastoralists have also adapted new ways of pastoral systems limited to certain areas, such as SDMTP. However, herders are skeptical about the growth of the transhumant system and their livelihood with such limitations. On the other hand, a few long-distance migrating herding groups from highland areas, such as *Sirdibas*, continue the herding practices despite various obstacles. Sooner or later, such a long-distance migratory herding system is predicted to change to a medium or shorter one. If not, the growing sedentarization at the lower hill can sidestep these long-distance pastoralists shortly. This can lead to the vanishing of LDMTTP, leaving other consequences to human society, the economy, the environment, and biodiversity.

Despite the gradual decline of transhumant pastoralism in the study area, in *Barpak*, the continuity of transhumant pastoralism has also been supported by the

local cultural and religious values. Youth of *Ghyachok* and *Barpak* engaging in reviving sheep herding as a traditional *Gurung* culture and stall-fed sheep herding practice at *Barpak* (commercialization of sheep) suggest that sheep herding practice at northern Gorkha is not vanishing soon. Due to a lack of forage, some locals have also started collecting sheep from the community and grazing them in bulk at specific locations within the same rural municipality.

This study has provided a new avenue to understand the critical relationship between livestock keeping and agriculture. These both work in parallel and if one of them is isolated, the existence of another will come to a halt. This study found that the disintegration of the relationship between livestock keeping and agriculture in lower hilly areas has directly impacted the livelihood of transhumant pastoralists. This study also showcases how social structures are essential for social change. The social change in the lower hilly communities in terms of agriculture, migration, family structure (increasing nuclear family), and the disintegration between livestock keeping and agriculture became pivotal for decreasing transhumant pastoralism. This research further contributes to understanding declining traditional occupations sociologically, which is how modernization brings structural changes in society, and such a situation brings livelihood changes over time.

6.2 Conclusion

Transhumant pastoralism is a resource as well as an environmental-based economic practice. With changing environmental components, several transhumant pastoralism practices have also dropped in the study area. However, pastoralists still follow similar movement practices with three major types of distances. The new political boundaries at local levels have also contributed to forming new types of herding distances and new forms of herding systems, such as stall-fed sheep herding. With free education provisions, young family members (students) are barely involved in transhumant practices, which is why most elders (parents) hold lines of transhumant pastoralism in the study area. Although women are less involved in herding practices, they bear a heavy pastoral workload (sheep herding and camp chores) compared to male pastoralists. At the same time, male pastoralists' involvement is in herding, dealing with communities, and sheep transactions, which demonstrates deep-rooted gender disparity in rural sectors.

According to Emerson's exchange theory (1981), the exchange is done with those where one receives more advantages. The parties cannot always reward each other equally; when there is inequality in the exchange, a power difference will emerge within an association. Further, in exchange theory, Blau (1964, cited in Ritzer, 2011, p. 427) writes that once initial ties are forged, the rewards they provide each other serve to maintain and enhance the bonds. The opposite situation is also possible with insufficient rewards; an association will weaken or break. Herder's asset (sheep manure), which used to be valuable for lower hilly community agriculture, is now less valued due to their interaction with the market. The reason is also the disengagement of lower hilly communities with agriculture due to various reasons such as increasing abroad labor migration leading to a lack of human resources for agriculture, the influence of the market leading to the easy availability of materials and work opportunities, and shrinking of arable land due to fragmentation of inherited land properties. This changed the relationship between the locals and herders, further leading to locals' sidestepping of transhumant herders in their area. Grazing land and forest areas have been restricted in winter, leading to a changing pattern of transhumant pastoralism and their livelihood in the study area.

Further, according to Huntington (1968), modernization is a multifaceted process involving changes in all human thought and activity areas. Modern society also indicates a homogenized society, which is possible with educational apparatus and industrial development within the country. Further, Lenski proposed the modernization theory, which states that agrarian society must progress to industrial society for modernization. If Huntington's (1968) view on modernization is considered here, changes in all human thought and activity areas can be traced in the research area. For example, the development of road connectivity (up to *Barpak* and *Ghyachok*), infrastructures, market system, tourism-based livelihood (homestay and motels), increasing nuclear family and presence of development organization, increasing use of communication (mobile phone and internet), increasing labor migration and remittance based economy and; increasing consumption of market commodity that demonstrate pursuing modernization in the study area. If Lenski's modernization theory is brought forward, there is no single industry in the study area that validates modern society in the study area.

On the other hand, although there is no industry, locals are consuming factory and industrial products, and on this basis, partial modernization can be claimed in the research area. Notably, the central issue associated with these developments in the study area is that they are helping to widen the gap in social relationships between the herders and lower hilly communities. This is gradually shifting the herders away from their traditional profession to other means of livelihood. The change in the social structure and social institutions is affecting the livelihood of herders.

Transhumant herders and their livelihoods are affected not only by the process of modernization but also by social exclusion. Social exclusion is a process where people are prevented from fully participating in the normatively prescribed activities of a given society and denied access to information, resources, sociability, recognition, and identity, eroding self-respect and reducing capabilities to achieve personal goals (Silver, 2007). Transhumant pastoralism's decline in the study area is due to two levels of exclusion: meso-level and macro-level. At the meso-level, local communities of lower hilly areas excluded transhumant pastoralists from using local resources (grazing land and forest) during winter. This is also due to their increasing access to market products and declining arable land and agriculture.

Further, the lower hilly community holds the resources required for the herders. As resources are also a source of power, the foothold on these resources by lower hilly communities poses greater power than those moving herders. Such unequal power distribution has also brought disputes between two groups, which signifies a conflicted relationship. At the macro level, the state and its policy on the forest have been favoring community forest user groups and excluding transhumant herders. There is a zero-level priority for those herders regarding their development, insurance facilities, and policy on winter grazing lands that uplift and support transhumant herders and the herding profession. This is a clear picture of macro-level social exclusionary practice by the state upon transhumant herders in the study area.

Despite two tiers of exclusion and decline of transhumant pastoralism in the study area, the local customs, culture, and values are countering the drivers of change (the state and market) to stabilize and continue transhumant pastoralism locally.

The *Ghale* and *Gurung*, the primary consumers of sheep and sheep products, reinforce transhumant herding systems by either rearing a minimum pair of sheep at their houses, collective herding, or using the stall-fed commercial method. With this, the total collapse of the transhumant system seems impossible, at least immediately in the study area. Instead, there is a tug-of-war going on between the drivers of change (the state and market) and the local culture, including values. The involvement of the young generation in stall-fed commercial sheep farming (in *Barpak*) is one of its illustrations.

To conclude, the declining trend of transhumant pastoralism in the study areas is not disregardable where the expansion of market structures, including the state-induced community forest policies and new political boundaries set according to sub-national states are playing a pivotal role in dislodging the livelihood of transhumant pastoralist from sheep herding to another form of livelihood practices. Disintegration between livestock keeping and agriculture at lower hilly communities is becoming a hinge point for the decline of transhumant pastoralism. The structural changes (disintegration between livestock keeping and agriculture due to external drivers of change) at lower hilly communities (*Kaltu Byasi*) are persuading the livelihood change of transhumant pastoralists residing in northern hilly villages.

However, despite the declining trend, transhumant pastoralism is not vanishing that quickly as a concern of many scholars, at least not from the study area (*Ghyachok*, *Barpak*, and *Sirdibas*). Traditional practices are closely tied with local cultural values and belief systems that provide an adequate thrust to divert such change in a new direction. For instance, stall-fed commercial sheep farming at *Barpak* (in line with Gurung's cultural and religious values) can be taken as a synthesis of such interaction.

6.3 Theoretical Reflections

This study incorporates three theories. Firstly, the exchange theory is used to find out how transhumant pastoralists practice sheep herding in exchange relationships with local communities. The application of this theory showcases that exchanges occur when there is a win-win situation for both the exchanging parties/groups and that such relationships rupture when one group or party has domination over the others.

Secondly, the social exclusion theory showcases how community and state policies have played a pivotal role in excluding transhumant pastoralists in rural hilly areas. Although such systemic exclusion by the state to rural sheep herders is less prevalent, such exclusion at both the state and community level reduces transhumant pastoralism in the study area.

Thirdly, modernization theory views how modernization can change local herders' livelihoods. This theory explained several phenomena related to sheep herding and their changing livelihoods. However, more is needed to claim that the changing livelihoods among transhumant pastoralists in the study area are only due to modernization.

6.4 Areas of Future Research

In terms of future research areas, the first area can be an exploration of the types of support that the shepherders require from the state level to encourage their profession and rural livelihood. It is also connected with local biodiversity. In this regard, the second area of future research is a comparative study of declining transhumant pastoralism within Nepal and to detect if other locations have similar causes (disintegration of livestock keeping and agriculture) as the northern Gorkha district. Detailing gender studies among transhumant pastoral communities can also be an area of future research.

Further, applying the functionalist perspective, research on the relationship between herders and local communities can be explored to identify different types of functions to enrich sociological theory. Max Weber argued that a person's 'class situation' is their market situation, so in-depth research can be a scope to identify changing class locations (working or peasant class to middle class) among hilly areas of Nepal.

Transhumant pastoralism is significant in agriculture, maintaining biodiversity, and various production possibilities, such as dairy products, wool, meat, and hide, and their economic value. It has the significant possibility of contributing locally and nationally. Despite its importance, its market still needs to be explored and untested. Policy-based research will also be an equally important future research area.

6.5 Contribution to Knowledge

Despite the changing transhumant pastoralism, it is not vanishing quickly, as many scholars have expressed concern, at least not from the study area (*Ghyachok*, *Barpak*, and *Sirdibas*). Traditional practices are closely tied with local cultural values and belief systems, posing adequate power to divert such change in a new direction. For instance, stall-fed commercial sheep farming at *Barpak* (in line with Gurung's cultural and religious values) can synthesize such interaction.

This study also contributed to understanding the correlation between livestock keeping and agriculture. If one of them lags, the existence of another will be jeopardized. This study found that the disintegration of the relationship between livestock keeping and agriculture in lower hilly areas has directly impacted the livelihood of transhumant pastoralists.

This study also showcased how social structures are essential for social change. The social change in lower hilly communities regarding agriculture, migration, family structure (increasing nuclear family), and the disintegration between livestock keeping and agriculture became pivotal for decreasing transhumant pastoralism. This research further contributes to understanding declining traditional occupations sociologically, that is, how modernization brings structural changes in society, and such a situation brings livelihood changes over time.

The findings of this research have also contributed to the gerontology domain within sociological studies. The findings show that indigenous knowledge is fading due to the disengagement of old (source of knowledge) people in transhumant pastoralism.

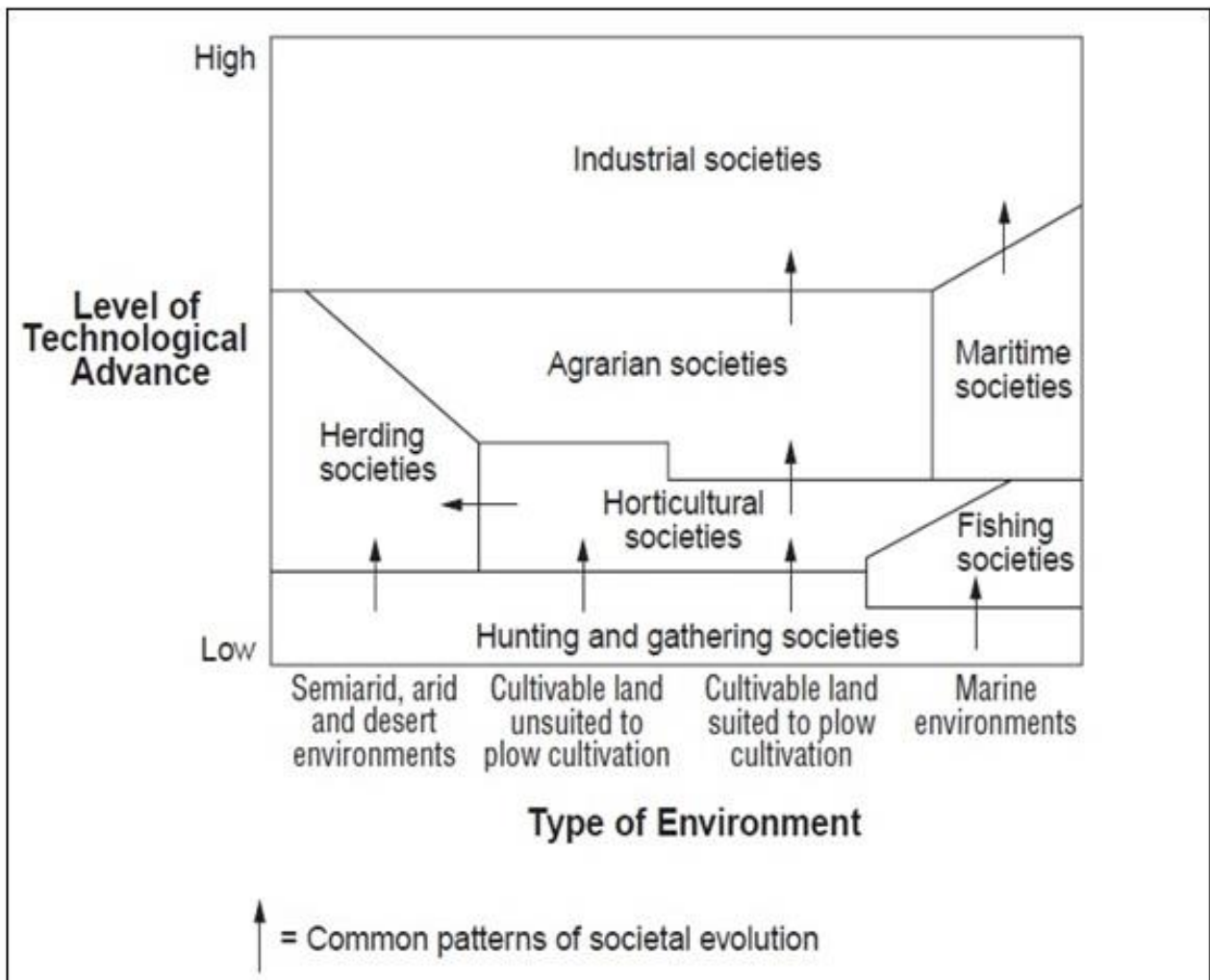
Glossary

| | |
|----------------------------|--|
| <i>Adhiya</i> | : Paying half of produced grain to the landowner |
| <i>Anna</i> | : 342.25 sq. feet land area |
| <i>Bidesh</i> | : Abroad (other country) |
| <i>Bhot</i> | : Nepal-Tibet Border where grain-salt exchange used to occur |
| <i>Bhyanglung</i> | : A type of sheep that is raised at high altitude areas above 2500 m. |
| <i>Biaakh Purne</i> | : Festival celebrated in Baisakh month of Nepali calendar |
| <i>Buki</i> | : Main fodder for sheep at high altitude rangeland |
| <i>Chahar</i> | : Less fertile or less arable land found in hilly and mountains. |
| <i>Chilaune</i> | : Needlewood tree |
| <i>Dashain</i> | : Hindu festival celebrated by most of Nepali people |
| <i>Dhur</i> | : 182.25 sq. feet land area |
| <i>Ghale</i> | : An ethnic group of Nepal |
| <i>Ghum</i> | : A raincoat locally made by <i>Bhorla</i> leaf |
| <i>Ghumti Goth Pranali</i> | : Migration of herd as per available resources |
| <i>Goth</i> | : Camp established for sheep |
| <i>Gothsaal</i> | : Shelter established for livestock that are raised near the house. |
| <i>Gurung</i> | : An ethnic group of Nepal whose settlement is mostly concentrated in Gandaki Province |
| <i>Jaabi</i> | : A carrying net bag weaved with significant holes |
| <i>Katuwal</i> | : Messenger in the village |
| <i>Khalati</i> | : Air blowing sack made up of sheep skin |
| <i>Kharcha</i> | : Grain and Liquor that is given to transhumant herders by local community. |
| <i>Lapraki</i> | : Inhabitant of <i>Laprak</i> village |
| <i>Lek/Lekh</i> | : High altitude rangeland |
| <i>Lhosar</i> | : Festival of Gurung |
| <i>Mukhiya</i> | : Chief of the village |
| <i>Nogarya Noba</i> | : Gurung's traditional method to manage forest |
| <i>Putpute/Chewar</i> | : A ritual for Gurung boy |
| <i>Paatal</i> | : Top of the hill |
| <i>Qu Pron</i> | : Transhumant herding in Gurung language |
| <i>Ropanies</i> | : 16 <i>Aana</i> or 5476 square feet of land |
| <i>Sallo</i> | : Chir Pine |

| | |
|----------------------|---|
| <i>Shyabal lah</i> | : Grazing fees |
| <i>Syaula ko Mol</i> | : Price paid for the pasture or grazing area |
| <i>Theki</i> | : A wooden container used to make buttermilk |
| <i>Vingya</i> | : A dominating word used against sheep herders from northern part |
| <i>Zamindar</i> | : Tax functionaries of Nepal |
| <i>Utis</i> | : Alder tree |

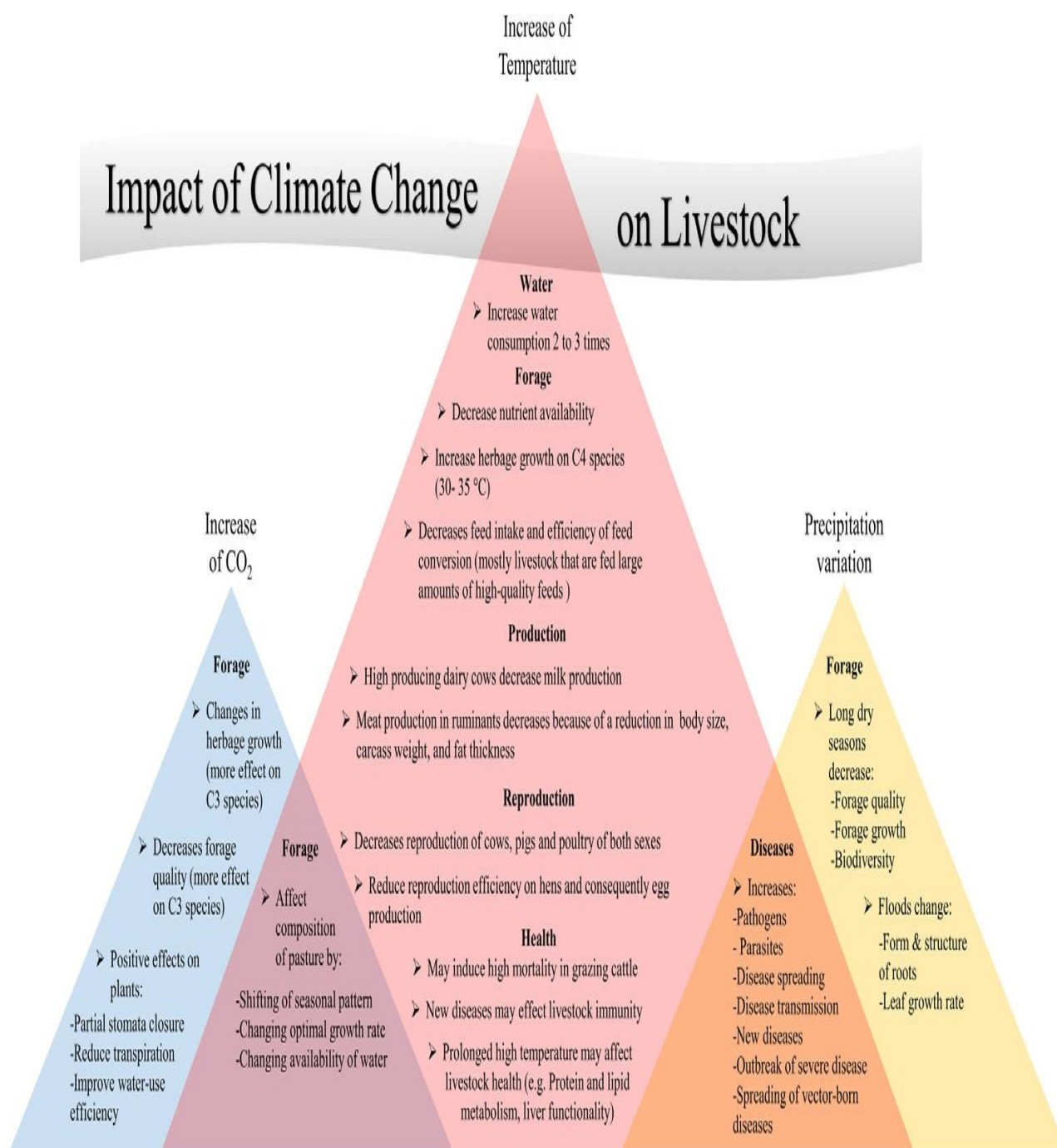
Appendices

Appendix A1: An Ecological-Evolutionary Taxonomy of Societies (Lenski, 2005)

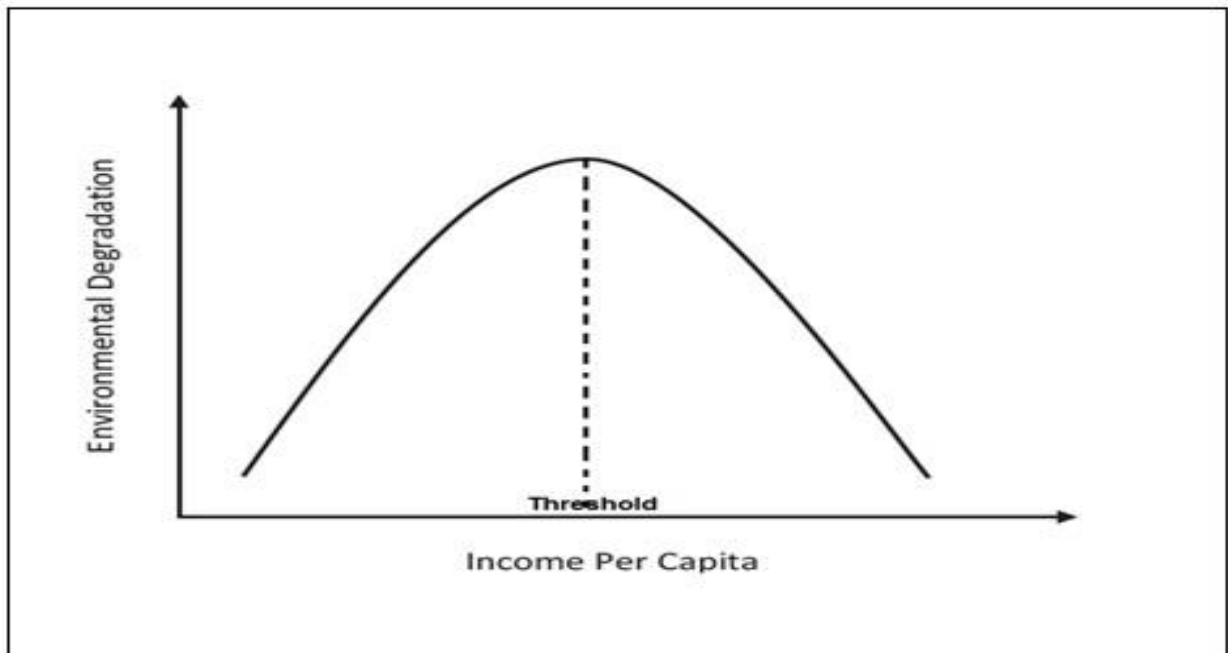


Note. From *Ecological Evolutionary Theory: Principles and Applications*, by Lenski, G., 2005, p. 102.

Appendix A2: Impact of Climate Change on Livestock

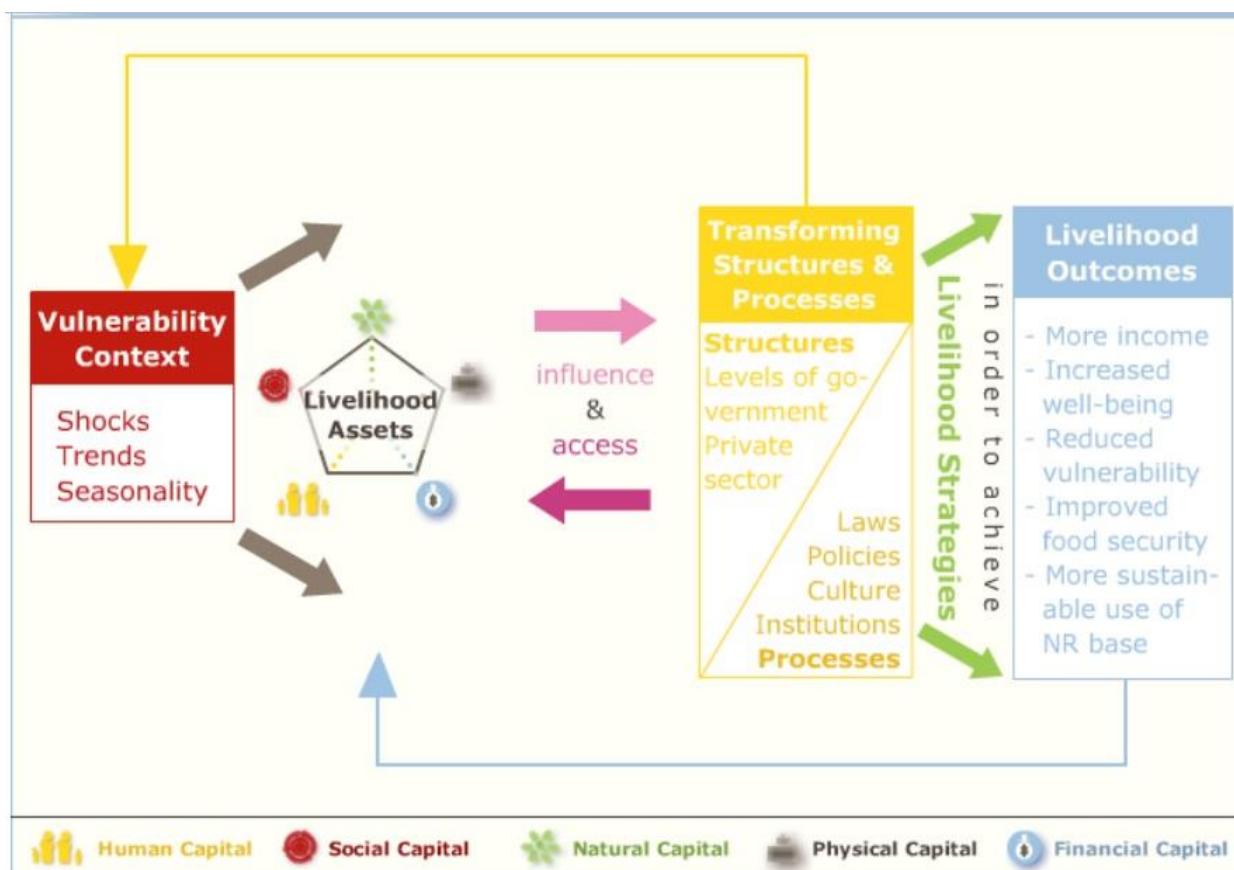


Note. From *Climate Risk Management*, by Rojas-Downing et al., 2017, p.145.

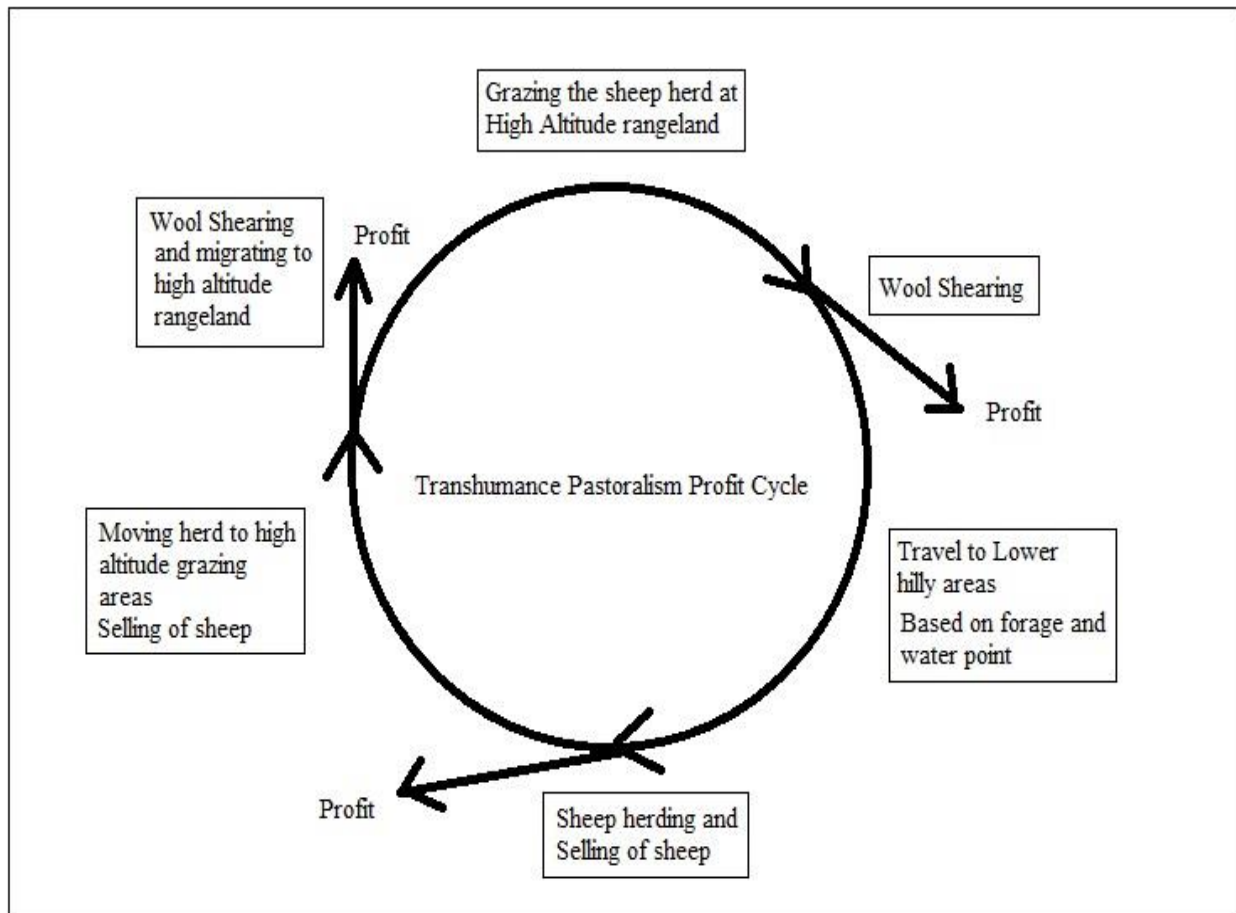
Appendix A3: Environment Kuznets Curves

Source: Kuznets, 1955

Appendix A4: Sustainable Livelihood Framework



Appendix A5: Transhumant Pastoralism Profit Cycle



Source: Field Study, 2020

Appendix B1: List of Research Participants

| Herder No. | Pseudo Name | Address | Date | Remarks |
|----------------------------|----------------------|-----------------|------------------|------------|
| Herder_1 | Tasi Gurung | <i>Barpak</i> | 12 January 2020 | 41 minutes |
| Herder_2 | Ram Gurung | <i>Barpak</i> | 12 January 2020 | 34 minutes |
| Herder_3 | Harka Bahadur Gurung | <i>Barpak</i> | 12 January 2020 | 38 minutes |
| Herder_4 | Birkaji Gurung | <i>Barpak</i> | 13 January 2020 | 44 minutes |
| Herder_5 | Bomjon Gurung | <i>Barpak</i> | 14 January 2020 | 33 minutes |
| Herder_6 | Raj Kumar Gurung | <i>Ghyachok</i> | 14 January 2020 | 32 minutes |
| Herder_7 | Bikash Gurung | <i>Sirdibas</i> | 25 January 2020 | 27 minutes |
| Herder_8 | Navaraj Gurung | <i>Sirdibas</i> | 25 January 2020 | 32 minutes |
| Herder_9 | Bishal Gurung | <i>Sirdibas</i> | 28 January 2020 | 37 minutes |
| Herder_10 | Janak Tamu | <i>Sirdibas</i> | 28 January 2020 | 34 minutes |
| Herder_11 | Babuji Tamu | <i>Ghyachok</i> | 15 February 2020 | 37 minutes |
| Herder_12 | Manish Gurung | <i>Ghyachok</i> | 15 February 2020 | 28 minutes |
| Herder_13 | Prakash Bahadur | <i>Ghyachok</i> | 16 February 2020 | 40 minutes |
| Herder_14 | Indra Gurung | <i>Ghyachok</i> | 16 February 2020 | 32 minutes |
| Ex-Herder_1 | Shyam Bahadur | <i>Barpak</i> | 14 January 2020 | 22 minutes |
| Ex-herder_2 | Manab Tamu | <i>Dharche</i> | 16 January 2020 | 26 minutes |
| | | | | |
| CFUG Head_1 | Junga Ghale | <i>Barpak</i> | 13 January 2020 | 34 minutes |
| CFUG Head_2 | Kasi Ghale | <i>Ghyachok</i> | 16 February 2020 | 38 minutes |
| CFUG Head_3 | Hira Gurung | <i>Baluwa</i> | 17 February 2020 | 40 minutes |
| | | | | |
| Teacher_1/Ex-herder | Banu Gurung | <i>Barpak</i> | 14 January 2020 | 42 minutes |
| Teacher_2 | Hari Ghimire | <i>Sirdibas</i> | 26 January 2020 | 40 minutes |
| Ex-Teacher | Tilak Bahadur Gurung | <i>Ghyachok</i> | 16 February 2020 | 22 minutes |
| Ward Chief | Om Prakash Gurung | <i>Dharche</i> | 16 January 2020 | 45 minutes |
| District Livestock Officer | Manish Pokharel | <i>Gorkha</i> | 28 February 2020 | 35 minutes |
| Kali Maya Gurung | Kali Maya Gurung | <i>Kaltu</i> | 17 February 2020 | 62 minutes |

Appendix B2: List of FGD Participants

| FGD at Barpak Sulikot, 15 | Pseudo Name | FGD at Ghyachok, 17 February 2020 | Pseudo Name |
|---------------------------|-------------------|-----------------------------------|-------------------|
| FGD_BS_1 | Karma Gurung | FGD_G_1 | Maite Gurung |
| FGD_BS_2 | Sanu Maya Gurung | FGD_G_2 | Chun Ghale |
| FGD_BS_3 | Birkaji Tamang | FGD_G_3 | Harka Kaji Gurung |
| FGD_BS_4 | Nanda Maya Gurung | FGD_G_4 | Tepe Gurung |
| FGD_BS_5 | Aakash Ghale | FGD_G_5 | Lal Kaji Ghale |
| FGD_BS_6 | Nandu Gurung | FGD_G_6 | Samudra Ghale |
| FGD_BS_7 | Sabita Ghale | FGD_G_7 | Hira Kaji Gurung |

Appendix C1: Demographic Information

You are most welcome to participate for this interview for the research project entitled “Transhumant pastoralism and livelihood change among Sheep Herders of Gorkha, Nepal” My name is Dil Bahadur Gurung (Ph.D. scholar at Tribhuvan University-Kathmandu). The purpose of this interview is to collect information about the transhumant system and their challenges in Northern part of Gorkha-Nepal. This research is solely for academic purposes and information obtained shall be submitted to Tribhuvan University. Information obtained shall be treated confidentially and will be used only for research purposes. This interview shall take about an hour to complete and please be informed that you have the right to withdraw from interview at any time without fear of the consequences. If you are happy to participate this interview, please, I require your verbal consent. Are you okay to start this interview?

Area: _____ Code: _____
 Name or respondent: _____ Address: _____ Age/Sex: _____
 Occupation: _____ Family size: _____ Education (if any): _____
 Religion: _____

A: Household Demography and sheep herding practices at high altitude

1. Detail of herder

| S.N | Code | Number of family number | Gender composition | | Type of family (Joint/Nuclear) | Age of HH members | | |
|-----|------|-------------------------|--------------------|--------|--------------------------------|-------------------|-------------|--------------------|
| | | | Male | Female | | 1 month-14 years | 14-45 years | 46 years and above |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

2. What is an education status of your family?

| Sex | Below school age | School age | | |
|--------|------------------|------------|--------------------------------|-------------------|
| | | Literate | Currently attending schools by | Literate by grade |
| Male | | | | |
| Female | | | | |

- Any idea when did the school started in this area?
- Do you think education plays major role for increasing or decreasing THP?
- What is the status of school and education now a days in your location?
- Does your children manage to participate both school and sheep herding?

3. Ownership on Land and Major Crops

| Type of Land | Area (with Unit) | Major Crops |
|----------------------------|------------------|-------------|
| Irrigated farm (Khet) | | |
| Rain Fed farm (Bari) | | |
| Scrubland (Kharbari/Pakho) | | |
| Forest (Private) | | |
| Other | | |

- a) Do you have enough land in the village for your household? If yes, do you produce enough from your land for your family all year round?
- b) If not, how and from where do you manage food for family?
- c) Do you buy food from market (if market is your locality)?

4. Sheep herding Practices at high altitude

- a) How many sheep do you keep and what of breed do you keep?
- b) There are other jobs in your area but why do your family upkeep sheep?
- c) Is sheep herding still a lucrative profession for your family?
- d) Who looks after the sheep herd?
- e) How sheep herding is done at high altitude?
- f) Is sheep herding practices increasing or decreasing in this area? Why
- g) What do you think is the reason for increasing or decreasing sheep herding practices in this area?
- h) What kind of benefits do you get from sheep herding?
- i) People seems attractive in sheep herding than other profession in this area. Why is that?
- j) What are the government supports to sheep herding group in this area?

B. Income and Production

1. Currently what are those activities that contribute to your family income? See below table.

| Activities/Occupations | Annual income (NRs/year) | Remarks |
|--------------------------------------|--------------------------|---------|
| Agriculture | | |
| Livestock | | |
| NTFPs and forest products | | |
| Tourism (hotel/restaurant business) | | |
| Remittance | | |
| Jobs (governmental/non-governmental) | | |
| Labor | | |
| Other (Specify) | | |

2. How much food do your family produce from agriculture apart from transhumant pastoralism?
3. Do you think food produced from agriculture is still enough than income from pastoralism? How is that?
4. Do you think agriculture production is enough for your family? What do you do if grains produced became sufficient for your family?
5. What chemical fertilizer and mechanical inputs do you apply for the agriculture?
6. How do you think that these chemical fertilizers and mechanical inputs are important for agriculture in such terrain?
7. Where do you buy these chemical fertilizer and mechanical inputs from?
8. Do you think these chemical fertilizers and mechanical inputs are increasing food production and thus the food sufficiency?
9. Are youth attractive to agriculture or transhumant pastoralism? Why do you think so?
10. What kind of jobs are in the surrounding except agriculture and pastoralism?

11. What is your level of agreement with the following statements on seasonal movement of transhumant pastoralist? (Strongly agree: 5, Agree: 4, Neutral: 3, Disagree: 2, Strongly disagree: 1)

| Statements: I practice seasonal movement of livestock | Level of agreement | | | | |
|--|--------------------|---|---|---|---|
| | 5 | 4 | 3 | 2 | 1 |
| To adjust temperature (to avoid hot and cold) | | | | | |
| To avoid overgrazing in rangelands | | | | | |
| In search of grass availability | | | | | |
| In search of water availability | | | | | |
| To make it easy to sell off livestock and livestock products | | | | | |
| To adjust time of medicinal plant collection | | | | | |

12. Are there anyone from your family, migrated to urban areas or abroad for labor/study purpose?
13. How often they visit to the village and family?

Appendix C2: Interview

First of all, thank you very much for accepting my invitation and you are most welcome to participate in this Interview session. My research title is “Transhumant pastoralism and livelihood change among Sheep Herders of Gorkha, Nepal”. My name is Dil Bahadur Gurung (Ph.D scholar of Tribhuvan University-Kathmandu). The purpose of this interview is to collect information about the Transhumant system, their challenges in Northern part of Gorkha-Nepal. This research is solely for academic purposes and information obtained shall be submitted to Tribhuvan University. Information obtained shall be treated confidentially and will be only used for research purposes. This interview shall take about an hour to complete and I shall be recording our interview via recorder. Please be informed that you can withdraw from interview at any time without fear of the consequences. If you are happy to participate this interview, we shall start our conversation now.

1. How long you have been living in this area? In average, how many sheep they/do you own?
2. How do you rear sheep at high altitude rangeland and can you please explain herd migration pattern?
3. What sort of cultural practices do you have around the time of migration? Religious rituals, sports, dances, picnics, packing their stuffs and rations?
4. What are some of the problems people face during migration? Which one is easier-up migration in spring or down migration in autumn?
5. Is there foreign labor migration trend in this village? If yes, what major changes have you noticed in their family specifically after foreign labor migration? Or how they are sustaining without foreign labor migration?
6. Are their family member work as a tour guide/porter for trek route?
7. This area is becoming a tourist attraction area. Do you think people’s economy is changing from herding to tourism and hotel business due to escalating tourism?
8. How do you perceive Community Forest? What do you think about changing context between THP and lower hilly community in terms of grazing land at low hills?
9. Is there any major changes in Transhumant pastoral household after their children attended school?
10. Has government insured the loss of sheep due to natural disasters or any incident?
11. Do you think THP profession is decreasing than previous, in this village? If yes, what do you think are the main reasons for such decrease?
12. Does anyone from your family works other than at sheep rearing? If not, in which profession they are in?
13. Do you think the next generation will continue transhumant pastoralism in your family? Why do you think so?
14. Which system or routes of cattle migration are you familiar with? Can you please describe some? The system, number of days, season/months?
15. What according to you are its drawbacks? What are the main problems with migration?
16. Any idea how climate change is impacting sheep herding?
17. Do you think development has any effect on transhumant pastoralist? If so how do you think they are being affected? How can we mitigate such problems?
18. How Nepal government is helping agriculture and livestock keeping in this area?

Appendix C3: FGD Checklist

You are most welcome to participate in this focus group discussion of the research project entitled “Transhumant pastoralism and livelihood change among Sheep Herders of Gorkha, Nepal” My name is Dil Bahadur Gurung (Ph.D scholar at Tribhuvan University-Kathmandu). The purpose of this discussion is to collect information about the Transhumant system and their challenges in Northern part of Gorkha-Nepal. This research is solely for academic purposes and information obtained shall be submitted to Tribhuvan University. Information obtained shall be treated confidentially and will be used only for research purposes. This discussion shall take about two hour to complete.

Questions/Checklists

1. How many households are involved in THP in this village?
2. When did Transhumant pastoral system started in this area?
3. What are the purposes of rearing sheep? Why not other livestock and what are the cultural importance for rearing sheep only?
4. Spatial- temporal pattern of migration (when and where they graze livestock?)
5. How pastoralist decides date for seasonal movement? Has there any change since there is market or CF at low hills?
6. Trends and change in number of families practicing Transhumant, number of each type of livestock, total herd size, livestock production and dependency, purpose of rearing livestock, grazing areas, routes and season, rangelands condition, involvement of young generation and labor availability.
7. How do you perceive implementation of CF and its impacts to the Transhumant system?
8. Is there any impact of globalization (tourism, education, medical facilities, labor migration) on Transhumant pastoralist? How do you perceive this impact?
9. What do you think are the major problems/threats of Transhumant system? Or motivational factors, if any.
10. What impacts of globalization are experienced by Transhumant households and how such households are coping dual intervention of globalization and community forest?
11. Are there any market in this area? How far is it? When did this market established? How people of this area trade with market? What sort of items they purchase or sell? How is climate these days? What is significant difference in climate in compare to 20 years back (1997)? How do you perceive community forest? Are they good for Transhumant pastoralism, how?
12. Factors making a good presence of Transhumant pastoralism in Gorkha district. What is the cultural practice and what significant difference during 1997? What ethnic people reside around this village and what are their consuming pattern?
13. How Transhumant households are sustaining, what alternative livelihood they are adopting to mitigate impacts of climate change in high altitude? Do Transhumant household solely rely upon Transhumant pastoralism? If not what livelihood they are adopting?

Appendix D: Plagiarism Test Report

| TRANSHUMANT PASTORALISM AND LIVELIHOOD CHANGE AM... | | Similarity Index |
|---|--|------------------|
| By: Dil Bahadur Gurung As of: Mar 14, 2024 3:01:55 PM 82,383 words - 0 matches - 0 sources | | 0% |
| Mode: Summary Report ▼ | | |
| sources: | | |
| paper text: | | |
| <p>i TRANSHUMANT PASTORALISM AND LIVELIHOOD CHANGE AMONG SHEEP HERDERS OF GORKHA, NEPAL A Dissertation Submitted to the Dean's Office Faculty of Humanities and Social Sciences Tribhuvan University in Fulfillment of the Requirements for the degree of DOCTOR OF PHILOSOPHY In SOCIOLOGY By Dil Bahadur Gurung T.U. Registration: 13775-95 Ph.D Registration: 94/2074 Tribhuvan University Kathmandu, Nepal April 2024</p> <p>ii LETTER OF RECOMMENDATION We certify that this dissertation entitled "Transhumant Pastoralism and Livelihood Change among Sheep Herders of Gorkha, Nepal" is prepared by Mr. Dil Bahadur Gurung under our supervision and guidance. We hereby recommend this dissertation for final examination by the Research Committee of the Faculty of Humanities and Social Science, Tribhuvan University, in fulfillment of the requirements for the Degree of Doctor of Philosophy in Sociology.</p> <p>_____ Assoc. Prof. Tika Ram Gautam, Ph.D. Supervisor</p> <p>_____ Prof. Tulsi Ram Pandey, Ph.D. Co-Supervisor Date: 31 March 2024</p> <p>iii APPROVAL LETTER I hereby declare that this Ph.D. dissertation entitled "Transhumant Pastoralism and Livelihood Change among Sheep Herders of Gorkha, Nepal" is submitted to the office of the Dean, Faculty of Humanities and Social Science, Tribhuvan University, Nepal, is an entirely original work prepared under the supervision and guidance of supervisor Associate Professor Dr. Tika Ram Gautam and co-supervisor Prof. Dr. Tulsi Ram Pandey. I have made due acknowledgments of all ideas and information borrowed from different sources in the course of dissertation writing. The result presented in this dissertation has not ever been presented or submitted anywhere else for the award of any degree or any other purpose. No part of the contents of this dissertation has ever been published in the form or a part of any book. I am solely responsible if any evidence is found against my declaration. Dil Bahadur Gurung Ph.D. Registration: 94/2074</p> <p>iv ACKNOWLEDGEMENTS First of all, I would like to remember all my known and unknown ancestors (Pitri) Kabir Gurung, Taku Gurung, Budhabal Gurung, Shovan Gurung, Sete Gurung, Tibri Gurung, Budhe Gurung, Sarbajit Gurung, Dhanjit Gurung including Ghale Bujyu in this precious moment of completion of my Ph.D. dissertation. I thank all of them for continuously showering their blessings on me throughout the research work. I am thankful to all my teachers who guided me at various stages of my academic life. Most importantly, I am truly indebted to my Ph.D. dissertation supervisor, Associate Prof. Dr. Tika Ram Gautam for his continuous support, suggestion and guidance in bringing my dissertation to this level. I am equally indebted to my Ph.D. dissertation co-supervisor, Prof. Dr. Tulsi Ram Pandey for his</p> | | |

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