WATER OF DISCORD, WATER OF UNITY: AN ETHNOGRAPHIC STUDY OF THE STRUGGLE FOR WATER RIGHTS IN UPPER MUSTANG, NEPAL

by

GOVINDA BAHADUR BASNET

(Under the Direction of ROBERT E RHOADES)

ABSTRACT

Although water rights and property relations have become issues of strategic importance in recent water policy debates, legislation, and rural development initiatives, there is still a gap of understanding about what water rights in practice are, how they are created and contested, and how these contestations modify social institutions. This ethnographic research, by integrating historical and comparative approaches, investigated how water rights are defined and contested in a cold, arid region of upper Mustang in Nepal. The struggle for water rights was found to take place at three levels: (1) to acquire and defend rights to access water; (2) to defend to take part in collective decision making, and defining water rights contents; and (3) to legitimize contesting claims.

Social differentials, like classes created on the basis of inheritance of parental property, were the most decisive factors in defining an individual's access to water and participation in the decision making process. The impartible primogeniture inheritance system, followed traditionally in the research villages, had created two classes of people, those inheriting the property, and those not inheriting the property. The struggle for water rights has abolished the distinction between such classes in some villages. The inter-village contestation for control of

water sources was largely dictated by the political power a village held and the local understanding of hydrology. These inter-village struggles for water rights were found to be instrumental in developing cohesion within a village. The dynamics of struggle for water rights were found to trigger change in social institutions.

INDEX WORDS: Water rights, Cooperation and conflict, Common pool resources, Irrigation, Inheritance, Institutions, Legal pluralism, Political ecology, Natural Resource Management, High altitude irrigation, Trans-Himalayan region, Mustang, Mountains, Nepal

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LIST OF ACRONYMS

ACAP	Annapurna Conservation Area Project
CDO	Chief District Officer
DAO	District Administration Office
DDC	District Development Committee
Ha	Hectare
HH	Household
KMTNC	King Mahendra Trust for Nature Conservation[i]
MRMG	Mountain Resources Management Group
Rs.	Rupees (Nepalese)
US	United States
VDC	Village Development Committee
WUA	Water User Association

[i] Following republican fervor after the popular movement of 2006 the organization has been renamed as the National Trust for Nature Conservation.

CHAPTER 1: INTRODUCTION

Statement of the research problem

Recent anthropological and sociological research on water have shifted from earlier engagements focused primarily on theories of civilization and state formation (Steward 1955; Wittfogel 1957) to the study of social organizations in relation to water (Coward 1980; Hunt 1989), collective actions and communities (Guillet 1992; Netting 1974; Uphoff 1992; Wade 1988; Gragson and Payton 1997), and differential access to water resources (Gelles 2000; Trawick 2003; Mehta 2005). These recent studies have also shown that water is not only a productive resource but also a symbolic resource and a medium through which a variety of social relations are constructed (Mosse 2003; Lansing 1991; Johnson and Donahue 1998). Although water rights and property relations have become issues of strategic importance in recent water policy debates, legislation, and rural development initiatives, there is still a gap in understanding about what water rights are in practice, how they are created and contested (Boelens and Doornbos 2001), and how these contestations modify the social institutions. Considering these gaps in understanding and given that water is a medium through which social relations are constructed, this research aims to study how water rights are defined and contested in local contexts; and if and how contestations for water modify the institutional landscape of agricultural resource management in upper Mustang, a cold, arid, remote region in western Nepal.

In upper Mustang, water is a scarce but a productive and symbolic resource. It is held in commons, and access to it is often highly contested between individuals, communities, and social groups. Water's importance and its increasing scarcity in the region act to accentuate conflicts over access to water and control of water management. In such situations the norms for irrigation management form the backbone of community systems (Boelens and Doornbos 2001). Upper Mustang presents an interesting

and compelling case to study the issues of differential access to water sources and the process of institutional change through the lens of struggle for water rights.

Water rights are defined as ‘an authorized claim to a benefit stream of a water source’(Beccar et al. 2002). Water rights normally express how much, when, and for what purpose water can be used by a person or a group of persons (Zwarteveen 1997). Besides these, rights to infrastructure, and rights to participate in the decision making processes often form a part of water rights. Water rights not only define the access to water but also constitute power relations that define the control over decision making of water management. Water rights, as they constitute existing power relations of a society (Bolin 1990; Mehta 2000; Benda-Beckmann 2000), are constantly contested and negotiated in everyday encounters (Meinzen-Dick and Bruns 2000). The struggle for water rights takes different forms, ranging from engaging in a dialogue to abstention, resistance, and sabotage (Colburn 1989; Scott 1985). The struggle for water rights takes place at three levels: (1) to acquire and defend rights to access water and necessary infrastructure; (2) to defend rights to take part in collective decision making and defining water rights contents; and (3) legitimization and recognition of normative systems (e.g. statutory vs. customary laws) to make rules and authorize claims (Boelens and Doornbos 2001).

Agricultural resource management takes place in an interface involving multiple institutional/organizational entities playing their roles simultaneously to varying degrees. Studies on the role of various institutions are confounded by multiple definitions of institutions and often elusive distinction with organization (Kemper 2001; Leach et al. 1999; Mohr 2000; North 1990; Ostrom 1990). To avoid this confusion, I adopted the concept of the institutional landscape, viewed as a complex whole with a fluid boundary, consisting of organizations, regularized behavior patterns, and established rules and religious rituals, giving rise to diverse power structures and meanings. In the case of my research site, the components of institutional landscape includes, *inter alia*, a traditional water allocation authorities, property rights, rules, caste system, and other social differentials.

Some studies have explored how institutions acting through different axes influence environmental outcomes, while others have shown that institutions are dynamic and transformed through resistance and reinterpretation by individual agents (Robbins 1998). Many studies on irrigation have shown how institutional changes take place in response to socio-political changes in irrigation management (Cleaver 2000; Guillet 2000; Koppen 2000). However, these studies have limited their investigations to change in a particular institution and not in an institutional landscape. This ethnographic study aims to investigate the interaction between struggle for water rights and modification of institutional landscape through following three sequential component questions:

1. How are water rights and their contents defined?
2. How are these definitions contested?
3. How are the social relations of agricultural production and institutions modified in relation to these contestations?

Theoretical background

The relationship between irrigation and social organization is summed by Guillet (1992:194) who writes "the relation between irrigation and human organization is one of the most debated, and seemingly intractable, issues in the literature". Various studies (Steward 1955; Wittfogel 1957; Leach 1961; Kelly 1983) have tried to explain how irrigation shapes social and political life in relatively arid parts of the world. This focus later shifted to study of property rights of irrigation and its relation with social organizations and collective action; first initiated by Leach (1961) and followed by Netting (1974), Coward (1980), Wade (1988), Uphoff (1992), Gragson and Payton (1997). Recent anthropological studies on irrigation have paid attention to the symbolic aspects of water (Lansing 1991; Sheridan 2002; Mosse 2003), and highlighted the need to understand social differentiation in the study of water rights (Boelens and Doornbos 2001; Gelles 2000; Mehta 2005; Mosse 2003). These works, together with many others, have valorized the indigenous management of irrigation system. This valorization of

indigenous management has been further reinforced by a growing body of work on common pool resources (CPR) and new institutional economics (NIE), (Ostrom 1990; North 1990).

Both the CPR and NIE, the most dominant approaches today in conceptualizing institutions in natural resource management, view institutions as rules and regulations imposing constraints on human behavior to facilitate collective action by minimizing transaction costs and uncertainty (North 1990). CPR approaches have focused largely on purposive institutions which can be 'crafted' or 'designed' (Ostrom 1990). Although these approaches have successfully established the significance of institutions in natural resource management and dispelled the ideas of 'tragedies of the commons' (Hardin 1968), a growing body of recent studies (Cleaver 2000; Mehta 1999; Mosse 2003; Trawick 2001) has highlighted the limitations of these approaches to comprehend complex institutional arrangements. These studies claim that the CPR approach views the community as a homogenous unit overlooking social differences and diverse, sometimes conflicting interests of resource users.

Studies in anthropology and sociology, drawing mostly from Giddens'(1984) structuration theory and Bourdieu's (1977) theory of practice, view institutions as people's social practices regularized over a period of time, and less in terms of rules (Scoones 1999). According to these theories, individuals are active operators in creating or shaping the social and cultural contexts that simultaneously frame or constrain their actions and decisions. This emerging literature argues that the simplistic notion of institutions forwarded by NIE and CPR approaches obscures the question of social differentiation in water resources and the power relations that shape water use. They advocate the need to see institutions as embodiments of social practice which are molded by social and power relations, and as sites of social interaction, negotiation, and contestation comprised of "unequal commoners" (Netting 1997). These recent studies view water rights more as a relationship of power among users than just a relationship between the user and water.

Legal pluralism, another strand of literature contributing towards the study of water rights, argues that access to water is shaped not just by formal rights in state law, but rights as they are defined in local

contexts (Meinzen-Dick and Burns 2000; Guillet 1998). This perspective helps in looking at common property management not just in terms of institutional mechanisms and incentives but in terms of contesting claims, conceptions through which meanings are defined and contested. This perspective also posits that multiple normative frameworks (not just either statutory or customary) are invoked in defining water rights. The normative frameworks used to define water rights often overlap and are dynamic (Gelles 2000; Benda-Beckmann 2000; Pradhan and Meinzen-Dick 2003). What had been a resisted state model at one time could become a defended local model at a later stage (Benda-Beckmann 2000; Gelles 2000). Various studies exploring the relationship between irrigation systems and power structures have shown the existence of a two-way relationship. Irrigation systems reflect the existing power structure of a society through distribution of benefits and obligations, and simultaneously its dynamics influence power relations by either reproducing or transforming prevailing societal relationships (Gelles 2000; Zimmerer 1993). Out of these two way relationships, this study is concerned primarily with understanding how the dynamics of the irrigation system influences the social systems.

The ‘ecology of practice’ approach proposed by Nyerges (1997) helps in investigating the differential access to the resources within a community. He argues for the need to distinguish actors according to social status in order to examine access to and control over the resources, and to show how conflict over control has consequences for the exploitation and management of specific resources as they are incorporated into individual social lives. Depending on their position within an established social order, members of a society may respond to environmental factors variably and, therefore, manage resources differently.

Various studies have highlighted how irrigation systems encourage or restrain change in social relations and institutions. Ostrom and Gardner (1993) and Lam (1998) have shown that modification in irrigation infrastructure results in changed social relations (e.g. relations between head-enders and tail-enders). Scott (1985) showed, by looking into changes in social relations as a result of technological changes in irrigation system, how people-- in everyday encounters-- engage in symbolic resistance and

domination. Some recent works on irrigation documented the process of institutional change; for example, change in property rights regime in Spain (Guillet 2000), changed gender role as a result of project intervention in Burkina Faso (Koppen 2000), and the emergence of hierarchy as a result of stricter rules in Zimbabwe (Cleaver 2000). Recent studies on rural water management have highlighted the importance of considering inter-village interaction in addition to intra-village interaction to understand the dynamics of conflicts and cooperation (e.g. Ragin et al. 2003). Guillet (1992) also showed how the restriction to access to water rights would prevent the land based social differentiation. Studies on institutional aspects of other natural resources show that '..institutions are dynamic and divisive. They are remade through resistance and reinterpretation by individual agents' (Robbins 1998). Against the backdrop of ideas generated by these several studies, I will investigate the interrelationship between struggles for water rights and institutional changes in societies where water is a scarce resource and the systems which have developed for its management permeates different spheres of life.

Research design and methodology

Design

I conducted field research in three sets of villages so that the dynamics of struggle for water rights could be investigated both within and between the villages. Specifically, this study aimed at investigating the dynamics of struggle for water rights in different scenarios: (1) within a settlement among different users with relatively little social differentiation; (2) within a settlement among different users with marked social differentiation; (3) between settlements sharing similar socio-ecological complexes; (4) between settlements bearing widely differing socio-ecological complexes; and (5) compare the pattern of intra-village struggle for water rights in the presence and absence of inter-village competition. Three sets of villages selected to suit these objectives were Tsaile, Ghyakar, Lo Monthang, Namgyal, Ghiling, and Dhee (Figure 3.2). In the first set, both Tsaile and Ghyakar are small having 14 and 11 households respectively and share the same water source, the Ghyakar stream. These two villages fit scenario one and

three stated above. The second set of villages included Lo Monthang and Namgyal. Lo Monthang is the largest and most powerful village in the whole of upper Mustang which shares one of its water sources, the Kimling Khola, with another smaller village Namgyal. Lo Monthang, with a well defined hierarchy in the society, corresponds to scenario two. The interaction between these two villages over water management would meet the condition for scenario four. The villages in the first and the second set underwent a violent conflict between themselves over water use and control. The third set of villages included Ghiling and Dhee. Unlike the above two sets of villages, these villages in the third set do not share water sources with any other villages. Ghiling is a large village with 60 households and Dhee a small village with 22 households. Comparison of the dynamics of water rights between the villages of the third set and the first two sets would meet the scenario five. Importance of inter-village interaction in shaping collective action has been well demonstrated by Ragin et al. (2003) in a study of south Indian irrigation systems.

Methodology

I adopted the methodological integration of both comparative and historical approaches following Trawick's (2003) study on the struggle for water in Huaynacotas, Pamparmarca, and Cotahuasi of the Peruvian highlands. By conducting a comparative ethnographic study, focusing on six different villages at the same time, I tried to discover similarities and differences in water management among these villages. Focusing on the history of water management in each village, I could trace the process of ongoing changes in water management in these villages. And more importantly, as norms for water management form the backbone of the community system in these villages, I was able to study the dynamics of socio-ecological complexes through the lens of conflicts and cooperation for water. Integration of the two approaches allowed me to investigate the process of cooperation and conflict across both time and space. Comparative methods proved especially helpful in probing for information on

history and presence of water management. Information generated at one village would serve as a thread for generating information from another village.

Using the standard ethnographic methods of participant observation, focused interviews, oral and life histories, I studied water rights at three levels of water management; namely, hydrological, technological, and social configurations (Hunt 1979; Kelly 1983). Although the focus was primarily on water for irrigation other uses like drinking, and running water mill were also covered in the study.

The *analysis matrix* developed by Coward (1980) for studying irrigation systems was used as an initial frame for investigating various rules, roles and system activities. This matrix has two axes: on one institutional elements such as key rules, important roles, and significant social groups; and on the other system activities such as water allocation, system maintenance, and conflict management. This matrix is helpful in investigating the structure of an irrigation system; however, it does not comprehensively reflect the process of changes, interplay of the role of power and micro-politics, and social differentials which were some of the major concerns of the research. I also partially used what Tang (1992) and Schlager and Ostrom (1992) call institutional arrangements. By institutional arrangements they mean the rules broadly grouped into operational rules and collective choice rules.

Participant observation (Bernard 1995; DeWalt and DeWalt 2002) was the principal method for acquiring information especially in the initial stage of the field study. I spent my field stay participating and observing a wide range of activities of a general nature such as agricultural activities, village meetings, repair and maintenance of canals, celebration of rituals, and festivals. As the nature of the research required, I was particularly attentive not to miss observing irrigation activities and rituals. To facilitate the documentation of such observation, I video-taped many of those activities. On many occasions, I played back those videotapes to the respective groups of people, which not only helped in building up rapport and confidence but also in explaining and elucidating some of the recorded activities as they would often comment on their own actions in the videotape.

Very early in the fieldwork, I realized the importance of participant observation. After attending a village meeting for the selection of new authorities in Tsaile, and subsequently conducting a few interviews, I obtained the information that the post of the village chief is rotated among *all* the households by casting dice. Accordingly, I wrote in my field book details about the selection of authorities for water management. But then one evening when I attended another village meeting, they were voting by placing small pebbles in two groups to decide whether to allow an incomer to be a part of the community system. Exploring further the purpose of this voting, I learned the concept of *Dhongba* as a major social differentiation based on inheritance, described later. Thus I had to rethink the selection of authorities, which was not rotated among *all* households as previously thought but was rotated among only *Dhongba* households. This also encouraged me to cross-check various information through multiple means such as repeating interviews after an interval of time and group interviews (Kirk and Miller 1986). I probably would not have been so meticulous in cross–checking information had I not come across this incident. I also noticed, sometimes, that even in a single interview an informant would make very contradictory statements about simple issues.

Semi-structured interviewing was another major method of information collection. Interviews were conducted with the office bearers of the local authorities as well as ordinary people, both men and women, village priests, monks leaders and other key informants like the *Raja* of Mustang. Interviews were also conducted with government officials who were involved in resolving conflicts between these villages more than a decade ago. The digital recording of the interview obviated the need for frequent note taking and keeping the interview going smoothly. Conduction of these interviews was iterative, in the sense that with some key informants I conducted interviews repeatedly after certain intervals after receiving new information in other villages. Life histories and oral histories were conducted in each village to get an idea of the process of changes taking place in the village. Semi-structured interviews with a group of people rather than an individual also proved worthwhile as one member of the group would immediately question another if the information provided was not correct.

Early on, during village meetings I requested local people to prepare a resource map of the village (Kuznar and Werner 2001). Based on the information from these resource maps and with the help of field assistants, I prepared geo-coded maps of all the fields and canals of all the villages using a GPS unit.

These multiple methods described above generated 'primary data'. I could get access to documents (village records) in only the village of Ghyakar which proved very helpful in understanding the time series and dynamics of the conflicts between two villages. These documents included the requests made by the villagers to the government officials, village meeting minutes, agreements reached with other villages, and record of attendance in the canal repair. In all six villages, these documents are considered very precious and kept in a locked box by the Ghempa or another official of the village council which outsiders never or rarely get a chance to read them, and my case was no exception. Other secondary information included the laws of Nepal governing the water and land since 1854. The field office of the Annapurna Conservation Area Project provided data on weather and livestock population and digitized contour maps of upper Mustang.

Field study

I began the fieldwork for this study in September of 2004. Initially, I planned to stay in the field until the end of 2005. The political turmoil brewing in the country however, seriously affected my travel due to violence, road blockage and several general strikes. In the middle of the winter of 2005, I was stranded in Kathmandu in the midst of political turmoil created by the king's take over of the elected government. As a result, I could not reach Mustang in time to observe some of the important issues related with water management in winter, particularly the celebration of the Shakaluka festival and the status of drinking water supply when the pipes are frozen. As my fieldwork was progressing, I also received a field research grant from the Wenner-Gren Foundation which enabled me to extend my field stay until June 2006.

The Wenner-Gren support and the extension of the field stay allowed me to study, although briefly, another irrigation system in the middle hills of Nepal. This irrigation system in Chherlung village of Palpa district is different from many other irrigation systems in Nepal in terms of relations between land rights and water rights. Here, water rights exist independent of land rights and a farmer could sell or buy water shares without any land transaction. This additional study helped me to understand and further explore the issues of water rights in a comparative perspective. Altogether I spent 16 months in Mustang conducting village-level ethnography, and remainder of time in other areas of Nepal conducting secondary researches and arranging logistics for the research. Although there was little effect of Maoist insurgency in the whole of Mustang district my movement in Pokhara and Kathmandu was frequently disturbed forcing me to change schedules.

My research site covered six villages, spread over a large area, sometimes requiring two- days of walking to reach one village from another. Two villages, Tsaile and Ghyakar, are close to one another[1] and when I was stationed in one village I could easily go to the other village. Similarly, Lo Monthang and Namgyal villages are also close and I could easily go from one to the other village. It normally takes two –days walking to travel between Lo Monthang and Tsaile. Another research site Ghiling lies almost halfway between Tsaile and Lo Monthang slightly off the main trail. Only one village Dhee was far off the main trail (please refer to Figure 3.2). I spent most of my time in the field in Tsaile and Lo Monthang, with several short intermittent stays in other villages. In that sense, Tsaile and Lo Monthang were my base stations. The altitudinal differences and concomitant variation in the agricultural calendar in these villages gave me a leeway to schedule my movement. Still such a temporal variation in agricultural activities and water management in these villages would not give me enough space to frequently travel between the villages. In each village I had one field assistant who kept records of daily activities in the villages and helped coordinate my movements. This helped me to mitigate the effect of my inability to be continuously present in these villages. With the support of the International Centre for Integrated

[1] It takes less than an hour to walk between these two villages.

Mountain Development (ICIMOD), Kathmandu, I also enlisted two Master level students from the Tribhuvan University for six months. One student studied Dhee while the other worked in Ghiling.

Background to the study: A Personal Account

As with other villages in Nepal, the people of Lo Monthang and Namgyal villages in upper Mustang were eager to install a micro-hydro power plant in the late 1980s. Electricity in one's village is a symbol of status, well-being and of having 'development'. In 1989, with the support of the then District Panchayat, Lo Monthang applied for a loan from the Agricultural Development Bank by mortgaging the land of a few village leaders to initiate the installation hydropower plant.

As the events took their turn, the national political movement in Nepal to overthrow the one-party Panchayat system in 1990 put the hydropower plant in disarray. The Chairman of the District Panchayat, the main promoter behind the project, was no longer in power as a result of the anti-Panchayat movement. The project was temporarily shelved yet the people from Lo Monthang refused to give up easily. The need for the project became more urgent as other smaller neighboring villages had already installed the micro-hydro plants.

The opening of upper Mustang, of which Lo Monthang is the capital, by the Nepal government to the outside world in 1992 brought a new era of change. Until that time, the only significant contact the outside world had with the region was through the Khampa insurgency supported by the Central Intelligence Agency, when they made upper Mustang their base to launch insurgency movement to free Tibet from China in 1960s and early 70s (Knauss 1999). Although there had been previous development projects like Resource Conservation and Utilization Project aided by USAID working in the region before, launching of CARE-Nepal and the Annapurna Conservation Area Project (ACAP) ushered in changes pervasive in different walks of life.

The first and foremost demand the Lo Monthang would have on the ACAP was to revive the shelved micro-hydro project. The ACAP took upon itself to re-launch the construction of the previously

shelved micro- hydro power plant. For ACAP, the construction of the plant was an opportunity to win the hearts and minds of the people and establish its credentials in the region. By the time the ACAP shouldered the responsibility, however, the cost estimate has gone up about four times of the original estimate. The whole process of negotiating between the two villages, securing additional funds, checking the old stocks of the equipments already supplied, negotiation with construction agency got underway. I, as a Project Manager of the field office of the ACAP, was involved in all of these negotiations from August of 1995.

Namgyal, a smaller village north of Lo Monthang, dropped out of the project claiming that there would not be enough water left for irrigation if the micro- hydro power is installed. Although the proposed micro-hydro plant was to run only in the evening when crops were not irrigated, the Namgyal village stood by their decision. This necessitated a change in the original site of the proposed power plant.

There was uncertainty about the source of water in the newly proposed site. Although water coming through the existing functioning *Suru* canal could run the turbine, the leaders insisted that this water could be added only if water is delivered from Dhilu, another source. The Suru canal was delivering water to irrigate some 50 has of land just below the proposed site for forebay tank. The headrace for this proposed new source was more than 4 km long. Most parts of this long canal, called *Dhilu* canal, had very loose sandy soil which hardly held the water flow. To make matters worse the differential elevation of the forebay tank and the head of the canal had a gradient which did not allow for the smooth flow of water. Water flow at the source in the Spring would not be enough to run the plant. Moreover, the canal was not on the sunny side of the hill, a circumstance which would freeze the water until halfway through the Spring. Despite all these technical shortcomings, the construction of the headrace was undertaken, with a promise by the local leaders that even if small amounts of water could be delivered at the forebay tank, they could add water coming from Suru canal, trudging along another face of the hill. However no written agreement was made to this effect. The local elites, technicians, and management all knew that water from the proposed headrace would not run the turbine.

As the construction work began in the Spring of 1996, after a series of negotiations with the funding agency, the American Himalayan Foundation USA, implementing agency, local communities, and other relevant parties, doubt over whether water could be delivered from Dheelu canal persisted. While the electromechanical and other civil work progressed on time as per the plan, the dispute over water started becoming more clear and vicious.

Although it was clearly understood at the outset of the project that the turbine would run only in the night and fields watered only during the day in Suru, the people owning the land at Suru along with the monastery which owns large tracts of land in Suru, were not ready to allow water from this canal to run the turbine. It became increasingly clear that the issue was much more complex than just allowing or not allowing the use of water from the Suru canal for running the turbine. It was linked with other issues like the image of the local contractor for headrace construction, people's genuine fear of potential shortage of water for irrigation, interrelationship within the village among different groups of people, the image of the implementing agency (ACAP), and above all the perceived value of electricity among different groups of people.

When the electro-mechanical work came to completion in the Fall of 1996, the headrace construction was also coming closer. But to the dismay of all the people, the headrace did not hold water even for an hour and breached at a number of places. People thus resented the way the contractor, also a local leader, was working, especially since they knew that he was given a large sum of money compared to the quality of the work. There was no way water would be delivered through this canal long enough to run the turbine. My head office in Kathmandu was overly eager to have the micro-hydro power plant inaugurated in the fall by the then Prince Gyanendra[2] , the current king of Nepal, in the Fall. The head office was less worried about the operational problem the project was facing. It transpired that the Prince was very willing to visit Lo Monthang but a showcase project was needed to be inaugurated during his

[2] Annapurna Conservation Area Project was an undertaking of the then King Mahendra Trust for Nature Conservation (now it has been renamed as the National Trust for Nature Conservation). Prince Gyanendra was the chairman of the Trust who later became the king of Nepal after the royal massacre in 2001.

visit. The Kathmandu office set the date for inauguration even without confirming if the project would be completed by that date, and then later cancelled knowing the complications.

The turbine was ready for the test but the water was not arriving form the proposed headrace. The contracting company for the electro-mechanical work was pressuring to have it tested and commissioned. After a series of meetings, the local community agreed to use water from the Suru canal but only for testing whether the turbine can generate the required power of 29 KW. On one sunny morning of the Fall, it was tested, and to the joy of all the concerned parties the turbine generated power of planned capacity. This should have been a moment to cheer for all the local people and implementing parties, but that is not what it transpired.

With the hope that if the people of the community own the power plant they will be open to settle disputes over water for lighting the village, the power plant was handed over to the Lo Monthang Micro-hydro Construction and Management Committee, a committee of local people. I left Lo Monthang in the Fall of 1997, almost a year after handing over the power plant, to take up a post at another field office. But against all sincere hopes and expectations, the community did not use the water from Suru canal to run the turbine. Dheelu headrace was filled with debris in many places, water through Suru canal would flow near the forebay tank, and the turbine remained lifeless – a real life example of implementation of a project that was marred with complications from the very beginning. The project was in limbo.

For me, this event was a bitter failure to have to leave the village in such a symbol of contradiction – the infrastructure for the much desired symbol of collective development status was there yet they would not use it- after investing so much physical and emotional efforts. The outcome also left me with a pressing curiosity to understand what in reality are water rights all about. This haunting curiosity about water rights led me back again to Lo Monthang after seven years in 2004, not as a Manager but as an anthropological student, to investigate the reciprocal relationship between the struggle for water rights and the social institutions.

Outline of the study

This is an ethnographic study of water management in a cold, arid region of upper Mustang focusing on how people contest for accessing and controlling one of their most valuable resources. As it is an ethnography of water management, I present the findings of the study in a descriptive manner, narrating the stories people tell about water management. To help better explain the issues of water management, contestations, and changes, I present relevant cases and then try to tease out findings and patterns from these case studies to understand key water issues. All the irrigation systems studied are what Ostrom (1992) calls long-enduring famers managed irrigation systems. This study is divided into eight chapters. After this introduction to the study, Chapter 2 presents an overview of the broader worldwide debates on policies on water, and traces trends of the anthropological engagement with water. In this chapter I also discuss on the concept of water rights, history of water legislation in Nepal.

Chapter 3 deals with the geography and history of upper Mustang. Mustang for most of its history has remained a frontier region between various regional power centers like Jumla, Nepal, Ladakh and Tibet before its incorporation into Nepal in 1788. I trace down the political and religious history of the kingdom of Lo which will also help to understand the historical rooting of various institutions. This will also demonstrate how power politics played in the far away power centers affect the daily life of ordinary people of frontier region who otherwise do not have any direct interest in such power politics.

In chapter 4, I describe the social and economic contexts of upper Mustang. Since water management norms are embedded in locality-specific ecological, cultural, economic, and historical features of a society, understanding of such features is required to study water management system. I discuss the social institutions such as the caste system and property inheritance system which directly shape an individual's access to water and its management. In addition to the social systems, I also describe livelihood strategies of people, management of community resources in this chapter. As the salt-grain barter trade between Tibet, Nepal, and India conducted through this region has influenced the societies and economy of the region I also provide a brief sketch of this trade. General introduction to the

research villages is also included in this chapter. This chapter contributes to the general ethnography of upper Mustang in addition to elaborating socio-economic contexts of the research.

Chapter 5 is a detailed description of water management in the six villages and forms the ethnographic core of my study. I describe in detail the field and water sources, cropping system, rules and regulation for water allocation and use, differential access to water and decision making bodies, selection of authorities, and water rituals from the ethnographic perspective. The chapter deals mostly with individually held water rights such as water use right within each village and not the collectively held rights like control and ownership of water source. Although it was not possible to trace the longer history of change in management practices, I try to describe any changes in management practices embedded in the memory of the present generation.

Chapter 6 is the narrative of how people have contested claims over the control of water sources and how they resort to a different normative framework to validate their claims. People, depending on which framework serve their interest best, sometime resort to customary laws and local authorities, while resorting to government authorities at other time. This also shows how people validate their claims over water sources through legends. In this chapter I demonstrate how the logic of power relations and rituals overruled the logic of hydrology and state laws in contestations for control of water sources.

Chapter 7 presents cases of institutional change integral to water management in upper Mustang. One of the important social differentials for accessing benefits from water sources and participating in community activities is the class difference created by impartible primogeniture inheritance system. Comparing the scenarios in different villages in relation to access to water source and decision making bodies among different inheritance –classes of people, I discuss how social boundaries created by such differentials are broken down. Through a case study, I also present how institutional arrangements for water management are dynamically changed back and forth and not necessarily in one direction. This chapter also argues that the formal-informal dichotomized representation of institutions, often found in literature on commons, is viewed upon differently in the local contexts.

Chapter 8 summarizes the findings of the above chapters, especially those dealing with water management and conflicts. I present the summary of how water rights are defined at individual and collective levels; general pattern of conflicts over control of water sources; and the changes in institutions. I also present in this chapter the significance of this research in broader context.

CHAPTER 2: WATER IN GLOBAL AND LOCAL CONTEXT

Water as global agenda

Especially after the 1990s, debates on water have been high on national, regional, and international policy agendas (Gleick 2006; Mehta 2000; Boelens et al. 2005). In almost all of these international policy debates on water resource management, scarcity is considered the starting point (Postel 1997). Attributed reasons for intensification of water problems are climate change, population growth, and intensification of agriculture, urbanization, and industrialization (Gleick 1993). Increased realization of importance of water has firmly placed water policy debate in the international arena, and water policy discourses have become truly global (Cosgrove and Rijsberman 2000).

These discourses are framed under such rubrics as 'water crisis' (Gleick 1993), 'water scarcity' (Brown 2001), 'water wars' (Shiva 2002). One of the much- quoted predictions made by the vice president of the World Bank, Ismail Serageldin, in 1995 reflects how water is perceived to play a role in international relationships: "If the wars of this century were fought over oil, the wars of the next century will be fought over water" (Serageldin in Shiva 2002: ix). Environmentalists like Vandana Shiva (2002:1) states "the water crisis is the most pervasive, most severe, and most invisible dimension of the ecological devastation of the earth". The United Nation's General Assembly's declaration of a whole decade from 2005 to 2015 as a 'Water for Life International Decade for Action' is an indication of importance of water issues in world arena. Water is considered an important dimension in world poverty alleviation as evident from the fact of its inclusion into two of the Millennium Development Goals set by the UN to address the world poverty (Gleick 2006). One of the Millennium Development Goals aims at halving the number of people without access to fresh water by 2015 (World Water Council 2007).

Although the global discourses on water have successfully established the importance of water, they tend to promote standardized solutions which are assumed to have 'general and global applicability' (Boelens et al. 2005). For example, it is assumed that formulation of national legal frameworks will facilitate a uniform implementation of policy principles. These global discourses on water increasingly tend to frame issues related with water in global terms and formulating standardized solutions sometimes tend to elide local level issues of water like differential access, and related power politics. As Johnston and Donahue (1998) state "Water scarcity is more than a matter of decreased supply or increased demand". It is influenced by a variety of physical factors, economic factors, cultural beliefs and power relationships. Water scarcity, as it is constructed in global debates and discourses, is often presented in absolute and monolithic terms, obscuring the complex nature of scarcity and its linkages with ecological, sociopolitical, temporal and anthropogenic dimensions (Gleick 1993). Water scarcity is not constant and has both temporal and spatial dimensions.

Discussing on the importance of water in shaping cultural landscapes, Scarborough (2003:10) states "Of all resources and natural agents, water plays the most fundamental role in shaping the natural and cultural landscapes". Water is arguably the most salient element of connectivity in the local to planetary continuum of ecological and social systems (Sneddon et al. 2002). The relationship between water resources, especially the irrigation systems, and social organizations has been one of the most debated issues in the literature. This interrelationship has provided the centerpiece of social theories of civilization and state formation (Steward 1955, Wittfogel 1957), social organizations (Coward 1980; Hunt 1989), and collective action and communities (Guillet 1992; Netting 1974; Uphoff 1992; Wade 1988). Following Wittfogel's 'hydraulic societies' hypothesis, early anthropological investigations focused on whether the need for irrigation management leads to a centralized bureaucratic structure and the formation of a despotic government (Wittfogel 1957; Steward 1955; Gray 1963; Fernea 1970; Downing and Gibson 1974; Millon 1962; Mitchell 1976; Sidky 1996; Price 1971). Although many of these studies discredited the hydraulic hypothesis claiming that there is not a simple relationship between irrigation management

and despotic government, they claimed that there is a relationship between water control and sources of power. The anthropological interest shifted to investigating the interrelationship between irrigation systems and social organization at a societal level (Leach 1961; Coward 1979, 1990; Wade 1988; Hunt and Hunt 1976; Hunt 1989; Uphoff 1992; Guillet 1992; Guillet and Mitchell 1993). These studies have contributed towards understanding the dynamics of social organizations and in developing theories on collective action. Recent anthropological studies on irrigation systems have focused on differential access to water sources and symbolic aspects of water management (Mosse 1997, 2003; Mehta 2005; Lansing 1991, 1993).

Water rights

Water right is 'widely defined as the right to use or enjoy the flowing water in a stream' (Scott and Coustalin (1995:821). Water rights normally express how much, when, and for what purpose water can be used by a person or a group of persons (Zwarteveen 1997). However, the meaning and understanding of water rights are much more complex than expressed by this definition. Scholars with different disciplinary orientation have emphasized different aspects of water rights. For example, lawyers and irrigation management experts view water rights as right to use a share of water allocated to an individual, a water user's association, a company or a district by statal or para-statal agency or a community (Teerink and Nakashima 1993). Others link water rights with a system of water allocation (Uphoff 1986). Those emphasizing on claim consider water rights as 'an authorized claim to a benefit stream of a water source' (Beccar et al. 2002). Along this vein, Pradhan and Meinzen-Dick (2003: 40) defined water rights as "claims to use or control water by an individual or group that are recognized as legitimate by a collectivity larger than the claimants and that are protected by law". Scholars using common property framework provide a comprehensive approach in understanding water rights through the concept of what they call 'bundle of rights' (Schlager and Ostrom 1992).

This approach suggests that there are types and levels of rights like rights to access, withdraw, manage, exclude and alienate held by various claimants, e.g., user, manager, or owner. Broadly these various types and levels of rights are grouped into usufructual rights or rights to use and ownership rights which give authority to make decisions about how to control and regulate the management of such uses. Type of rights varies with the type of water source, its location, and type of uses. Water rights system for drinking water will be different from that of irrigation water.

Even within an irrigation system, water rights vary at different levels of irrigation systems; hydrological, technological, and social configurations. These three levels are linked with different phases of irrigation: water source control, water delivery, water use, and drainage (Kelly 1983). At hydrological level, ownership rights or rights to hold control over water sources are of importance, whereas at technological level water rights are mostly concerned with rights to use infrastructure for water delivery and use. Rights to participate in decision making process fall at the social configuration level. Some of these rights like rights to use water are individually held whereas control of water sources is mostly collectively held by a community (Schlager and Ostrom 1992). In Nepal, legally the state owns all the water sources and as 'owner' of the source it can regulate the water uses.

There may be multiple bases for claims even for the same source. The most commonly recognized bases for such claims are possession of land along the water source like streams called riparian rights, and claims based on historic usage called prior appropriation rights (Bruns and Meinzen-Dick 2005). Historically, there has been conflicting basis for asserting these rights over water. Early riparian rights were based on the concepts of usufructuary rights. Worster (1985: 88) writes:

> In ancient times, the riparian doctrine was less a method of ascertaining individual property rights and more the expression of an attitude of non-interference with nature. Under the oldest form of the principle a river was to be regarded as no one's private property. Those who lived along banks were granted rights to use the flow for natural purposes like drinking, washing, or watering their stock, but was a usufructuary right only--a right to consume so long as the river was not diminished.

Today, the common mechanisms for accessing water rights are: water usage rights granted by the state administration; historic and socioterritorial rights; transfer of rights from one right holder to another; acquisition of rights by force; and users' investment (Boelens and Doornbos 2001).

Mountain as water towers of the world

Increased recognition of importance of freshwater sources has indirectly placed deserved attention on mountains, the sacred reservoirs of water. Mountains are considered as 'water towers' of the world, and provide major proportion of the world's water supply (Libiszewski and Bachler 1997). Most of the world's major rivers originate in mountains, and supply water for at least half of world population for various water uses like drinking, irrigation, and for hydro-power generation (Denniston 1995). As a major portion of the world's water supply is provided by mountains, the upper parts of watersheds are important for environmental and geopolitical security (Libiszewski and Bachler 1997). Water creates a specific type of relationship of interdependence between highland and lowland societies, which also cross national boundaries (Kreutzmann 2000; Bandyopadhyay et al. 1997). Such relationship of interdependence created by water is often at the root of many inter-societal and international conflicts. Although involvement of mountain communities in water policy and management issues can have benefits throughout the river system, historically they have been ignored in planning and development of water projects (Bandyopadhyay et al. 1997). Highlighting the value of water resources offered by mountains and the importance of the way they are managed for meaningful benefits of the mountain community Ives states:

> Mountains in general, and the Himalayan region in particular, offer a set of intrinsic and extrinsic economically valuable resources and services….. Of all these resources water and its management, including, including hydro-electricity, irrigation, drinking/household water, and watershed protection, is probably the most significant. However, while these resources on a regional scale are immense, whether or not they are utilized for improvement in the well being of the rural people will depend on who controls them and how such control is exercised (2004:196).

The International year of Mountains (2002) clearly highlighted the inter-related importance of mountains and water as vital to world society at large. The United Nations' declaration the 'Year of Fresh

Water' in 2003 further emphasized the mountains as 'water towers of the world'. The water resources of the Himalayan region are immense, whose proper use and management could not only foster the progress and economic stability of the individual countries of the region but also shape the well being of millions of people. The very fact that the water resources of the region offer an immense potential for the economic development makes it the major cause of political conflict between the countries. The need for fresh water, vital for human survival and prosperity, fires national passions everywhere. Disputes among and within nation states are common. In Nepal, harnessing Himalayan rivers for power generation has been considered as the panacea for transforming the economy of the whole country. Traditionally, the pattern of Himalayan water use has been largely dominated by irrigation and meeting domestic needs of the mountain societies. The indigenous systems of irrigation did not result in technologies, such as the Persian wheel, for lifting water (Bandyopadhyay and Gyawali 1994).

The Himalayan mountains and the many rivers that emerge from their interiors are an integral part of the religious, cultural, and social life of people living in the region. The Tibetan plateau carries special hydrological and symbolic importance for the people of South Asia as rivers originating in the plateau are the lifelines for nearly all of the South Asian population. The region around Mt. Kailash in Tibet (Kang Rimpochhe to Tibetans) is the fountainhead of South Asia's three major river systems: the Indus, Ganga, and Brahmaputra. For Hindus and Buddhists alike the region around Mt. Kailash and Lake Mansarovar (called Tso Mipham in Tibet) in Tibet is considered to be the cosmic center of the universe. A chance to do a circumbulation of the Kailash and Mansarovar is the ultimate spiritual fulfillment for both Hindus and Buddhists. Ancient Hindu religious texts claim that it is here in this mountain that the gods walked the earth, it is from here that all life flows (Subba 2001).

Specific highland-lowland interaction relating to the water cycle is at the root of many conflicts both national and international. There are about 240 major river systems worldwide that cross national boundaries. Competition over the allocation of shared water is widespread, especially in the arid and semi

arid regions. Rivers have become cause for many of the international conflicts between upstream and downstream countries.

Water legislation in Nepal

The first concerted effort by the state to regulate social systems and resource management in Nepal was the promulgation in 1854 of the *Muluki Ain,* the National Code, to be applied throughout the country. This Code was primarily based on Hindu religious texts like *Naradsmriti* and *Mausmriti* (Adhikari1984). This law formed the basis for issuance of other laws and decrees by the rulers until 1951, when the *Ain* was amended. The *Muluki Ain* had several provisions to regulate land rights but very few provisions concerning water rights and even these dealt mostly with irrigation water. References to laws regarding water management prior to the enactment of the *Muluki Ain* are found for the period covering the reign of Ram Shah from 1606 to 1632. The rules of that period stipulated that services from drinking water and irrigation systems could be availed of on a first- come first-service basis. It also stated that petty cases relating to drinking water and irrigation would not be heard by state agency or royal courts. Conservation of water source was given a priority and anyone felling trees around water spouts would be fined Rs. 5 (Khadka 1997).

The provisions of the Muluki Ain largely subsumed water rights under land rights. Even before promulgation of the Muluki Ain in1854, land rights were closely regulated. The King of the nation was considered Lord of the Land (Burghart 1984, 1996) and, as an owner of the land, the King had proprietary rights not only over land but also over all productive resources within the territory. The King had rights to impose taxes for use of the resource and transfer these rights to his subjects. Various categories of land tenure of the time reflect the transfer of these rights by the King. The major types of land tenure were: *raikar,* crown land for which tenant had to pay the rent to the King; *birta*, tax free grants of land usually given to priests and members of nobility, *Jagir*, temporary assignment of land given to government employees in lieu of cash remuneration (Regmi 1976). Although the King was considered the owner of all

the land, it was the ruler who would assign such land tenures to the subjects, and the hereditary Rana prime ministers were effectively the owner of the land. In fact, prior to 1951 no distinction was made between the state and the ruler. The rulers, first the King and then the Rana prime ministers freely used state revenues to meet personal expenses. The ruler appropriated all the surplus revenue left over after meeting the administrative expenses of the country. Only after 1950 were the state coffer and that of the King made separate.

To manage these various categories of land the ruler would appoint local authorities and the tax collector in different regions. These tax collectors had the right to levy taxes on the use of water. The rights to use water would be transferred along with the rights to land. The *Muluki Ain* of 1854 had a small provision on water distribution but not on the repair and maintenance of the canal. According to this *Ain*, water was to be allocated and distributed based on customary rules if there were any or according to shares where they existed. If neither of them exists, the distribution was to be based on the location of the plots along the irrigation canals. The fields near the head-end were to be watered first moving sequentially towards the tail-end. The *Ain* also stipulated that the persons who first constructed the canal or the diversion structure should get the priority in appropriating water. The *Ain* also intended to promote land reclamation. Anyone had the right to construct a canal through a cultivated land of another landholder if one wants to bring new area under cultivation by terracing. However, it stipulated that the area of the new land should be at least three times more than the area of the canal. The *Ain* upheld the customary laws, however, Pradhan (2000) mentions that in most places customary laws prohibited construction of newer canals upstream of existing canal if water supply to the latter would be affected.

The *Muluki Ain* was amended first in 1952 after the overthrow of the Rana regime, then again in 1963. These versions of *Muluki Ain* granted a person who constructed a canal first rights to appropriate water. One could construct a new canal upstream of an existing canal only if the water supply to the existing canal would not be reduced. These amendments also stated that traditionally irrigated fields should not be deprived of water and distribution should start in sequential order beginning from the field

near the headed of the canal. These versions of the *Muluki Ain* also stipulated that the tenants were responsible for the repair and maintenance of the irrigation canal. If the tenants failed to meet this obligation the revenue collector could evict them from the land. The tenants of the raikar land had to inform the revenue collector if it was beyond their means to undertake a repair work. The revenue collector in turn had to request that the higher officials arrange funds for such repair. If the revenue collector himself invested the money for repair and if he is not paid back either by the government or the tenants within three years, he had the right to evict the tenant farmers. Repair and maintenance of irrigation infrastructure was a means to secure the land tenure right for the tenants. In the case of a new canal construction, these *Ain*s required that landholders whose lands were used for such purposes were to be compensated. However, no compensation was to be paid for tax-exempt or uncultivated land.

The *Muluki Ain*s are not clear on whether riparian rights or prior appropriation rights should hold priority, especially in situations where the fields of the persons who first constructed a canal are located below the newcomers (Pradhan 2000). These *Muluki Ain*s clearly showed that irrigation rights were intimately linked with land rights. Although they clearly linked the contribution of labor for maintenance of canals to the security of the land tenure, it is not clear whether the basis for such labor contribution was the area of land cultivated or the household unit. However, it is clear from these *Ain*s that rights to irrigation water were dependent on rights to land and contribution for construction and maintenance of irrigation system. None of these versions of *Muluki Ain*s spell out who had the ownership rights over water sources like streams and ponds. Neither do they specify if different land tenure types had different water use rights.

Following the overthrow of the Rana regime in 1950, the property rights of the King and that of the state were separated. Various categories of land tenure were abolished: Jagir in 1951, birta in 1959, rakam in 1963 and Kipat in 1968 (Regmi 1976). The meaning of raikar has changed to mean land owned by individuals as opposed to its earlier meaning of crown land. Private ownership of land by ordinary citizens, and not just by the nobility or the king as was the case before 1950, is now an integral part of

Nepalese society. However, the opposite trend followed in the case of water: that no individual citizen owns water. Now the state owns all the water sources-even those originating on the privately owned land. The laws enacted after 1950 show this trend of progressive control of the state over water sources.

The *Canal Act* of 1961 was the first legislation designed specifically for state constructed irrigation systems. Through enactment of this Act, the state asserted rights to control water sources for irrigation purposes and indirectly claimed ownership rights to water sources. Section 48 of the Act states that the government owns the land lying at the bottom of all the naturally flowing water or stored water bodies. This, indirectly, bestowed the ownership of water sources to the state. This Act recognized limited water rights of traditional users who had been using water from the same source from which the water is diverted into government-constructed irrigation system. It had a provision that such affected individuals could claim compensation if water supply to their fields or traditional water mills from the source has been reduced or stopped. They were also prohibited from undertaking any activity that would adversely affect water supply to the government -constructed canals. Rights to irrigation water in such canals were tied to specific plots of land within the specific command area. Rights to irrigation water would automatically be transferred when the land is sold. The customary usage of water would not entitle anyone to get water from such canals.

Another Act which indicates how the state increasingly realized the importance of water resource is the *Canal, Electricity, and Related Water Resources Act* of 1967. This Act required that one has to get a license from the government for using water sources except for traditional and non-commercial use. The Act also authorized the state to acquire private irrigation or hydroelectric infrastructures so that the state could make comprehensive arrangements for water use at larger scale. Compensation would be given for the acquisition of such infrastructure but not for the loss caused by the reduction or non availability of water as provided by the Canal Act of 1961. The state bestowed on itself the increasing water rights in the name of economic benefit for the larger populace.

The trend of the state asserting control over water sources was finalized through the *Water Resources Act* of 1992. By then water was considered the most important resource of the country with the potential of transforming the economy of the whole nation. Through this Act, the state's power to control water sources was greatly increased while diminishing the individual citizen's right over water. Section 3 of the Act states that ownership of all the water sources present in the kingdom lies with the state. The state owns all types of water present on the surface or underground (Shivakoti and Bhandari 2005). Although a license is required for any use of water, uses such as community drinking water, irrigation, and running of traditional water mill were exempted from such requirement. This Act laid down the priority of water use in the order of drinking and domestic use, followed by irrigation, livestock and fisheries including agricultural use, hydro electricity, and other industrial uses. This Act also recognized Water Users' Association (WUA), which were to be formed and registered with the government if a group of people wanted to utilize water collectively. The government could handover, with certain conditions, water related projects to a WUA, which then would become the owner of the infrastructure. The Act authorized the state to levy the tax on water use and it was also absolved from the responsibility of paying compensation for acquisition of water sources as it is the owner of all water sources. This Act formed the basis for issuing other regulations like Irrigation Regulation, Electricity Regulation, and Drinking Water Regulation which regulate such utilization of water.

This account of legislative history of land and water in the country shows that there is an opposite trend in the state's control of these resources. While the state was relinquishing ownership and control of arable land it was increasingly bestowing on itself rights over water. In the past, the King or the ruler was the owner of all the land who would transfer some of the rights of these lands to subjects as defined by tenure arrangement. Over the years, especially after 1951, private ownership of land has become the established norm. However, water was hardly regulated prior to 1950. Now through various Acts and Regulations the government has bestowed on state the ownership right over all water sources. The state

can now own and control the use of water. All individual water rights are secondary to the rights of the state (Pradhan 2000).

Water in upper Mustang

Water is both a symbolic and material resource for societies in upper Mustang. Its ritual importance begins from birth and ends at death. During birth, water is a means for purification. On the third day after delivery, in a purifying and name giving ceremony for the baby, the monk consecrates water by reciting holy texts to purify the pollution caused by the birth. The consecrated water called *thyub* is then sprinkled over the baby and the mother. The defiled persons and objects are purified by washing or sprinkling over with consecrated water. At the death it is a means for emancipation. When a person dies, before performing other funeral rites, the monk sprinkles sanctified water called *Chilap* on the dead body.

During a person's life time, water *(chu)* symbolizes purity and a means to sanctification and purification. Water is one among three purifying elements for restoring purity of a polluted person. The other two elements are fire *(meh)* and gold *(sher).* Pollution is committed when a person violates the prescribed rules of commensality or engages in behavior not corresponding to the social hierarchy. Restoration of purity depends on the degree of the pollution committed and the social standing of the person committing such pollution. The concept of pollution and purification is rather strictly flowed among 'pure' Bistas, and especially in Lo Monthang (described in chapter 4). For lighter pollution, like sharing of a tea bowl with someone proscribed by the rule of commensality, a ritual called *sher-chu* is performed to restore the purity. In this ritual, a piece of gold or gold ornament is dipped in a bowl of water and then the Raja sprinkles the water over persons involved in pollution. Gold-fire (*sher-meh*) is performed when the pollution involved is of grave nature like sexual contact between a *Kutak* and *Ghara*. In such serious pollution, a golden needle is heated over a fire and placed on the tongue of the polluted and burnt a little. Water also symbolizes acceptance of a household in the community. If a household has

Figure 2.1 Irrigated landscape stands out in desert- like environment in upper Mustang

Figure 2.2 Irrigation canal as a source of drinking water in the winter months

to be socially ostracized, a severe punishment by the community, they impose a sanction called *Mehpcha Chupcha* literally meaning prohibition from sharing water and fire.

As a material resource, water plays an important role not only in supporting agriculture but its management forms the core of the norms of community system. The whole upper Mustang region receives a rainfall that is too low to permit any cultivation without irrigation. People's dependence on irrigation is absolute as rainfed crop production is not possible throughout upper Mustang region. The absolute dependence of people on irrigation systems for crop production also enhances the interdependence of all the members of the community.

The irrigated landscapes stand out as enclave in the surroundings of desert-like environment in Mustang (Figure 2.1). All the settlements in upper Mustang are invariably tucked in close to water sources. Vital importance of water to the societies of upper Mustang is also evident in the abandonment of terraces and shifting of the whole settlement, which are common sights in the region. In addition to making cultivation possible, irrigation sytems also provide water for domestic uses such as drinking, cleaning, washing, bathing, and running traditional water mills. In the winter months, when water freezes in drinking water pipes, especially in the northern settlements, irrigation canals are the only source of drinking water (Figure 2.2). Although irrigation canals are also frozen during the winter months, people break the upper layers of ice with a chisel and collect water flowing underneath. In settlements of lower elevation too irrigation canals provide drinking water sometimes when the drinking water system is disrupted. Due to its vital importance water has been a major cause of many of inter-village conflicts, and also a means for strengthening solidarity among community members.

CHAPTER 3: GEOGRAPHY AND HISTORY OF UPPER MUSTANG

Geography

The word *Mustang* is generally believed to have derived from *Monthang*, the name of the capital city of the kingdom of Lo. Monthang in the Tibetan language means 'plain of aspiration' (Jackson 1984:7). The word Mustang was used to represent the kingdom of Lo by the Jumli rulers when its territory was reduced to the area near its capital city after the southern territories of the kingdom were severed in the 17th century. While the term Mustang is used to refer to the whole district in administrative parlance, people in the district headquarters and southern parts of the district use Mustang to refer to only the northern parts of the district, especially all areas north of Samar village. However, people from above Samar village call this area *Lho Tso Dhuin* (meaning seven districts of Lo) and use the word Mustang to refer to the whole district. After opening of the northern region for tourism in 1992, the region north of Kagbeni is commonly referred to as 'upper Mustang'.

Today, Mustang is one of the 75 districts in Nepal. Mustang is one of the northern districts in Western Nepal bordering Tibetan Autonomous Region of China (Figure 3.1). Geographically, it lies in the inner Himalayan valleys. The Himalaya transverses east- west along the northern border of Nepal. The Inner Himalayan Valleys lie north of the principal Himalayan chain and border with Tibetan marginal mountains (Hagen 1961: 40). Traditionally, Mustang has been broadly divided into four regions (Figure 3.2). The northern most region, Lho-Tso- Dhuin is generally known as Lo today. South to the Lho-Tso- Dhuin lies the region called Baragaun[3]. Unlike in Lho-Tso-Dhuin where all the villages speak Western Tibetan language, the Baragaun region is divided into two regions linguistically. The northern

[3] Baragaun literally means twelve villages in Nepali. But today there are more than 12 villages in the region.

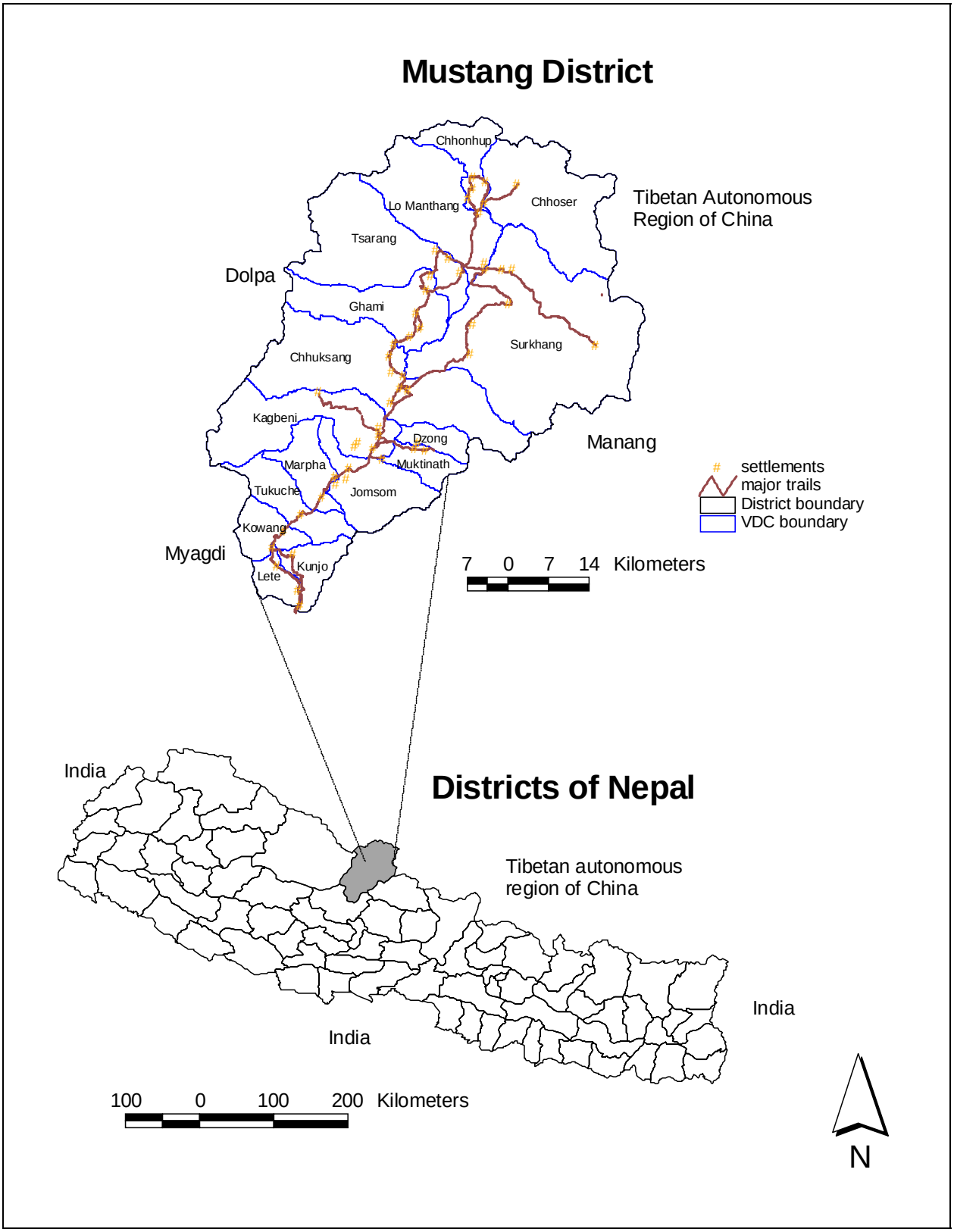

Figure 3.1 Location of Mustang District in Nepal

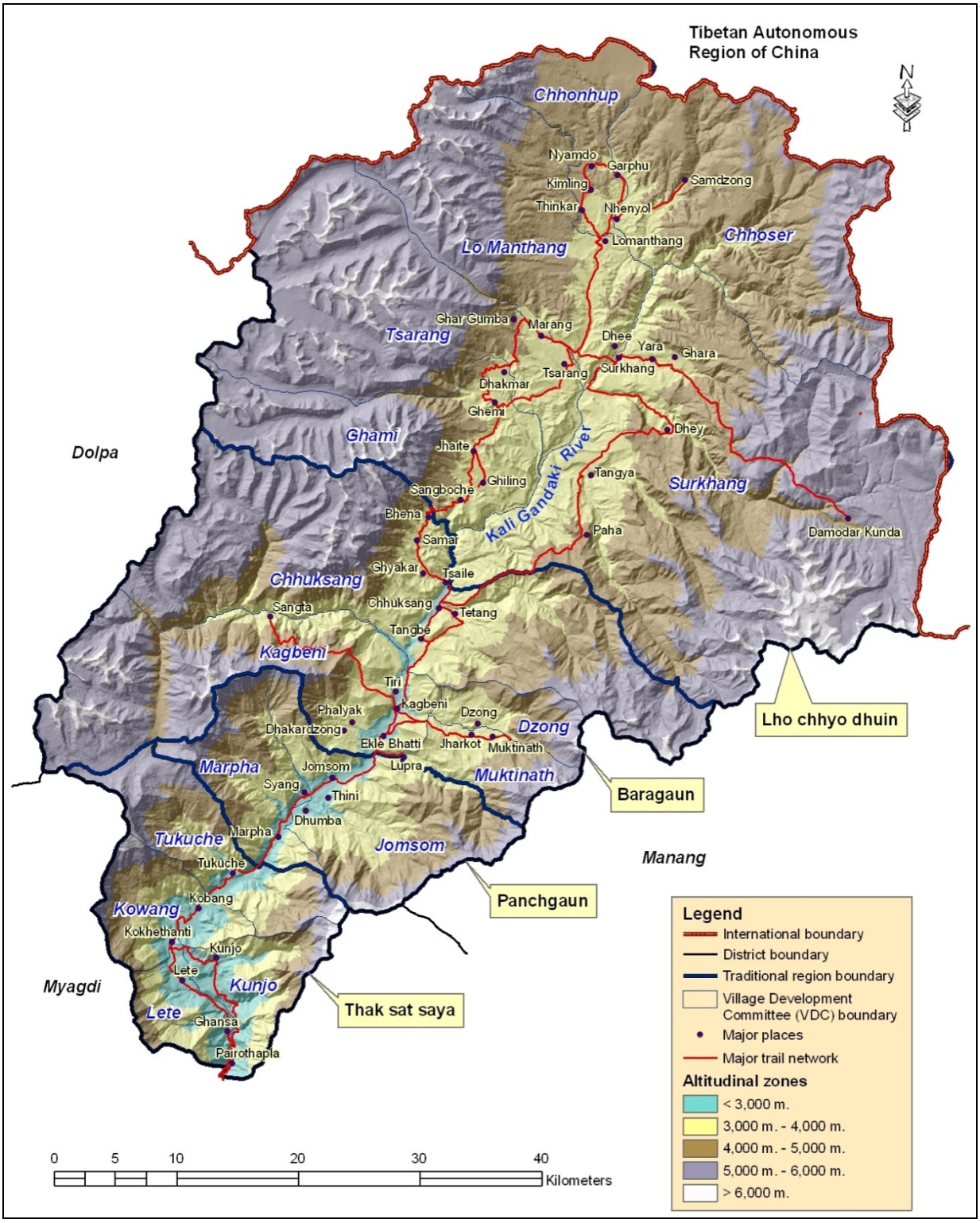

Figure 3.2 Map of Mustang (prepared by Mr. Nawa Raj Chapagain, ACAP)

five villages, collectively known as Shoyul, speak Sekai, a language very much similar to the language spoken by Thakalis further south. In the south of these five villages lies Muktinath valley whose inhabitants speak Western Tibetan like in Lho –Tso- Dhuin region of the north. The reason for this linguistic discontinuity, although the Shoyul borders with the Lho-Tso- Dhuin, lies in the history of the region described later. Villages like Muktinath and Kagbeni are important centers of religious and tourism attraction today. Historically, they also were important centers for political power struggles.

Further south to the Baragaun lies the Thak Khola region which is comprised of two parts, the northern Panchgaun[4] and the southern Thaksatse. During the height of dominance of the kingdom of Lo all of these regions were its territory. The inhabitants of Thak Khola are called Thakalis who speak Thakali of the Tibeto-Burmese language family. The district headquarters, Jomsom, is in the Panchgaun area. The Thaksatse was an important trade center during the height of salt trade route. The Thakalis of Thaksatse had a major political and economic impact on latter period of Lo history (19th and 20th century), also discussed later.

The opening of the northern part of the district for tourism in 1992 has divided the district into upper and lower Mustang. The region lying north of a village called Kagbeni is called upper Mustang. Thus the upper Mustang includes whole of Lho- Tso- Dhuin and northern five villages of Baragaun. Although this division of the district into upper and lower Mustang does not reflect the cultural and historical division of the district, it has been now fairly established especially among the development and outside agencies.

The Kali Gandaki River that flows through the middle of Mustang carves the deepest gorge in the world between the high mountains of Annapurna I (8,091m) and Dhaulagiri I (8,167 m). The basin formed by this river is called the Kali Gandaki basin. Along the banks of the Kali Gandaki many ammonites, the visible evidences of the geological formation of Himalaya are found. Ammonites are the fossil remnants of an extinct form of Mollusk. These ammonites lived and left their remains under the

[4] Panchgaun literally means five villages in Nepali

prehistoric Tethys sea that separated the supercontinents of Laurasia and Gondwanaland well before the continental collision that created Himalayan uplift joining the Indian subcontinent to what is now Tibet (Molnar and Tapponnier 1977). These mollusks existed during the Spiti-Jurassic period of the Mesozoic era, 180 to 50 million years ago (Messerschmidt 1989). These ammonites are found below the confluence of the Dhe Khola and the Mustang Khola, two streams which together form the Kali Gandaki river. The Hindus call these ammonites *saligram* and consider them as sacred manifestation of the Lord Vishnu.

Most parts of the district lie in the rain shadow of the Himalayan massif and few monsoonal clouds reach the region. As a result, it receives very low rainfall. The amount of rainfall decreases in the northward direction. In the upper Mustang region annual precipitation averages around 300 mm. From November to March the precipitation is in the form of snow. The elevation of upper Mustang region ranges from 2,800 m to 6,500 m. It has a very cold climate. The average day temperature ranges from 10^{0} C in winter months to 26^{0}C in summer months. The night temperature in winter months drops below -10^{0} C. The wind chill factor makes it further cold, especially if the wind is blowing from the north, which is quite common. However, there is a climatic variation among various river valleys mainly due to altitudinal difference. In most parts of the year, the region gets little cloud cover and thus results in intense sunshine. Everyday as the plateau gets warmer by about 10 AM the low pressure starts building up in the plateau, and as a result, a strong wind blows constantly from the south. The wind starts abating toward sunset. The low rainfall, intense sunshine, and constant wind blowing makes the landscape of the region appear very arid and rugged. Every year snowmelts erode the loose soil creating gullies and ravines. High peaks are covered with snow all year round which together with glacial lakes feed streams originating in the region.

Except for a small patch of forest between Samar and Ghiling villages there are no natural forests in upper Mustang. The vegetation is very scarce and very hardy shrubs like *Caragana sp* are the main vegetation in this arid landscape. There are high altitude pastures along the slope.

Settlements

There are 31 settlements, some large and some small, in the region invariably situated near a water source. These settlements are divided in seven Village Development Committees namely Chhuksang, Ghemi, Tsarang, Surkhang, Lo Monthang, Chhonup, and Chhoser. A village Development Committee is a basic political-administrative unit in Nepal. It refers both to the committee of officials and the spatial unit. Most of the settlements in the region are situated in river valleys and river beds but some settlements like Dhey, Ghara are high up in the mountains. When the fields are green with crops these settlements stand out against the barren surroundings. Evidences of shifting of some settlements caused by change in the courses of water flow are found in the region. These settlements form smaller river valleys of the larger Kali Gandaki basin. Most of these settlements are tucked along the historical trade route. Most of the settlements are very compact and nucleated leaving maximum area for cultivation.

When one walks along in the Lo region, one feature that immediately draws attention is numerous cave systems seen in the soft conglomeratic cliffs. The caves are situated high above the rivers and are extremely difficult to reach. These cave systems could most probably be the early settlements of the region. As Tucci (1956:10) notes:

> …The fact that on the rocks in the proximity small gompas [monasteries] either in ruin or still open to worship can occasionally be seen, does not mean as one might at a first glance suppose, that these caves were retreats (mgon k'ang, ri k'rod) for hermits. The country was never inhabited to such an extent or so rich and productive as to maintain so big a community of ascetics as that which one may suppose to have taken shelter in these caves. There is hardly any doubt that the grottos were old settlements before the introduction of Buddhism and with it, of a higher culture. The aboriginal people were troglodytes, using the caves in winter and shifting to the plateaus in summer for grazing, just as was the case for long time in Western Tibet also. But the fact that caves were excavated in cliffs of very difficult access might also suggest a certain insecurity and a standing danger of incursion. When the situation changed and civilization increased, villages grew and developed in the valley along the rivers.

The Nepal-German Project on High Mountain Archaeology has carried out excavations in the cave systems of Mustang district since 1992. In Mebrag, in the Muktinath valley they found about 30 naturally mummified bodies in the seventh story of the caves in one of their excavations. The finding suggests that the burial place was used between the periods of 400 BC to 50 AD (Alt et al. 2003).

Radiocarbon dating of various cave system in the region suggests human occupation going back to 800 BC (Vinding 1998).

Recent inhabitation of caves is still found in the villages of Garfuk and Nifuk, in Chhoser VDC, northeast of Lo Monthang. There are many accessible caves on the cliffs behind the houses and fields. Local people say that in olden times people lived in these caves. When the houses and fields were washed away by a flood in early 1980s some people moved back to the caves. The cave systems not only provided the local people protection against insecurities and inclement weather conditions but with other benefits as well:

> The cave-systems represented a settlement type which keep the neighboring fields free for cultivation and not restricted by development……..Moreover, the complicated cave-systems represent a suitable form of settlement in this arid high mountainous environment, providing optimal protection against strong winds and extreme fluctuations in temperature (Tucci 1956:120).

It is not clear as to which settlements were the earliest in Mustang. However, settlement shifting, as mentioned earlier, also took place frequently in the past. For example, the whole settlement and agricultural fields were shifted in Ghemi, an area Fürer- Haimendorf (1975: 166) called a 'ghost village', because of people's inability to restore the water supply damaged by a ravine. Abandonment of all agricultural lands can also be found in a place called Chhumbak near Chhuksang village where Khampa rebels built one of their camps. Ruins of abandoned plots and settlements can be found in other places as well.

Although the region has long remained a very remote region, its remoteness has been altered in recent years. Although the district headquarters Jomsom has not yet been connected by road, the airlifted tractors carry goods and people along the bank of the Kali Gandaki from Lete to Chhuksang passing though Jomsom in winter and summer months[5]. However, in the rainy season when the water level in the river rises this tractor service stops. Similarly, Lo Monthang has been linked with a dirt road to Tibet.

[5] There were six tractors operating in this section during my stay. There were about 30 motorcycles in and around Jomsom but road condition would not let them go as far as tractor.

Tibetan merchants bring truckloads of goods to Lo Monthang twice a year in a time agreed by the palace and the few business leaders of Lo[6]. The immediate effect of the road link to Tibet since 2000 was that the food and consumer items became easily available and cheap. The high cost of transportation, prior to road linkage to Tibet, made the transported goods very expensive in upper Mustang. The effect of the road link is pervasive in different spheres of community life. Local people have built dirt road further down to a hill near Ghiling but it had not yet become operative. An airlifted tractor operating in Lo Monthang sometimes is driven up to Tsarang to carry goods. During winter months the road linking Lo Monthang to Tibet closes, whereas those near the district headquarters remain operative. Although these transportation means have eased some burden of transportation and movement, the upper Mustang remains a remote region. Lo Monthang, the main center of upper Mustang, 85 Km away from Jomsom, is about 3 to 4 days walk. The major means of transportation is by foot and pack animals, mostly horses and mules. The nearest airport is at Jomsom.

The history of Lo

The Lo has undergone many triumphs and tribulations in its history. It had been one of the major religious centers and transit point of salt-grain trade in the past. Mustang, for most of its history, remained a frontier land and thus its rise and fall was shaped by regional power centers. An overview of the history, both political and religious, of the region will help understand the present day context of the research site. Tracing of this history will also help the reader to understand the back ground of present- day social institutions and systems. This presents a case of why a once important religious and trade center has become a backwater region. For the purpose of this study, the history of Lo is divided into three periods: Pre-state formation, the Kingdom of Lo, and sub-autonomous region of Nepal.

[6] After I left the field, the media reported that there was scarcity of food in Mustang as the authorities across the border did not allow their vehicles pass the border.

Pre-state formation period

The history of Lo before its annexation into Nepal is closely related with the history of Tibet. In fact, until the 19th century, Lo was influenced mainly by Tibetan civilization, although it was in direct contact with the other kingdoms like Yatshe and Jumla. A brief overview of early Tibetan history is thus essential to understand the religious and political history of Lo(Mustang). Early history of Tibet dates back to 5th century AD when the first Tibetan state was formed in the Yarlung valley, some 200 km southeast of Lhasa (Vinding 1998). The power of the kingdom grew and it became a major power under king Songtsen Gampo in the seventh century, who led the unification of various regions and petty principalities into a huge nation state of Tibet. In this unification process, he also conquered Shangsung (*Zhang Zhung*), then a separate kingdom with its own language and culture in Western Tibet. Jackson (1978) suggest that Lo, by then, was a part of the Shangsung kingdom. The nearby kingdom of Se-rib which had the control over the lower parts of Mustang (Panchgaun and Baragaun) was also a part of Shangsung. Tucci (1980:249) suggests that Lo and Serib were subjugated to Tibet around 645 AD. Although the kingdom of Serib revolted in 705 against the Tibetan regime, the regime was quashed by 709 (Jackson 1978). The powerful Tibetan kingdom slowly started disintegrating after 842, when anti-Buddhist (Bon supporter) King Lang Darma was murdered following eruption of rivalries between various political and religious factions (Richardson 1984: 29-30).

The political history of Tibet is intricately linked with its religious history, especially the struggle for dominance between Bon and Buddhist religion, and the evolution of various sects of Buddhism. The current practice of Buddhism, and the presence of Bon temples in different parts of Mustang, today have a history dating back to the evolution of and struggle for religion in Tibet. It is generally agreed that there was Bon religion in Tibet prior to the rise of Buddhism (Tulachan 2003)[7]. Bon religion was prevalent in Shangsung after it gained the patronage of the ruling class (ibid). Being a part of Shangsung, Lo was first

[7] The Bon religion prior to Buddhism is commonly referred as Old Bon. The one that is found today is reformed Bon.

influenced by Bon religion before the advent of the Buddhism. However, in the lower Lo, Bon religion was not yet established until the 11th century (Tulachan 2003). Later, lower Lo became a center of Bon religious activity and many temples were established (Jackson 1978:202-203). Even today, Lubra village located to the south of Lo exclusively practices Bon religion. There is also a Bon monastery in Muktinath.

Bon religion in Tibet and also in Mustang had to compete with Buddhism, especially with the influence coming from China and India. It is widely believed that King Songtsen Gompo's two wives, princesses from Nepal and China, were influential in the initial spread of Buddhism in Tibet. "Elevation of these two women to a deity status indicates the important roles they had in the propagation of Buddhism" (Tulachan 2003:40). Also during the reign of King Songtsen Gompo, the Tibetan script was developed, inspired by Sanskrit language. The royal patronage of Buddhism must have played a strong role in the spread of Buddhism. Initially, the Chinese version of Buddhism was more influential than the Indian version, most probably because of closer political and cultural ties of Tibet with China. However, that started changing when kings started inviting Buddhist scholars from India. One of such famous scholars was Santarakshita invited by King Trisong Desten (Shakabpa 1967). His visit was followed by a visit of famous Buddhist Tantric Padmashambhava in the 8th century, who at that time was living in Nepal. He passed through Mustang on his way to Tibet. There are many legends in Mustang about his travel to Tibet. The famous monastery of Lo Ghekar in the south east of Lo Monthang is believed to have been established by Padmasambhava after subjugating the demons of the region. This monastery was founded even earlier than the foundation of the famous *Samye*, the first Buddhist monastery in Tibet around 775 AD (Shakabpa 1967). Today Padmashambhava is worshiped on par with Buddha in Lo.

Although Bon religion coexisted with Buddhism in early stages of spread of Buddhism, there were violent struggles between them. Kings and ministers were murdered in the midst of these struggles for domination[8]. Outcome of this struggle led the disintegration of Tibet. Buddhism virtually vanished

[8] In 815 powerful Buddhists ministers enthroned Ralpachen over his elder brother Lang Darma, as Ralpachen had pro –Buddhist inclination whereas his elder brother was considered to be irreligious. Buddhism was promoted during the reign of Ralpachen. In 838 Lang Darma was crowned king after he conspired with two pro-Bon ministers

from central Tibet whereas it survived in the Western and Eastern Tibet where Lang Darma had little influence. The process of disintegration of Tibet just before and after the murder of Lang Dharma gave rise to emergence of many regional power centers. One of such regional power center was Ngari in Western Tibet. Ngari was loosely composed of Maryul, Guge and Purang (Dhungel 2002). Purang again became a center for Buddhism diffusion in 11th century, where Indian Buddhist Pandit Atisa Dipankara Srijana was invited in 1042 AD. His teaching there gave a momentum for the spread of Buddhism again and led to the evolution of the sects Sakyapa and Kagyupa. (Tucci 1980:21). In the midst of evolution of these various sects, in 1206 AD the Mongol king Genghiz Khan came as far as Central Tibet, and Tibet submitted itself to his might (Stein 1972:77). The powerful Mongol's good relationship with leaders of Sakyapa sect shaped the religious history of the region. The tradition of reincarnation was initiated by Kagyupa sect, especially the Karmapa, which was later adopted by other sects also. The Gelugpa sect founded towards the end of the 14th century gained authority in Tibet as it was preferred by the Chinese court. Sonam Gyatso, the third reincarnation of Gendun Truppa of Gelugpa sect was invited to Mongolia in 1578 AD and Altan Khan conferred on him the title of the Dalai Lama (Tulachan 2003). Thus started the institution of the Dalai Lama which continues till today. Before Gelugpa sect took the authority, Sakyapa sect had the supremacy. Lo which was under the influence of Western Tibet, ever since remained subscribed to the Sakyapa sect.

Tracing back the political history of Lo, it was a part of Ngari, a Western Tibet power center in the 10th century. Some of the major power centers in the western Tibet of the time were Purang, Mangyul (Gungthang), Maryul (Ladakh), and Yatshe (Simja of the Karnali region in Nepal). Lo, along with Dolpo and Manang, is known to be part of lower or eastern Ngari (Dhungel 2002). From 10th through 12th century, excepting several short-lived Ladakhi invasions, Lo was under Guge. The cultural and political dominance of Purang and Guge declined in Ngari after early 12th century and regional competition

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to murder Ralpachen and pro-Buddhist ministers and relentlessly destroy Buddhism. Because of his drastic measures, Buddhist monk, Lhalung Palgye Dorje murdered Lang Darma in 842 ending his short reign. Under his persecution of Buddhism Bon was reintroduced in central Tibet (Richardson 1984).

erupted among Maryul (Ladakh), Guge, and Gungthang for control of the region. From the end of the 12th century, the Lo region came under the political domination of either Gungthang or the Khasa / the Yatshe kingdom in the Karnali region, which continued for two centuries.

In the early 13th century Yatshe conquered parts of Ngari and Gungthang and its influence also probably included in Lo and Serib (Jackson 1976). But in 1252, Gungthang, with the help of Mongols, regained Lo and Baragaun (which then constituted the part of Serib) from Yatshe. After the conquest, Baragaun was separated from Serib and became known as lower Lo since then. Around this time, the Lo became an important center of Shakyapa thought. To consolidate its power in lower Lo, Gungthang established Tibetan nobles as leaders in Baragaun. In the following centuries the Tibetan language was apparently adopted by sections of the local population, and while the people of the upper part of Baragaun (Tetang to Ghyakar) have retained their original *Sekai* language. So these five villages form an enclave of Sekai speaking village between Tibetan speaking people (Ramble and Seeber 1995).

In the 14th century Lo again became a part of Yatshe kingdom. But again after 1365, when the Yatshe kingdom suddenly collapsed and Gungthang became powerful, Lo together with Dolpo and Manang became part of Gungthang which ruled the region by appointing regional governors. Both the father and the grandfather of the Lo's first independent king Ame-pal were regional army commander and later its governor for the region. From this short account, it becomes clear that Lo was once a part of the great Tibetan empire and then oscillated between various regional power centers- being part of Purang, then Yatshe, and Gungthang, Yatshe, again back to Gungthang. This oscillation suggests that Lo was a marginal region but later during the time of King Ame-pal it became a powerful center.

The independent kingdom of Lo

In 1440, Ame-pal, the third hereditary commissioner appointed by Gungthang declared his domain to be an independent kingdom. Thus began the foundation of kingdom of Lo. Weakening position of Gungthang and the fall of Yatshe, convinced Ame-Pal to declared Lo's independence. The history of

the kingdom of Lo, after its formation, has been constructed based on the *Mollas*. David Jackson's book *The Mollas of Mustang; Historical, Religious and Oratorical Traditions of the Nepalese –Tibetan Borderland* is probably the first reliable detail account of Lo history. Jackson describes Mollas as referring

> "…in particular to public discourse or speech-making. The Mollas are the written texts of speeches whose contents included historical information. This is a special, restricted sense of *Mol ba.* In its wider sense, however, it signifies the giving of a discourse by a speaker, or it signifies the discourse itself' (Jackson 1984: 23)

The Mollas in Mustang is understood as signifying a solemn speech or a book containing such a speech-that is recited before a religious assembly and that eulogizes the local rulers and their ancestry (ibid:25). The author found such six Mollas but the accounts of these Mollas quite often do not concur. Another recent book on political history of Mustang is *The Kingdom of Lo (Mustang): A Historical Study* by Ramesh Dhungel (2002). It bases the history of Mustang on government documents of Tibet, Nepal and Lo, and other local records and Mollas (Dhungel 2002:7). These sources claim that the first king of Lo is a highly venerated.

Ame-pal was the only king in the Lo's history to be venerated by his people as the incarnation of a Bodhisattva because of his efforts to promote Buddhism in the region. One of the Mollas says that Padmasambhava himself had prophesied about this king:

> In the land called Lo [there will appear] the emanation of the, the one from Orgyan
> [He will be] sustained by Vajrapani, [and] famed as "A-me"
> That one will subdue many *sri mo* demons .
> But even having subdued them, men will not be please;
> Even though [the *sri mo*[try, [they] will not be able to overcome
> [A-me-pal]. (Jackson 1984: 146)

After the foundation of the kingdom he sought to extend the territories of the kingdom by conquering areas in Guge, and Purang (Jackson 1978:216). Dolpo was already under Lo. He also established the town of Lo Monthang, and constructed the palace there called Tashi Gephel in sMon-thang (named as Lo Monthang) and transferred the old headquarters from Tsarang declaring it to be official capital of the kingdom of Lo. He invited Ngorchen Kunga Sangpo, the first abbot of Ngor, and

made him the principal religious preceptor. Together with this abbot and his chief minister Chhewang Sangpo, he constructed many stupas, installed many holy images in monasteries. These three people are referred as 'Three excellent Men' (Jackson 1984: 147) in Lo. As revenue increased from tributes and levies on trade, Ame-pal removed the taxes and encouraged immigration. A large number of people from different parts of Tibet enthusiastically migrated to Lo. His reign and the next two generations are considered a golden period in Lo history.

Ame-pal was succeeded by his son Amgon Sangpo when he died in 1447 AD. King Amgon Sangpo also extended the Lo territory. The territory in the south extended up to Thak Khola. His descendants were called A-ham and had an A-seal as his signet (ibid: 148)[9]. The famous Jhampa (*Byams pa*) monastery, sill intact today was constructed by Amgon Sangpo. He was succeeded by his son Ahm Tsangchen Tashigon. The Tsarang Molla claims that he ruled over regions of Ngari and as far south as Gru (Parbat) (ibid:148). He built another famous Thubchhen monastery which is also intact today in Lo. During his reign royal sibling started becoming the abbot of Thubten Shyadrub Dargyaling monastery in Tsarang[10]. During his reign Lo went to several wars against Purang and Guge between 1482 and 1497AD.

When Amgon Gyaltshan became the King of Lo/Mustang around 1513 AD, the neighboring kingdom of Jumla, the major successor of the Khasa /Yatshe kingdom had emerged as major power in the region whereas the prestige of Lo was waning. Lo could no longer assume to control its outward and recently subdued areas. The Jumli rulers were launching a military campaign against the upper Kali Gandaki valley to capture the vital north south trade (Snellgrove 1967). Around 1544 AD, Jumla reduced the Lo king to a local ruler which led to two hundred years of travail for Mustang. It could never recover

[9] The signet is still used by the present king. It serves as a symbol of unity which is described later in another section.

[10] The tradition still continues. Second brother of the present king was the abbot of the Tsarang monastery. He died in 2000.

its heightened status, although it fought back several times with the support of its allies. Its fight back continued until its incorporation into the kingdom of Nepal in 1788 (Dhungel 2002).

Ladakh was also a powerful kingdom in the 16th century. At the end of the 16th century the army of king Tshewang Namgyal of Ladakh invaded Purang, Jumla, and Lo (Jackson 1978: 219). Although Lo came under the supremacy of Ladakh, affinal ties between the royal houses created a close relationship between the two kingdoms. These two royal houses entered into matrimonial relationship at least three times between 17th and 18th centuries. Ladakhi armies came to the aid of Mustang on several occasions. Other regional powers that came to help Lo in these fight -backs were Parbat and Doti, small principalities before the unification of Nepal.

Lo's weakness vis-à-vis Jumla was also aided by internal disputes over power sharing after Amgon Gyaltshan's death. Some members of the ruling families supported Jumla in the war as a result of this internal dispute. The king's local officials at Muktinath and Kagbeni called *Khri-thog-pa* chiefs tried to free themselves from the influence of Lo. By 1550s the Jumlis had established a permanent post at Kagbeni, an entry point for upper Mustang. And in 1652 a fight broke out between the king of Lo and his local minister in which the Jumla king supported the ministers and local chiefs, probably for their acceptance of Jumla's hegemony (Schuh 1994:21). These officials supported Jumla in its annexation of Muktinath valley in the lower Lo in the late 17th century (Schuh 1994:41).

Jumla then annexed the entire western and southern territories of Lo/Mustang, as well as Dolpo, Tsharka, Gelung, and Kag-Baragaun. Consequently, the territory of Lo was reduced to a small area around the capital Monthang. This loss of territory reduced the Lo's control of the north south trade and the revenue which was important for maintaining army for Lo. The control of the trade route was an important incentive for waging such wars. In 1706 a treaty regulating the trade in the Mustang region was signed by the kings of Jumla, Lo, Parbat, and the headmen of some villages in Panchgaun. Jumli presence also adversely affected the religious sphere of Lo as monasteries, palaces, forts, stupas slowly became dilapidated.

Although by the early 1650s Jumla had achieved the domination, Lo also gained short periods of independence from Jumla on several occasions. In these several wars, Jumla would terminate such temporary recovery and demand annual tribute from Lo (Dhungel 2002). In one of such wars in 1719, Lo (under the king Tsewang Lungrub) was able to mobilize support from Parbat and Doti to defeat Jumla from lower Lo. Both Parbat and Mustang benefited from this war as it freed the north south trade route. Apparently Jumlis did not rebound from this defeat for several years. In 1723 another war broke out between Jumla and Lo in Kagbeni as Jumla detained king Tashi Namgyal of Lo, when he was returning from Ladakh with his queen in Kagbeni. Support for Lo king arrived from Parbat, Ladakh, and Gro-shod and Lo regained the control over entire Lo.

Lo-Jumla war of 1723 was the last successful attempt of Lo to remain free from Jumla. Jumla fully annexed the lower Lo between Kagbeni and Ghiling during the reign of Tenzing Angyal. The core area of Lo/Mustang called Lho-Tso-Dhuin in upper Lo became a tributary of Jumla which imposed the additional levies and gifts on Mustang. Lo lost sovereignty and its territorial integrity. Jumli hegemony after 1735 continued until Lo's dependence to Nepal was established in 1788-89. As a result, Lo's economic and cultural prosperity started steep decline after the 1730s. By mid- century it also lost its original name of Lo (Dhungel 2002: 121) and became known as Mustang. The Military power of Ladakh and Parbat, allies of Mustang, also waned and they could not aid significantly in Lo's attempt to regain freedom.

Having gone through this, Lo resented the hegemony of Jumla, and sided with the Nepalese king when the Nepalese nation-state was being formed by unifying petty principalities. After Parbat was defeated in 1786, the southern parts of Mustang Thak, Baragaun, and Lubrak came under the control of Nepal. The advancing army courted the support of *khri-thog-pa* chiefs of lower Lo region. Ancestors of these chiefs had come from Kye ki Ghang of Lo after disputes with the king in the late 15th century. In Lo, they were the ministers and when the relationship with the Lo rulers improved later they were appointed as regional governors. These chiefs were called '*Bista*', a Chhetri caste sub-group. Although

they were appointed local governors by the Lo king, they aligned themselves with Jumla when it was trying to control the region.

Sub-autonomous region of Nepal

Although Lo was culturally closer to Tibet, and a tributary state, it refused to follow the advise of Tibet not to join Nepal. In this war, Tibet supported Jumla. King Angyal Dorje [11]must have made the decision taking into account the geo-political reality of the day. Upon signing the treaty of dependence with Nepal, Lo was given the territories of lower Lo, Manang, Nyishang, Dolpo and other areas and could collect the annual tribute and other occasional fees from these territories (Dhungel 2002: 121). As a part of the treaty, the Lo king had to continue paying a tribute of Rs 929 and five horses to Nepal, which it was paying to Jumla earlier. However, this tribute was reduced to Rs 896 and two horses which continued until 1870 when a custom was established in lower Mustang and Thakalis were contracted to manage this post. The Lo king was also asked to continue paying tribute to Tibet which he continued until the 1855 Nepal-Tibet war[12]. Although the Raja had to continue paying the tributes as before, the control of the trading posts in these newly re-acquired territories brought economic prosperity to the region. Raja Angyal Dorje is credited with initiating renovations of many religious monuments. He also started the land grant for monasteries.

As a part of the dependency treaty the Raja was also charged with defending the northern border against the enemies of Nepal. Tibet developed resentment over the Nepalese conquest and a war was fought in 1788-90, in which the Raja fought on Nepalese side. He was awarded honorary military title by the kings of Nepal. Until the first half of 19th century the Lo enjoyed the prestige gained after accepting the dependency. The Raja and Rani could get royal audience in Kathmandu every two years. They could

[11] Since the Lo became a dependent state in Nepal after 1788, I have used the word *Raja* instead of king. Officially the king was called Mustange Raja.

[12] The Raja was urged not to pay tribute to Tibet during 1788-90 Nepal-Tibet War. But this was resumed again after the peace treaty which continued until another was on 1855.

continue collecting taxes and levies in the southern Lo and adjoining areas which helped renovation of many monasteries.

However, this renewed prestige and prosperity did not last long with the political developments taking place in Kathmandu. The Khri –Thog- Pa chiefs of lower Lo started challenging the authority of the Raja, after establishing a closer contact with power centers in Kathmandu in early 19th century. Not only the Rajas authority was being challenged, the authorities with which linkage was already established also changed in Kathmandu. In 1846, through a massacre, commonly called *Kot Parba,* Rana regime was established. The Khri Thog Pa chiefs and Thakalis were more astute in establishing contacts with new authorities in Kathmandu. Moreover, the Raja did not speak or understand the Nepali language to communicate with the authorities in Kathmandu. He had to depend on bilingual Thakalis to develop these contacts, who were also competing to gain political power in the region.

Nepal's relation with Tibet was also deteriorating especially fueled by the dispute over the control of trans- Himalayan trade. Rose (1971: 123) describes the relation as 'interminable series of petty disputes' over the salt rice-barter trade along the border and the treatment of Nepali merchants in Tibetan towns. In 1854, Nepal declared war with Tibet which continued until a peace treaty was signed in 1856. This war was very significant in shifting the power from Lo Raja to the Thakalis. The series of disputes with Tibet prompted Nepalese government to seek ways to secure the loyalties of the northern border peoples, and to tax and control the border trade (Bista 1971). The first Rana prime minister of Nepal Jang Bahadur Rana, a staunch Hindu, did not trust Buddhist rulers of Mustang along the border (Tulachan 2003: 62). Because of their strong Tibetan affinities, the Mustang rulers were suspected of having conflicting interests and considered to be untrustworthy (Bista 1971). In this war, the government of Nepal sought the service of Thakalis and not of the Raja of Mustang. One among those influential Thakalis was Bal Bir Sherchan who acted as interpreter during this war. Kathmandu's inclination towards Thakali might also have been influenced by their bilingual ability. Balbir's service was greatly appreciated by the Nepalese force and he was awarded the 108 volume of *Kangyur* and 220 volume of

Tangyur, highly prized Buddhist religious texts, taken from Tibet during the war (Vinding 1998:47). He also won the confidence of the authorities in Kathmandu which helped him later secure the custom contract of salt trade in 1870. Except for some short intervening periods, he and his descendants called Thakali *Subba*s had monopoly over the salt trade until the monopoly was terminated in 1927.

The control of the salt trade made them most powerful clan both economically and politically in Mustang, while greatly diminishing the political power and the influence of the Lo Raja. The Thakali Subba effectively ended the control of Lo in lower region. However, the Thakali Subbas were also not working as single unified clan. By the time Rana hereditary rule was overthrown in Nepal in 1950, descendants of Balbir were bitterly divided into two rival factions (Tulachan 2003: 64). Many villages sided with one or the other faction. The democratic fervor was sweeping the whole nation, and one of these factions lobbied for the abolition of the Lo monarchy as it was considered feudalistic. During the campaign for abolishing Lo monarchy the commoners of Lo Monthang were asked not to contribute corvee labor and pay any levies to the Raja. They also asked people to stop celebrating festivals like *Tenchi* as it was considered an instrument of perpetuation of feudalism.

They also filed a case against the Raja Angdu Nyingpo, the elder brother of the present Raja, in a state court in Baglung accusing him of exploiting the Loba people (Tulachan 2003). The court would send regular summons for him to appear in the court in person, the attending of which was very difficult for the Raja of Mustang considering the distance from Lo Monthang and the climatic differences. It is widely believed in Mustang that in attending one of these summons the Raja contracted a disease which ultimately killed him in 1961 in Lo. He did not leave behind any male offspring as an heir to the throne. Raja Angun Tenzing Trandul who had abdicated the throne in 1950 for his eldest son took over the throne again as his youngest son was not yet ready to take over the throne. “At this juncture, the Lo monarchy was in serious threat of being abolished since the anti king Subba faction had powerful connections and influence in the royal court of Nepal whereas the Lo king had no such connection or access” (Tulachan

2003:64). However, the rival faction of Thakalis came to its rescue by advocating in Kathmandu palace why it was essential for Loba people and for the border security.

In 1960, when King Mahendra Bir Bikram Shahdev of Nepal overthrew the elected government and established his absolute power, he reinstituted some rights of the Lo Raja and festivals like Tenchi. He also reinstituted the honorary title of colonel of the Royal Nepalese Army that Raja had since it became dependant of Nepal[13] . He was also nominated as a member of the Royal Council. After the death of Angun Tenzing Trandul his youngest son Jigme Palwar Bista, the present Raja, was crowned in 1967.

Another event that had a major impact on Lo's recent history is the Chinese invasion of Tibet in 1959. When the Dalai Lama fled from Tibet to India in 1959 at the time of Chinese invasion many Tibetans followed him. They fled to Nepal, India, and Bhutan where they sought asylum. Some of them fled through Mustang. One of the groups that fled and later became famous was Khampas, people from the region called Kham in eastern Tibet. They were historically known as fierce warriors. These Khampas, trained by the CIA in Colorado, launched insurgency movement in the 1960s setting up several bases in different parts of Mustang[14]. They had established a large army base in a place called Kaisang, near Jomsom and other smaller camps spread in different parts of upper Mustang. Not only did they establish depots along the Kali Gandaki valley but also renovated and built roads for transporting foods and supplies. They were well armed with American weapons, and established a depot in Lo Monthang as well. With weapons and money came the power and they had a free reign in Mustang making the Raja powerless to do anything against them. Moreover, the Nepalese government also did not interfere in their activities because of American insistence. The Khampa left a mixed legacy: on the one hand they had often terrorized local population and abused local forests and pastures; and on the other hand some of

[13] After an anti-monarchy movement in Nepal in 2006, during my fieldwork, the 'royal' word has been removed from all public institutions. The army has been renamed now as Nepalese Army.

[14] Although Tibetans of other regions were also involved in the insurgency movement, all of them were called Khampa. The training for these Khampa guerrillas began in 1956 in Colorado even before the Dalai Lama fled Tibet.

them assimilated into the communities contributing both materially and culturally. In the early part of the insurgency, the local people very much resented their high handedness. The Khampa rebels splintered into rival factions one led by Baba Yeshi and the other by Gyatsho Wangdi (Bauer 2004:105). The rivalry was so intense that one faction sometime would kill a member of another faction.

By 1968 the American government had stopped supporting the Khampa guerrillas. The changed Sino-American relationship sealed the fate of the insurgency movement. Following the Chinese government's request to quash the Khampa guerrillas the Nepalese government in1973 demanded the surrender of guerrillas to which they refused. The Dalai Lama, fearing a bloody showdown, asked the guerrillas through a recorded tape to surrender to the Nepalese government. Out of the dilemma, some of them committed suicide, some of them led by Baba Yeshi surrendered to the Nepalese government. But a small group led by Wongdi did not surrender and were killed on their escape to India. Thus ended the Khampa insurgency in 1974.

The presence of Khampa guerrilla in Mustang not only had its political significance but also directly affected the natural environment, especially through their indiscriminate use of scarce forest resources. Local people claim that they destroyed the forest patch stretching between Samar and Ghiling and local pasture lands. Today one can see many stumps of felled juniper trees in this stretch. However, on the positive side, people near the bordering villages could maintain large herds of yaks and sheep, indirectly attributed to the Khampa's presence in the region. Since the Chinese authorities did not have any effective control in the region south of the River Tsangpo, owing to the Khampa's presence, people could graze their animals in the pastureland in this area and maintain a large herd size.

CHAPTER 4: UPPER MUSTANG IN SOCIAL AND ECONOMIC CONTEXT

Water management norms are embedded in locality-specific physical and ecological conditions and are interwoven with history; cultural, economical, political, and technological foundations of any society (Mosse 1997; 2003; Baker 2005; Boelens and Doornbos 2001; Zimmerer 2000). Social differentials such as caste, class, and power structures prevailing in a society underlie an individual's access to and control over water (Benda-Beckmann et al. 2000; Arce 1998). Since these social elements shape the water management, and norms for water management form the backbone of community systems especially in arid region, understanding of social and economic context is essential to study water management and its relationship with social institutions. This chapter discusses in detail the societies of upper Mustang, their livelihood strategies, community resource management system, and the general features of research site.

Societies

Today, upper Mustang region is comprised of two traditional zones: Lo-Tso- Dhuin and Shoyul of Baragaun. Although people of the whole upper Mustang today are generally referred to as Loba, this title was traditionally restricted only for the residents of Lo-Tso-Dhuin region. People of Shoyul area of Baragaun are called Shopa and are culturally similar to Loba people in most respects. The Loba [15] people, are "culturally, linguistically, and ethnically similar to the people of Western Tibet" (Fürer- Haimendorf 1988:137). Loba society, like Tibetan society, is a stratified one. The Loba society is composed of three classes: nobility, commoners, and an occupational class. The nobility is called *Kutak*, and are the ruling classes. The King, commonly called *Mustange Raja* is from *Kutak* Class. Some villages in the region

[15] People of Lo have been referred as Lo-pa or Loba by various authors, as *ba* and *pa* in Tibetan meaning residents.

have only one or two *Kutak* households or none at all. As the ruling class, the Kutak households have the highest status in society and have better access to and control over material and symbolic resources. These days they use the surname '*Bista*', a surname of Chhetris in Hindu caste-system.

Today, all nobility of the region use this surname. However, not all *Bista*s are of equal status and the hierarchy emanates from consanguineous proximity to the King (Tulachan 2003). The King, Queen, and their children are at the apex of this hierarchy. The *Bista*s, who can claim their ancestry to the '*Bista*s' without hypogamy or hypergamy in relation to commoners or outsiders, are next on the hierarchy. They are called 'pure' *Bista*s. The nobility of *Bista*s is rooted in the nobility class of Tibet. Traditionally, kings acquired their queens from Tibetan aristocracy. The present king and the prince also entered into matrimonial relations with the aristocratic families in Tibet. The last on the hierarchy of nobility are the 'adulterated *Bista*s', (ibid) who can claim at least one ancestor to be of pure nobility.

The commoner class, which comprises the majority of the population, is called *Phalwa.* These days the Phalwa have adapted the surname '*Gurung*'. These *Gurung* are not the same *Gurung* who have been famed as Gorkha warriors serving the British and Indian Armies. Gurung has been a separate ethnic group for many centuries, speaking a language of the Tibeto-Burmese family, residing mostly in the middle hills of Nepal. It is not only the people of Mustang who have adapted the surname *Gurung*, but also the Neshyangba of Manang[16] use the *Gurung* surname. These days the Loba *Gurung*s do not have such a hierarchy as *Bista*s and function as a single group. However, in the past, various subgroups were ranked in the hierarchy. The subgroup that formed the defending force ranked the highest followed by the subgroup that provided special services like astronomy, medicine, art etc. The subgroup that provided artisans like masons, carpenters were at the bottom.

[16] Neshyangba are called Manangi in Nepali

At the lowest of the social hierarchy in the Loba society is the outcast or the low class, called *Ghara*[17]. The *Ghara* have adopted the surname *Bishwokarma* (or *Bika* in abbreviated form in the Nepali language), a surname of untouchable caste blacksmith in the Hindu caste system. However, unlike *Bishwokarma* of Hindu society who are untouchables and not allowed inside the houses of higher caste people, the Loba *Bishwokarma* -- although lowest in the social hierarchy system-- are not untouchables. In Lo Monthang people belonging to this class reside in an area called *Tshorak* along the bank of the *Chhyoro Dhokpo (*water- mill stream). Most villages of upper Mustang do not have people belonging to this class. The term *Ghara* is a derogatory one and the people in everyday language call them '*River people'* because of their residence near the stream. Although until recent past they used the surname Bishwokarma, now they resent their identification with this surname[18]. In addition to these three major classes there lies a class of Tibetan migrant people wedged between Phalwa and Ghara in Lo Monthang. This class consists of groups of Thehu-Thare, Brogpa, and Naka (Dhungel 2002)

This three tiered classification system exists in Lo Monthang while other villages do not have such a clear classification system. All villages of upper Mustang have predominantly *Gurung* and few of them have a few *Bista* families. The Ghara class is found only in Lo Monthang and not in other villages. This social stratification of the Loba society reflects the characteristics of a caste system, though it might not be the caste system as followed in a Hindu society. The classification among these different classes is not as rigorously adhered as in Hindu society. In Loba society, the separation among castes is maintained mainly through endogamous marriage, and the rules of commensality. These rules of marriage and commensality are more strictly enforced between *Kutak*s and the *Bishwokarma*s.

Loba people are conscious of social space and implement it in everyday behavior. One's placement in social space is exhibited in sitting arrangements. The hierarchy of individuals is reflected in

[17] Dhungel (2002), following Tibetan texts spells these three classes as sKu-drag-pa, Phal-pa and mGar-pa respectively. However, here the term are spelled as the way local people would pronounce them.

[18] When I arranged to videotape their local dances, they specifically asked me to mention only the first name and not the surname.

the sitting position and the drinking cups. The seniors always sit above at a higher elevation. The nobles always sit above the commoners. Within the people of same status seniority is defined by age[19]. However, monks even if they are juniors sit above other individuals.

The rule of commensality applies to sharing eating/drinking utensils, especially the wooden cup called *Phuru.* The use of this cup in public places reveals the status an individual enjoys. Those who can drink from the same cup are called '*Kha thug'* and those who they cannot share with are called *Kha methug*. This dichotomy is also called *Kha shegi* and *kha mishegi* respectively. The same cup can be used among the people of equal status and an individual of lower rank cannot pass the cup to a person of higher rank. The privilege of cup sharing is an indication of status differentiation. The honor accorded to a guest is also reflected on the tea cup offered. The guests are usually served in the cups made of China. The highly respected guests will receive a cup with both a stand and a lid and the average guests are served tea in a cup with a saucer. The least on the line is a cup without a saucer. There is also gender differentiation in the shape of the cup. The female guests are usually served tea in a smaller and rounder cup. Quite often, the female guests are served in a cup without a saucer, which sometimes can be considered disrespect by female guests who have partial knowledge of the local customs. For special guests, the stands and lid of the cup are made of silver and highly decorated. The norms of cups are followed more strictly when serving traditional tea '*so chya*' (butter and salted tea) than regular sugar tea.

Only the *Kutak*s have the privileges of building houses more than two stories tall which stand out with the black colored parapet called *nyaka* on the edges of the roof. There are also instances of social mobility along the caste lines. Although it is a common practice to adopt the surname of father by children, there were cases of children borne to *Gurung* father and *Bista* mother using *Bista* surname. The prestige and other entitlements that come with the *Bista* title must have given enough incentives for such adoption of maternal surname. Similarly, some *Bishwokarma*, especially the youth have started using the

[19] In one instance I found a young *Bista* leaving higher place to a wealthy and respected *Gurung*s, which is in contradiction to the social space of hierarchy.

surname *Gurung*. The villages in Shoyul region also predominantly have Gurungs with a very few households migrated from the southern parts of Nepal.

Although essentially the Loba people are culturally, ethnically, and linguistically Tibetan (Fürer-Haimendorf 1988: 137), the condition which led them to use the surnames of other Hindu caste and ethnic groups is not very clear. Use of the term '*Bista*' by the ruling class is not very old. Although the present Raja uses the title *Bista* his father did not use the term. One noble used to write 'Bhote *Bista*' to distinguish himself from *Bista*s as understood in larger Nepalese community. Tulachan (2003), however, notes that the first use of the title *Bista* to refer to Loba nobles was found in a letter sent by the King Rana Bahadur Shah of Nepal in 1790 when referring to 'Khro dpal' of Muktinath valley as 'Topal *Bista* of Dzarkot.' Dzarkot is in middle Mustang and the nobility of these areas, these days, use the surname Thakuri, another Hindu term.

This trend of use of Hindu surnames may be a part of larger phenomenon of cultural hegemony what Gramsci (1971) considers as a means of domination through the subjugation of ideals. This trend of adopting Hindu ideals by the people of Tibeto-Burman ethnicity has been described as Hinduization (Ijima 1963). In discussing the phenomenon of Hinduization Ijima describes how the Thakalis of lower Mustang in the twentieth century developed a tendency towards Hinduism. Their business and contacts in Kathmandu and southern parts of Nepal and acquisition of accompanying political powers slowly further pushed them into the folds of Hinduism. Earlier, until the last quarter of nineteenth century the Thakalis drew themselves closer to Tibetan Buddhism, but later started adopting Hindu practices as their political linkage with power centers in Kathmandu started growing (Bista 1971). Although not to similar extent, the Lo society is also in the fold of Hinduization.

One evidence of this process could be the adoption of Hindu surnames. Many youths of upper Mustang not only have the Hindu surnames but now have typical Hindu first names. Many got these Hindu names from school teachers who are mainly Hindus from middle hills of Nepal. As there was not any birth registration system, the first time the children go to school they are registered with Hindu

names, which become their official name for the rest of the life. Some parents may have willingly given Hindu names to their children. One means of the states for cultural domination (Scott 1998) is education. Elementary education is given in the Nepali language and there are only a very few (almost negligible) local teachers who can teach the Tibetan language. Lately, a few NGOs and local leaders have started hiring Tibetan language teachers in a few schools to teach children the Tibetan language.

Among the four sects of Tibetan Buddhism --Nyingmapa, Shyakapa, Kagyupa, and Gelugpa-- people in Mustang subscribe to the Shakyapa sect. However, the presence of the Kagyu monastery attests to the influence of Kagyu in the region in the past. The existence of Nagpas attests to the influence of Nyingmapa sect as well. The Gelugpa sect, followed by the Dalai Lama, did not make any foothold in Mustang. During the hay day of the kingdom of Lo, it was one of the major religious centers in the whole region of Nepal, India, and Tibet. The fall of the kingdom from an important regional center to a marginal region is discussed in the history of the region.

Property inheritance

Rule of inheritance is closely linked with the land and water rights. It is difficult to understand property rights without getting insight into the local laws governing inheritance. The laws governing inheritance have their roots in the traditional marriage system practiced in the region. Although the monogamous marriage system has become almost universal among the youth of the region, fraternal polyandrous marriage was traditionally practiced (Levine 1988). In this system, all male siblings (excluding the one who enters into clergy) would marry a single woman. If younger brothers decide to bring their own wives and live separately they would not be entitled to any parental property. This inheritance rule was an important deterrent for any younger male sibling to bring his own wife. The polyandrous marriage system has been explained functionally as an ecologically driven response to limited land and human resources (Bauer 2004). Some researchers like Dhungel (2002) even attribute the low population growth in the region to polyandry system of marriage whereas others contest such

generalization (Wiley 1997). Fraternal polyandry ensured a larger labor pool to look after diversified means of livelihood agriculture, livestock, and trade. The primogeniture impartible inheritance system that comes with this marriage system has prevented the further fragmentation of family wealth, mainly the land. Although over the years the polyandrous marriage system is dying out, the linked inheritance system remains very much alive.

Sometime after the marriage of the eldest son, parents bequeath the family properties to the eldest son. The eldest son who gets the family property becomes *Dhongba.* The parents after bequeathing the property become a social group what is called *Ghenchang.* This inter-generational property sharing is reflected in locally dichotomized expression of *Ghenchang-Senchang.* The offspring getting the property are called *Senchang*. Although many parents would like to live with their son after the marriage also, quite often they separate. Since old times, households have been allotted a certain numbers of *Dhongba*, usually between one and three. The *Dhongba* thus refers both to the number of allotments and the households who hold these allotments. The amount of contribution an individual household has to make to maintain the community system such as labor contribution, serving as a village chief is in proportion to the number of *Dhongba* one holds. Being a *Dhongba* not only entails additional responsibility but also entitles a household to privileges. Intergenerational conflicts are generally viewed through the lens of the institution of Ghenchang-Senchang. Some people claimed that the previous Raja's early abdication of the throne to his eldest son was also the result of the Ghenchang-Senchang conflict.

If younger brothers decide to bring a separate wife and start a new household they are not entitled to get the family property and are called *Farang.* Although the legal code of Nepal stipulates that younger siblings could claim equal inheritance right, the traditional customary law of primogeniture prevails. However, these days, younger brothers are also given a small portion of land and some capital. Some households have started the practice of equitable distribution of the ancestral property among male siblings. Female siblings who do not get married and live with their parents are called *Marang.* Like *Farang*, they also get small parcels of land from ancestral property, mostly depending on the goodwill of

the Dhonga towards his younger siblings. A small portion of the property retained by the parents (Ghenchang) after bequeathing the ancestral property to the Dhongba is also returned to the Dhongba when the parents die. In everyday expression, *Farang* and *Marang* are grouped together and called the *Farang Marang* in everyday expressions. This system of impartible primogeniture inheritance thus creates two social groups: the Dhongba in one group and the Farang, Marang, and Ghenchang in another group.

If a household holds more than one *Dhongba*, parents may divide the *Dhongba*s among the sons. There are cases in some villages of some households requesting the village meeting to relinquish one or more of its Dhongba when holding more than one *Dhongba* becomes too cumbersome, especially because of the obligations attached to a Dhongba holding. Such requests may or may not be entertained. If a family holds a *Dhongba* but does not have a male offspring, the eldest daughter if she brings a *magpa*, uxorilocal son-in-law, gets the *Dhongba*. If a *Dhongba* household decides not to cultivate and lease the land for reasons like lacking enough labor force, or migrating to a town, the new family cultivating the land and living in the house becomes *Dhongba* and is responsible for meeting the obligations thereof. The new household will hold the *Dhongba* for the time it cultivates the land of *Dhongba*.

Traditionally, only the *Dhongba* households are eligible to hold the post of *Ghempa*, a village chief. This is a very responsible post and naturally entails prestige and access to both symbolic and material resources. Until today, in most of the villages in upper Mustang, *Farang Marang* are not allowed to hold the post of the *Ghempa*. Many villages have developed arrangements for distributing government-provided facilities- such as subsidized rice- based on this classification of *Dhongba*/*Farang Marang*.

Although this classification of households into *Dhongba*/ *Farang Marang* is an important social differentiation in societies of upper Mustang, among the various studies conducted in Mustang (Tulachan 2003; Dhungel 2002; Peissel 1967; Snellgrove 1989) only Fürer-Haimendorf (1975) and Ramble and Seeber (1995) mention about Dhongba as allotment or estates in lower parts of upper Mustang. Fürer-

Haimendorf (1975: 168) writes about *Dhongba* in describing landholding in Lubra, a village in Baragaun, in middle Mustang:

> In Lubra, for instance, all land belongs nominally to the temple, which is a Bonpo gompa, and there are nine allotments of land, each of which carries obligations towards the upkeep of the temple and its services. The holders of these allotments, who are known as *Dhongba*, were originally not allowed to sell their shares of the village-land, but in recent years *Dhongba* allotments have been sold to co-villagers either in their entirety or as half shares. A further sub-division of the allotments is not allowed, however. Villagers are permitted, on the other hand, to construct new fields which are then not included in the traditional *Dhongba* holdings, and whoever does so has to pay a tax to the village according to the amount of the seed grain sown on the land.

However, this description of landholding also does not describe the *Farang Marang*s as another class.

Livelihood

Farming supplemented by animal husbandry and trade is the main occupation throughout the region. Although the degree of emphasis placed on a particular livelihood strategy varies from village to village, and sometimes even from household to household within a village, by and large, agricultural is the dominant livelihood strategy. The livelihood strategies adopted by people here neatly fit what Rhoades and Thompson (1975) describe in adaptive strategies of communities in alpine environment: a mixture of agriculture, and pastoralism exploiting different biotic zones. These three different livelihood strategies are interlinked and do not function independent of another.

Agriculture

Unlike in other parts of Nepal, where rainfed crop production is possible, cultivation is possible only on irrigated land in Mustang. The need for irrigation limits the areas which can be cultivated. Crop production is limited by altitude and the availability of water. In settlements located at lower elevations (from Tangbe to Ghyakar) where the highest elevation is 3,400 m two crops can be grown in a year. Within Lo Tso Dhuin two crops can be grown only in Dhee and Surkhang villages where the climate is relatively warmer. In these villages where double cropping is possible, the first crop of naked barley is grown from December/ January to May. Immediately, the second crop-- usually of buckwheat-- is

planted. In all other settlements only one crop can be grown in a field in a given year. Naked barley, wheat, buckwheat (mostly the sweet type), pea, rapeseed are the major crops grown. Amongst these crops naked barley, wheat, and buckwheat are the major cereal crops. Maize is grown in smaller quantity in lower elevation but mainly as a fodder. Other crops grown in very small areas are potato and a local variety of radish called *Lhu*.

Labor shortages occur mostly during the harvesting time. However, these shortages are overcome by pooling a large number of labor through a combination of labor exchange system called *Lakche* and exploitation of altitudinal variation in different villages. Since all the settlements are located at different altitudes crops ripe at different time in different villages. The time difference in crop maturity helps to concentrate labor in one area at a time. People from settlements in the higher elevation where crop matures later go to help the people of lower elevation to harvest their crops. And people of the lower elevations reciprocate the services of people of higher elevation as their crops mature. Usually visitors help their personal friends developed through this network, but the favor may be extended to other villagers who are lagging behind in their work. This system of seasonal movement of labor helps to cultivate larger areas which would not have been possible if everyone worked on his own village land. Highlighting the importance of such labor exchange mechanism Fürer-Haimendorf (1975: 173) writes "mobility of labour is a device by which peak periods of agricultural work can be coped with in a sparsely populated area, where there is normally no pool of landless agricultural labourers". However, in larger villages like Lo Monthang this system would not alone suffice to meet the shortage of labor. Lately, many people from the southern parts of Nepal, called *Rongba,* come here looking for work during harvesting season. This has especially increased because of the unrest caused by Maoist insurgency in the middle hills and Terai.

Vegetable production, at least for home consumption, has become popular in the last eight years. Development agencies, especially NGOs have promoted vegetable production by providing community green houses for nursery. Mustard green, beans, cabbage, radish, cauliflower, Swiss chard, carrots, and

garlic are the major vegetables grown. As cereal crops are always the most important crops and water is scarce, people who water vegetables when the water scarcity is critical used to be penalized in the past. However, over the years this has changed and vegetables can also be watered today without facing any community penalty. In lower elevations people also grow fruit such as apple, and apricots. The importance of these fruit trees can be questioned as the trunks and branches are un-trained and un-pruned. These fruits were introduced some 30 years ago but without a market they were not properly managed. Fruits and vegetables are usually grown in a walled garden called *Vikas,* a Nepali word meaning 'development'. They also extend the term to a walled enclosure where trees have been planted. This terminology is an indication of how people perceive 'development' and also their marginality in the development process of the country.

In terms of landholding, all settlements are self-contained in the sense that only residents own land in a village[20]. No outsiders own land in any village. This system of resident landholding is closely interlinked with the construction and maintenance of irrigation canals. The constant need of irrigation makes it necessary for all the households to be more interdependent on other members of the community. Since all members of a community depend on water supply from one or two sources, they must work jointly to maintain the irrigation canals and agree on the water distribution system (Fürer-Haimendorf 1975). Since the construction and maintenance of irrigation canals is a joint responsibility of all cultivators within the village, a non-resident land owner would adversely affect the community system. The primogeniture impartible inheritance of land (described later) prevents further fragmentation of land.

Animal husbandry

Animal husbandry is integral to agriculture as a source of manure, power for plowing, threshing, and for hauling. In all settlements north of Ghiling dry dung and pellets constitute the main source of fuel

[20] Exception to this rule is that the Raja owns land in some villages other than Lo Monthang, his residence. However, since Raja does not have to contribute labor for irrigation or land management, it does not directly affect the community system.

for heating houses and cooking meals. Yak dung and pellets are the favored fuel as they give more heat. Dung and pellets are collected from high pastures and corrals well before the onset of winter. Dried roots and twigs of *Caragana* are used to start the fire but not as the main form of fuel. Horses and mules are the major means of transportation.

Settlements vary greatly in dependence on and composition of livestock. Animal husbandry is predominant in northern villages like Chunjung, Kimling, Yara, and Ghara, where there is little scope for agriculture. Even in the lower elevation villages like Ghiling, Ghyakar which have nearby pasture land large flocks of goats are kept. Traditionally, large herds of yak and flocks of sheep and goat were kept in these northern villages. For centuries, they grazed their animals unrestricted in pastureland in Tibet in the winter months where weather conditions are not as inclement and grasses were better. However, after 1959 when Tibet was taken over by China access to Tibetan pastureland was greatly diminished. The Chinese authorities reduced the number of animals allowed for grazing and also imposed a tax for pastureland use. There was frequent friction between Lobas and Chinese authorities over the access to pastureland. By 1990s, only the Raja and two businessmen from Lo Monthang were allowed to graze their yaks in Tibetan pastureland by paying certain fees. But today that has also stopped. Due to heavy snowfall on the Nepalese side in some winters many animals starve to death and owners incur heavy loss.

During the peak period of the Khampa guerrilla activity in Mustang, Chinese authorities did not monitor much of the pastureland south of the Tsangpo River (Brahmaputra river in Nepali) allowing herders to graze their animals. Today the size and number of herds have been greatly reduced. Although the Khampa presence in Mustang was indirectly helpful for letting local people use the Tibetan pasturelands, they sometimes raided these herds. The large influx of Tibetan refugees who took their animals with them during the escape also severely degraded the pastureland. Traditionally, pasturelands were divided into four groups called *Pinga, Tyonga, Yaka*, and *Ghunga* referring to the season when they are grazed. These restrictions and classifications are not adhered to these days. It is claimed that the

reduction in precipitation has also caused the degradation of pasturelands. There is no consistent government policy for conserving and improving these pasturelands.

One illustrious case shows how government officials' decisions, shaped by their own backgrounds, affected pastureland management. The Damodar Kunda [21], a holy place for Hindus surrounded by good pasturelands is also a biodiversity 'hotspot' in the region because of the presence of many rare species of wild animals such as blue sheep, Tibetan Argali (Shrestha et al. 2005). Herders from Yara and Ghara villages grazed their animals around the Damodar Kunda during the rainy season and at lower elevation pasture land during the winter until a few years ago. However, the Chief District Officer, a devout Hindu, ordered that herders (all of them Buddhists) not to graze their animals around Damodar Kunda as their animals were considered to be polluting the religious site and also affecting the wildlife. This act, in turn, further degraded their winter grazing lands as herders were forced to graze even during the summer. Thus, both internal and external factors have played a role in the degradation of pasture land.

Horses, Yaks, *Dzos*, mules, donkeys, cattle, sheep, and goats are the types of animals kept. Horses are the most prized animals and are seen as a symbol of wealth, status, and power. They get the best fodder and feed. They are used for transportation, threshing, and hauling manure and produce. Wealthy families keep separate horses for riding and for other activities. The equine population is highest in Lo Monthang and households in lower elevation settlements keep a fewer number of horses. Every year in the eighth month of the Tibetan Calendar people in Lo Monthang celebrate a special three day festival of the horse called *Yartung*.

Throughout the region *Dzos* (cross breed of yak and cattle) are used as draft animals to plow the fields. Interestingly, although Lo Monthang has the largest cultivated area, people do not keep any *Dzos*,

[21] Kunda in Nepali means a pond, usually in high altitude, with religious connotation. Water of a Kunda is considered to be holy. Damodar Kunda is believed to be the source of the Kali Gandaki River also a holy river. However, the Dhe Khola which later becomes the Kali Gandaki river seems to have originated higher up from a glacial lake. Some people claim the real Damodar Kunda is not the one where Hindus go on pilgrimage every year crossing a high pass of 5,600 m msl. When I went (not during the pilgrimage time) there were three small ponds which did not have enough water to be the source of Dhe Khola and there were several dried up ponds clearly indicating towards decreasing rainfall over the years.

whereas people in all other settlements keep *Dzos*. Since these animals need a large amount of fodder and are not in much use for much of the year, Lo Monthang villagers have stopped keeping Dzos. The few households that kept *Dzos* have sold them as it is difficult to graze without the involvement of other households. People in Lo Monthang rent *Dzos* from neighboring village during planting time. *Dzos* are also used for carrying loads. People bring these animals from Manang, a neighboring district. In the past, until Chinese takeover of Tibet, people would bring Dzos from as far as Solukhumbu, in the Everest region. The Dzos from Solukhumbu used to be taken to Tibet through the northern pass and re-entered into Nepal from the pass north of Mustang.

A few households involved in transport business keep mules. Mules are used for carrying goods and not for riding. Especially after the promotion of tourism in the region, their use and population has been increasing. Villagers of lower Mustang also keep mules to transport goods to upper Mustang. The recent introduction of tractors in the region will seriously impact the mule business. Few villages, especially in the upper elevation keep donkeys for carrying loads locally. They are not used for long distance transport as they are slow paced animals. However, in the winter months they are taken to the southern parts of Nepal and thus carry the loads for long distance.

Goats and sheep are cash animals raised for meat and wool. They are exported to the middle hills of Nepal especially during Hindu festival of Dashain when goats are objects of religious sacrifice. In the lower elevations, sheep are not reared as the climate is too warm. In addition to a few locals, Tareli businessmen from Dolpa come for the trade of goats and sheep. Some local businessmen buy goats and sheep from Tibetans and then sale again to Tarelis who would drive animals to south. Besides the Dashain festival, large flocks of animals are driven south in winter and early summer. During the hay day of salt grain barter trade, these animals were also used as transport animals. But these days they are not used for carrying goods.

The local cattle, called *Bhalang*, are reared for milk. They are also called *Lulu* cow and are very small compared to cows of the middle hills. In Lo Monthang they are grazed collectively. A group of

herders called *Chiwu* are hired to shepherd cattle and donkeys during summer months. All households collectively pay Chiwu based on the number of animals owned. Usually, a household has to pay about 1 *pathi* of grains for every cattle or donkey for 4 months. When most of the horses, and donkeys, especially from northern villages are migrated to southern parts of Nepal in the winter months Bhalangs are left behind. There is not any enough fodder for these animals and some of them die in the winter.

The Yak population has greatly reduced over the years for the lack of high altitude pasture especially after the closure of the Tibetan pasture lands. Yaks are raised for meat and butter. Yak meat is the most prized meat in the region. People from Dolpa sell Yaks, especially the castrated male, to the people of Baragaun. There are 43 Drokpas in Lo Monthang who herd their own and other's yaks. They also herd goats and sheep. The pastoralists Drokpas had for long maintained a symbiotic relationship with the people who were primarily agriculturalists. The Drokpas provided the agriculturalists with yak meat, butter, wool, hardened cheese called *Chhurpi*, dung and pellets in exchange for food, clothing and other necessities.

Unlike all other villages where dogs are kept for security, in Tsaile dogs are kept for supplementing the manure for the field. Due to lack of grazing areas around the village, people here cannot keep many animals and there is always shortage of manure. In order to mitigate the shortage of manure, each household keep one or two dogs primarily for supplementing manure. In contrast to Tsaile, the Ghyakar village, which maintains a considerable size of goat flocks, does not have a single dog in the whole village. The difference in these two villages in terms of canine population is due to access to the grazing area for animals.

Trade

Agriculture and animal husbandry combined together are not sufficient to meet the subsistence needs of the region. The whole region is a food deficit region and only a handful of households produce

enough food to meet its demand. Ojha (1986) estimated that about 33 percent of agricultural land is owned by the top 10 percent of the households and the bottom 50 percent hold about 18 percent of land. Trade has always played a prominent role in the societies of Tibet and northern Nepal. In the past, it played major roles not only in the local economy but also in the political and religious history of the region. The relatively low elevation of the pass on the Tibetan border and passable roads for traders and pack animals made this region a preferred route for trans-Himalayan trading between Tibet, Nepal, and to India. Except for the Kuti and Kerong route connecting to the capital city of Nepal this route was the most favored trade route.

Tibet was deficit in food grains but had salt, surplus animals, and animal products to export to meet the deficit. On the other hand, people in the middle hills of Nepal needed salt and livestock but produced surplus grains like rice. Although grains like barley, naked barley and wheat were also exchanged in this barter trade rice was the favored grain. Rice was treasured food and because of this importance attached to rice, its trade was controlled by officials at the major points of entrance. The salt was produced at a number of saline lakes in Central Tibet, Tsaidam basin, Drabye Tshaka, Ander Tshaka, and Tsongdzong Tshaka (Spengen 2000:101-103). Nomads would carry salt from these salt mines to a series of salt depots located near Tsangpo river.

The Lo rulers who controlled this trade route were the major beneficiaries. The wealth generated through the control of this trade route made it possible for pursuing vibrant religious activities and to build magnificent monuments like Jhampa and Thubchhen monastery in Lo Monthang. However, the prospect of prosperity that could be generated through the control of this trade route also attracted conquest campaigns of neighboring principalities thereby diminishing its authority severely. The Jumla kingdom in the west, before the unification of Nepal, launched several of such raids to control the trade route. The rise of Thakali clans in the Thaksaste region along this trade route through the control of salt grain trade has greatly impacted the economy and political power of Lo.

One of the important events affecting the salt grain trade has been the Nepalese government's decision to terminate the free trade in 1862. Prior to that also the government imposed a ban on export of grain to Tibet during the war of 1854-56. A customs post was established in Dana south of Thak to regulate the trade. Customs duty was charged on most commodities carried past that post on either direction and monopoly of the trade in salt was granted to the collector of the customs (Fürer-Haimendorf 1975: 142-143). Introduction of this monopoly had an adverse impact on other traders. Excepting for a brief periods in 1863 and in 1874 the government enforced the monopoly of salt trade by contracting out the customs post until its final termination in 1928 (Fisher 1985). Initially the contract was given for an amount of Rs 44,501 (Vinding 1998: 75). However as the trade was lucrative local Thakalis offered a higher bid. In 1869 a Thakali member named Balbir won the customs contract. This might have been made possible because of his previous assistance to Kathmandu authorities during Nepal Tibet war. This marked the beginning of rise of Thakali clan's economic and political power. Except for some interlude of a few years in 1902, 1905, and 1920 when the Gurungs of Lamjung held the contract (Messerschmidt and Gurung 1977) Balbir Thakali and his descendants had complete monopoly over the salt trade until it was abolished for good in 1928 (Vinding 1998: 75-77). The customs contractor was also given the title of *Subba*, with administrative authorities in the region. The rising economic and administrative power of Thakali clans gave them better access of power centers in Kathmandu consequently greatly diminishing the authorities of Lo Rajas.

Although the salt trade monopoly was held by Thakali clans, people from Lo and Baragaun used to transport salt from the border to Tukche a village in Thak Khola, the entrepot of the trade. The people of Lo also held an advantage as the Tibetan authorities opened their salt markets only for traders from border districts of Lo and Dolpo and the Nepalese authorities also reciprocated by not allowing Tibetans to carry goods further south than to the villages of Lo (Fürer- Haimendorf 1975:188).

Every year hordes of traders from Tibet would come to Lo Monthang driving large herds of sheep and goats and yaks laden with salt and other minor commodities like wool, butter and Chhurpi (Tulachan

2001: 49-51) before the onset of winter. They would exchange these commodities for grains like naked barley, barley, and rice. Indicating the volume of trade Tulachan (ibid) writes that around 20,000 goats and sheep and 1,000 yaks would change hands during a winter trading season. The Lobas would then transport these goods to Tukche. Usually the Loba would not go further south because of the heat and language barrier. The exchange rate varied in the place where the traders exchanged goods and on demand and supply of the commodities. Tulachan (2001: 49-51) writes that 6 to 8 *pathi* of salt would be exchanged for 1 *pathi* of rice, and 2 *pathi* of barley in Lo Monthang. A goat would be exchanged for 5 *pathi* of wheat or 2 *pathi* of rice. In the summer also people of Lo would engage in the trade. After planting they would go to bordering towns of Tibet driving horses and donkeys laden with grains and barley flour to barter for salt. If they go further deep into Tibet near the salt source they would get favorable deal. However, they would not go too deep or else they would be late to take care of agricultural activities. They would transport the newly acquired commodities before Kali Gandaki river starts swelling. The termination of the salt trade monopoly did not alter their activities, although that affected Thakali clans who had enjoyed benefits of such monopoly. After the termination of monopoly in salt trade a custom post was established in Netshung north of Lo Monthang in 1930s. After 1930s many Thakalis who have started owning mules would also go to Lo and the customs post is Netshung to buy wools and salt. The wool used to be exported to India. However, the large volume of salt trade started declining after the Tibetan salt started facing competition from cheaper Indian salt.

The thriving salt grain trade came to a virtual halt in 1959 when China invaded Tibet. The trade resumed after two years upon the request of the Nepalese government but under new terms dictated by Chinese officials (ibid). The new exchange rates were: a sheep or goat for 8 *pathi* of barley or 4 *pathi* of rice, 10 *pathi* of barley for 32 *pathi* of salt and 10 *pathi* of flour for 18 *pathi* of salt (ibid). The Chinese also demanded that they would allow Loba only up to a place called Likche, and they would accept only grain and not cash. However, by this time the cheap Indian salt also had penetrated Nepalese mid hills and the demand for Tibetan salt was declining.

The new arrangement also did not work for long as the Khampa guerrillas ordered Lobas not to do business with the Chinese to deprive the Chinese armies in the border region of grains. Moreover, Khampa guerrillas also needed grain for their own use. The trade came to a complete stop when the guerrillas killed seven people who defied their order and engaged in trade with the Chinese.

The disbandment of Khampa guerrillas from the region in 1974 opened the trade again with similar terms but this time the Chinese demanded cash and not the grains. However, by now there was not much demand for the Tibetan salt in the middle hills of Nepal. The demand of the people who still wanted Tibetan salt because of its taste was too low for the trade to survive. Thus came the downfall of trade that supported these societies for centuries.

Although a few Lobas continued engaging in this trade the majority of them started looking for other opportunities. They ventured into sweater and *Jimbu (Allium* spp), a chive like herb, trade in Nepal and India. After harvesting crops in October and tending to other household chores, most people north of Samar village start into winter migration. More than 50 percent of the population leave the region in winter leaving behind mostly the elderly people and the young children. A large number of youths go to India and run sweater business for three to four months. They buy sweaters in Ludhiana, a city in the western state of the Punjab, and sell them mostly in Benares and some go as far as Assam. Some among them, who have a large sum of money to start with, run a wholesale business among themselves while those with little or no money do the street hawking. Wealthy *Bista*s who do not run their own sweater business in winter would lend the money. Some who do not go to India also engage in trades, especially the *jimbu* trade in southern Nepal.

Unlike sweaters which are bought and sold in India, Jimbu-- a local herb used for seasoning lentil soup-- is a local product. Jimbu harvested in Mustang is considered of high quality and is thus in high demand in southern parts of Nepal. While many are involved in this business in and around Pokhara, some of them look after their animals (horses and donkeys) which are also migrated in winter. The kind of business they get involved during the winter depends on their capital and language skills. Those with

enough capital and ability to speak Hindi go for sweater trade in India. Those who can speak only Nepali and have little financial resources engage in trade in Nepal. In March- April they return carrying food items and other consumer goods on their horses and donkeys.

This winter migration not only helps them to support the family economy with cash and replenish food items but it also helps to relieve the pressure on food and fodder back in Mustang. However, this winter trade is also recently showing signs of decline. Until late 90s, when the winter trade was still very popular cash for initial investment was scarce and people would borrow money at a rate of 24 percent or even more. But now few youth engage in this activity and the money lending rate has gone down to approximately 15 percent. Now foreign employment has become the most attractive and sought after opportunity.

Foreign employment has become very attractive within less than a decade. The USA is the most favored destination followed by Japan and Korea. Individuals who can afford large amount to invest in advance to the agents of foreign employment will get this opportunity. Wealthier villages have more of their youths working in foreign employment. In Lo Monthang, which has 140 residential households (excluding the Drokpa households), 45 households have one or two of their family members in foreign employment. The foreign employment brings in vast amount of cash flow changing the dynamics not only of local economy but also the nature of societal relationships. The added wealth and reduced labor force as a result of foreign employment has already started showing its effect in agriculture as people have been abandoning fields cultivated until a few years ago.

Tourism

The government of Nepal opened the Lo region for tourism in March 1992. Prior to the opening, the region was restricted for all the foreigners except for Indians and Tibetans. Excepting Indians and Tibetans the first foreigner to have visited Lo was the Japanese monk Ekai Kawaguchi who stayed in Tsarang for almost a year in 1899 (Kawaguchi 1909).The unique cultural and religious history and the

fact that it remained a forbidden area for travelers until recently has veiled the Lo region with an aura of mystery (Sharma 2000:89). Tourism was seen as a means to induce economic development in a region with a limited numbers of development opportunities. The region has a repertories of natural and cultural infrastructure to attract the tourism (Price et al. 1997).

When it was opened the first time, the carrying capacity of the region was decided to be 200 tourists per year. Every tourist had to pay an entry fee of US $ 500 per week and since the trek takes a minimum of 10 days they practically had to pay $1,000 (Shackley 1994, Nepal et al. 2002). They were also required to come with an organized trekking agency and not as Free Independent Trekkers. Within a few months, the carrying capacity was increased to 400 and by the end of the year it was increased to 1,000 visitors a year. However, the government does not strictly adhere to this upper limit as each additional tourist means an addition to the government coffer. In fact, in some years more than 1,000 tourists visited the region. The entry fee was also set to a minimum of $700 for a period of 10 days and an additional $70 for each extra day, which remains the same today. The government also required that these trekking agencies should be accompanied by a government appointed liaison officer. But this requirement was waived in 2000. Soon after a month of first arrival of the tourists the management of tourism was handed over to the King Mahendra Trust for Nature Conservation (KMTNC), a renowned NGO in the field conservation in the country. The KMTNC established its field office called Upper Mustang Conservation and Development Project under the Annapurna Conservation Area Project[22]. Initially it was planned that the government would plow back 60 percent of the revenue generated from entry fee for the development of the region through the KMTNC. The prime minister of the country also made announcement to this effect in a public gathering in Lo Monthang. It must be noted that such assurances were made against the background of people's hesitation to open the region while larger tourism business leaders in Kathmandu were eager to open up this potential. But the government never kept its promise and at one time the fund plowed back diminished to as low as 4 % of the revenue

[22] I worked with the upper Mustang Conservation and Development Project from September 1994 for three years.

generated from the entry fee, while the revenue generated kept increasing. Thus it is understandable that the people feel betrayed and exploited. Discussing this scenario of unkept promise Ives (2004:172) calls this form of tourism as 'unconscionable treatment of the people of upper Mustang'.

Since each trekking group is required to be self-sufficient tourism contributes little to the local economy. There are a few lodges and tea shops along the route. Income from activities like renting the camping place or rooms are limited only to a few wealthy and powerful households in the villages of trekking route. In fact, there were cases of powerful households preventing ordinary household from hosting tourists. Horse renting to tourists is one area where local people gets direct benefit. One of the most lucrative enterprises that has been supported by the tourism is selling souvenirs to tourists. However, only a few people in Lo Monthang can avail of this opportunity and not in other villages along the route. There are three well managed souvenir shops in Lo Monthang lining the *Dhe*, the plaza in front of the palace. There are also vendors who carry the items to different camp sites when tourists arrive. These vendors buy souvenir items in Kathmandu and Pokhara and sale them here. There were 12 vendors operating in Lo Monthang.

Arrangement for management of commons

All the villages have managed their agriculture, common resources like forest, water, and pastureland through a traditional village level institutions under the village chief called *Ghempa*. These traditional institutions are also responsible for maintaining social order and harmony in the village. The same authority ensures the proper management of all the resources and separate committees are not formed for separate resources. Villages vary greatly in the size, formation, and functioning of such organizations. Usually a village with a larger population has many office bearers with various titles and a village with a smaller population only two or three officials in such bodies. Almost all the villages from north of Ghiling have either Raja or a royal relative as their Chief *Ghempa*. The Chief *Ghempa* is involved in making only the major decisions or resolving cases which cannot be settled in the respective

villages. In the past, villages south of Ghiling have had a member of *Subba* Thakali clans (described later) as their Chief *Ghempa*. All the villages have a *Ghempa* to head such a body at the village level. In most of the villages the post is rotated among eligible households. Eligibility criteria for holding such a post vary in different villages. The description of water management in different villages in the next chapter elucidates variation of such criteria. In some villages like Lo Monthang the *Ghempa* exercises the authority of adjudicator whereas in other villages the *Ghempa* serves merely as a monitoring and implementing agency. Many villages have undergone changes in formation and functioning of these traditional organizations. In all the villages the *Ghempa* are supported by other officials whose tenure is usually of one year.

Another parallel institutional system called Village Development Committees is formed in all the VDCs under the political administrative framework of the country. Usually more than one village are included in one VDC and representatives from each villages are elected to this body every five years. The Local Development Act of the country authorizes the VDC to manage the resources like forest, pastureland within its spatial jurisdiction. Although this provision would clearly conflict with the traditional management system wherein the traditional *Ghempa* system would be responsible for such resources, no serious conflicts have arisen between these two institutional arrangements. This is also due to the fact that those who are elected in the VDC are also the member of the same community that has been used to the traditional system of management. Quite often the same person holds post in both bodies. Undermining the role of the traditional management system would not serve their interests. The VDC officials limit their activities mainly to dealing with the government agencies and implementing government sponsored activities.

The role the traditional institutional played in maintaining social harmony was clearly felt in the last several years when the VDC system through out Nepal could not function. Because of the unrest caused by the Maoist insurgency made it practically impossible to hold elections to elect the VDC officials even after their tenure was over. The government which could have extended the tenure of such

bodies did not do so for political rivalries. This created an institutional vacuum and many villages in most parts of Nepal were in disarray at least in terms of managing development activities and general administration. However, villages in upper Mustang were little affected by the absence of VDC bodies. The traditional institutional bodies continued functioning and took over most of the responsibilities of VDC.

To generate the resources all the villages have allocated certain amount of land as community land. The land is parceled out to individual cultivators for which they have to pay certain amount of crop shares called *Phutok* after every harvest. The *Phutok* forms the main source of fund for meeting various expenses incurred in maintaining the community system. These days, usually a cultivator pays equivalent amount of seed required to cultivate such land as *Phutok*. Many monasteries also have been granted land by previous rulers of Mustang and by the wealthy families. These monasteries also lease land to individual cultivator and collect *Phutok* as their main source of income.

Another system maintained in many villages is the *Thal* system. This relates to the concept of registration for membership within the community and taxation. A family holds a Thal for each family member irrespective of their presence in the community. So a family holds Thal for their children even if they are at school in towns and not in the village[23]. Thals are also held for maids and servants, and animals owned. Every year a family has to pay nominal amount of grains like wheat, naked barley, or buckwheat to the village fund for each Thal held. The rate is different for people and animals. The grain thus collected is used for village functions. This is also a kind of registration system within the village. For example, if an individual is not covered by the Thal then that individual cannot go to collect any product from village commons such as forest or pastureland. Similarly, animals not covered by the Thal cannot be grazed in the village commons. Many villages have made arrangement to distribute the

[23] In one document signed in 1988 villagers in Ghyakar have agreed to hold *Thal* for each and every member borne in the village (with the exception for those who change residence after marriage), with especial emphasis laid on male members. If someone is not registered for *Thal* then the family agreed to pay a fine of Rs 5,000. It was also agreed that if a male member does not come to the village when called by the villagers then the family has to pay a fine of Rs. 5,000. If anyone refuses to accept this one of their best lands would be seized by the whole community.

government subsidized rice in proportion to the number of Thals held by a family. Rice is distributed on the basis of number of households and number of *Thal*s held by an individual household alternately.

Research Site

The field research was conducted in six villages namely Lo Monthang, Namgyal, Tsaile, Ghyakar, Ghiling and Dhee. Four of them, Lo Monthang, Namgyal, Ghiling, and Dhee all lie in the Lho-Tso-Dhuin region, and Tsaile and Ghyakar are in Baragaun (please refer to Figure 3.2). This section briefly describes specific features of these villages.

Lo Monthang

Lo Monthang, the capital of ancient kingdom of Lo, is situated at 29^{o}10’57.9” N latitude and 83^{o}57’25.3” E longitude at an elevation of 3,819m msl. The village lies on a relatively flat portion of a plateau bounded on three sides by small streams. Along the eastern side the largest of these streams called Shyahui flows north south. The Dhilu Khola on the north of the village runs west to east and so does the Jhyang Khola located on the south of the village.

This is the only walled city in Nepal, surrounded by an L shaped, 10 m tall wall with a perimeter of 1 km. The settlement occupies an area of 5.2 ha. The royal palace, and three magnificent, centuries- old monasteries Jhampa, Thubchhen, and Chhoede lie inside the wall. Houses are built in close clusters joining one another wall to wall. The entrance to the town is through a large gate called *Gheku,* an important symbolic marker. Except the royal family, everyone on horseback has to dismount at this point before entering the town. The gate is also the point to divide the town into ‘inside’ and ‘outside’ dichotomy. Formerly the gate was closed every night and opened every morning, the practice that has been discontinued now. All the Bistas and Gurungs live inside the wall. In the old days, the only buildings outside the wall were the police check post and the school. However, in the recent past many buildings

Figure 4.1 Lo Monthang village

Figure 4.2 Namgyal village

have sprung up around the wall threatening the very existence of the wall. In the North of the town, at a lower elevation lies a small settlement called Tshorak along the bank of Chhyoro Dhokpo Khola where Ghara people live. There are 23 households living in Tshorak. The Lo Monthang VDC also extends to a far away village called Chhojung where people called Dhokpas live who exclusively practice transhumance. The total population of the village is 820.

Traditionally, the town is divided into four sections called *Siju*. These four *Siju*s are Guthang, Domalang, Potaling and Jhyatang. Among these, Jhyathang is the largest *Siju* with 42 households, Potaling and Domalang have 30 households each, and Guthang has 24 households. The palace and monasteries are not included in this categorization. The categorization into these four *Siju* is permanent in the sense that even if a household builds a house in a geographic area of another *Siju* it remains a member of previous *Siju*. This categorization is followed especially when contributing labor for community works such as canal repair, planting and harvesting of royal fields, and celebration of festivals like *Yartung*, a three day festival involving horse races. The eldest Bista family within a *Siju* is considered the leader of each *Siju*.

Namgyal

Namgyal village is situated at 29°11’26” N latitude and 83°56’51” E longitude at an elevation of 3,890 m msl. This closest village from is at half an hour walking distance across the Chhyoro Dhokpo stream[24]. Presence of ruins of old settlement, abandoned fields in the southeast corner indicate the existence of the village for centuries. Reference to this the village is found in Mollas when king Ame-Pal built a monastery located on the west corner of the village. This monastery subscribes to Ngorpa sub-sect of Shakyapa sect. The village lies at the base of the old Dhekar Zong fort. Climatic pattern are very much

[24] This stream gets different name in different location. When it flows near Kimling it is called Kimling Khola, and when it reaches Lo Monthang it is called Chhyoro Dhokpo (literally meaning water mill stream).

similar to Lo Monthang except that in winter months it is much colder for there is not any wall surrounding the village and also it is at slightly higher elevation.

It is a small village settled by 17 households with a total population of 124. Out of these 17 households, three households are of Bistas and the rests are of Gurungs. Based on inheritance classification, 8 households are of *Farang*/*Marang* and 9 are of *Dhongba*. Agriculture, supported by animal husbandry, is the mainstay of the village. As in Lo Monthang, they migrate to southern parts of Nepal and India in winter months to participate in trade. Livestock farming is also an important activity integrated with agriculture. Unlike in Lo Monthang they keep Dzopa.

Tsaile

Tsaile is situated at 28°55'51.6" N latitude and 83°49'36.6" E longitude at an elevation of 3,071m msl. The village is located on the main trekking route going to Lo Monthang. The trail through the middle of the village was linked to the main trail going to Lo Monthang some 29 years ago. Before the construction of the trail, travelers would bypass the village making their way through a ravine formed by the Ghyaka Khola, south of the village. Travel accounts of early travelers like Tucci (1980), Peissel (1967) also indicate that they did travel through the ravine without stopping at Tsaile village.

Now there are 13 households living in the village. Houses are lined on both sides of the trail and four of them also serve as lodge for travelers. All these houses use solar power for lighting. At one of the houses lives a Magar family from Rolpa who came to the village looking for work after being displaced by the insurgency. The original owner moved to the city and this Magar family lives in his house and tills its field. Another Bishwokarma family from southern part of Nepal moved to the village and looks after the house of another family. Two families have moved in from Ghiling village. One of them lives in a house of a family that had left the village some years ago. Another family lives in a house of a man who still lives in the village but cannot cultivate his fields. This immigrant family cultivates the land of the owner. Presence of both original owner and tenant family added one more household in the village. In

Figure 4.3 Tsaile village

Figure 4.4 Ghyakar village

one house lives a family expelled from Tetang, a nearby village, a few years ago. This family was one of the several households that had been expelled for 10 years by the village chief of Tetang out of dispute over water use. Except for a Magar and a Bishwokarma families all are Gurungs. Out of 14 households in the village, only 13 households now cultivate the land.

These households are divided into *Dhongba* and *Morangmo* households. *Farang Marang* are called *Morangmo* in this village. Out of the thirteen households, the *Magar* family has become a Dhongba as it lives in the house of and cultivates the land of a Dhonga. Although the Bishwokarma family cultivates the land and lives in a house of a Dhongba, the *Dhongba*ship was given to a *Morangmo* who was from this village. In all likelihood the people did not feel comfortable treating a man of untouchable caste from southern Nepal as Dhongba. The family expelled from Tetang had also become Dhongba as it cultivates the land and also lives in the house of a Dhongba. Another Dhongba man became Morangmo when he gave all his land for cultivation to a family that came from Ghiling. This family from Ghiling now holds the Dhongba but if it decides to stop cultivating this land the *Dhongba* goes to the original holder. Another family that came from Ghiling is a Morangmo since its original house-owner transferred the Dhongba to another Dhongba household. With this composition of households, there are 10 Dhongba with one household holding two *Dhongba* and four Morangmos today.

Altogether they are called *Mhepti*. Some years ago a household that was holding two Dhongba requested the villagers to let him relinquish one of its Dhongba. Since then the number of Dhongba has not changed. In addition to not being allowed to hold the post of Ghempa, the Morangmos are also not included in the group that meets every month to participate in *Chhejeu* worship in memory of Padmashambava.

Ghyakar

Ghyakar village is situated at 28^{o}56’15.42” N latitude and 83^{o}48’28.62” E longitude at an elevation of 3,391 m. The village stretches east to west on a plateau at the base of mountains on the west.

A small stand of juniper and Himalayan silver birch lies on the west of the village. This is one of the few standing tree patches in upper Mustang. On the south west corner lies a steep pasture for goats and Dzos. The access to the village is not easy one. The trail from Tsaile village passes through a very steep cliff along the irrigation canal. In some sections there is not any continuous trail and one has to literally crawl along a steep cliff to go to Ghyakar. There is a short tunnel to pass before reaching the village. A trail going to Samar village is better. A small trail goes through a deep ravine to the bank of the Kali Gandaki river that leads to the Chhuksang village. Unlike in Tsaile village, not many visitors go to this village as it lies off the main trail.

There are 13 households in the village, eleven cultivating the land and two households shepherding goats and cattle of the whole village. Three families moved to district headquarters and other city areas in the recent past. Houses are very closely clustered in three lines enclosed in an area of 0.98 ha. Almost half of the houses are used for keeping animals and storing hays. In one corner of the village lies the monastery. Near the courtyard of the monastery stands a tap. All the village meetings are held in this courtyard. In another corner of the village, there are three chhortens. Near these chhortens stands a community house. People from other areas coming to work in this village can stay in this house. There are not any lodges in the village. Unlike in Tsaile, households here do not divide themselves into Dhongba and Morangmo. All the land cultivating households have to serve as *Ghempa*.

Dhee

Dhee village is situated at 29^{o}06’20” N latitude and 83^{0}58’31” E longitude at an elevation of 3,407 m msl close to the bank of the Mustang Khola. The village lies just at the base of a large vertical cliff on the west and hence is always under threat of mudslide during the monsoon season. Being at the lower elevation compared to other villages in the Lho Tso Dhuin region, it has warmer climate and thus two crops can be grown in a year. This is one of only two villages in Lho Tso Dhuin region where double cropping is possible. Because of the warmer climate, many households (however only the Dhongbas)

Figure 4. 5 Dhee village

Figure 4.6 Ghiling village

maintain small fruit gardens. In addition to agriculture people are also engaged in animal husbandry and keep yaks and goats in a distant pasture land called Amgha. Although the village is off the main trekking trail, some groups pass through this village on their trek to the Luri Gonpa, a famous cave monastery subscribing to Kagyupa sect. Only two households are involved in the tourism business here. Altogether there are 22 households in the village and all of them are of Gurungs. Houses are closely clustered in an area of 1.4 ha. Out of the total 22 households, 12 are of Dhongba and the rests are of Farang Marang and Ghenchang. However, one Dhongba is shared by four households. This was the only case of households sharing a Dhongba found during the entire study. Out of the six villages studied, this village has the most discriminatory rules differentiating these two groups of people.

Ghiling

Ghiling village is situated at $29^{o}00'26"$ N latitude and $83^{0}51'27"$ E longitude at an elevation of 3,550 m msl. Compared to other villages in upper Mustang, this village has greener landscape with meadows lying in the middle of settlement and many poplar trees lining the gullies in the field. Big white houses which are not as closely clustered as in other villages of upper Mustang stand conspicuous from afar. The settlement occupies an area of 18 ha. Although the village is slightly off the main trail, most of the trekking groups visit the village. There are 60 households in the village and all the people are Gurungs. The village has good access to pasture land and several households keep hundreds of goats. Compared to other neighboring villages animal husbandry here contributes more to the local economy. This is the only village in Lho Tso Dhuin region which does not depend on dung and pellets for fuelwood. The village shares a small patch of forest in the south with Chhuksang village. Table 4.1 presents a comparison of these villages.

Table 4.1 General feature of the studied villages

Features	Lo Monthang	Namgyal	Tsaile	Ghyakar	Dhee	Ghiling
Coordinates	83°57'25.3" 29°10'57.9" N	83°56'51" E 29°11'26" N	83°49'36.6" E 28°55'51.6" N	83°48'28.6" E 28°56'15.4" N	83°58'31" E 29°06'20" N	83°51'27 E 29°00'26" N
Elevation (m msl)	3,819	3,890	3,071	3,391	3,407	3,550
VDC	Lo Monthang	Chhonup	Chhuksang	Chhuksang	Surkhang	Ghemi
No of households	149	17	14	13	22	60
Population	820	124	97	100	104	354
Caste composition	People of all three castes present	3 HH Bistas and rest Gurungs	Except two immigrant HHs from southern Nepal all are Gurungs	All Gurungs	All Gurungs	All Gurungs
Agriculture	Single cropping	Single cropping	Double cropping	Double cropping	Double cropping	Single cropping
Major crops	Wheat, buckwheat, pea, rapeseed	Wheat, buckwheat, pea, rapeseed	Naked barley, buckwheat	Naked barley, buckwheat, rapeseed	Naked barley, buckwheat, turnip	Naked barley, wheat, buckwheat, potato
Livestock	Horses, cattle, donkey, goats but no Dzos	Horses, Dzos, cattle, goats	Cattle, Dzos, horses, mules	Goats, cattle, mules, Dzos	Goats, cattle, Dzos, horses	Goats, Dzos, horses,

CHAPTER 5: WATER MANAGEMENT IN DIFFERENT VILLAGES

Irrigation systems in upper Mustang

Irrigation systems in upper Mustang differ from other high altitude irrigation systems studied by anthropologists in the Andes and Alps in the degree of reliance of farmers on irrigation. Irrigation systems in the Andes and Alps (Netting 1974, 1981; Mitchell 1976; Guillet 1992; Guillet and Mitchell 1993; Trawick 2003; Gelles 2000) supplement natural rainfall to provide moisture needed for crop production. Although these irrigation systems were found to increase crop production by two to four folds in different situations (Netting 1974; Mitchell 1976), crops could still be produced even without irrigation, albeit with low yield. However, in upper Mustang, no crops can be produced without irrigation, as meager rainfall of less than 300 mm combined with high intensity sunshine and strong wind for most parts of the year makes it impossible for rainfed crop production. These environmental factors make farming absolutely dependent on irrigation. Not only crop production but also tree plantations and grass cultivation, although done in smaller areas, are impossible without irrigation. The irrigation systems of upper Mustang are long enduring farmers managed irrigation systems (Pradhan 1989).

Although people have adopted other diversified livelihood strategies such as animal husbandry and trade, crop production is still the mainstay of people. Crop production's importance in the local economy and culture and its total dependence on irrigation makes water a vital resource and its management a backbone of community norms. The need for irrigation enhances the interdependence of all the members of a community as all the fields in a community depend on the water supply from one or two sources in the village (Fürer-Haimendorf 1975). Many abandoned terraces caused by scarcity of water are an ubiquitous sight in upper Mustang. Each community has developed its own system of managing this vital resource which bears the imprint of its ecological and social history and presence. In

this chapter, I present a general overview of water management in the region and the discuss water management in individual villages.

Manipulation of local hydrology and field engineering

The irrigation system in each village reflects people's response to local physical constraints imposed by topography and hydrology. To mitigate the scarcity of water and improve the water availability for irrigation, people in many villages build one or more water reservoirs where they

Figure 5.1 Water reservoirs are integral part of irrigation systems in many villages

can store water in the night and irrigate during the day thus maximizing the water availability under the constraints of available technology. Four of the six studied villages have such water reservoirs. In three villages, Tsaile, Ghyakar, and Ghiling, they are an integral part of their irrigation systems. In Tsaile and Ghyakar villages, water is stored in a reservoir, called *Ching*, in the evening or for more than a day depending on the water flow in the in-coming canal. A larger flow from the reservoir, simultaneously

supplemented by water from the in-coming canal, is then used to irrigate crops. However, in Ghiling, although the reservoirs are filled with canal water during the night, water from these two sources- the canal and the reservoir- is not mixed, and different fields are irrigated during the day. In Lo Monthang, reservoirs are not so integral to the whole irrigation system as in other villages since only smaller portions of the fields are irrigated with the water stored in these reservoirs. Nonetheless, water is stored in these reservoirs for improving water availability. These water reservoirs, besides increasing the level of water flow and in turn the cultivable area, serve as an insurance against severe scarcity of water during the dry

Figure 5.2 Irrigation of individual *nangs* within terraces

spell. The need for irrigation not only shapes how water is tapped and transported to the field but also the field engineering to suit the water distribution, giving rise to a constructed landscape. As common to all other hilly irrigated areas in Nepal, and many other parts of the world, fields are terraced so as to let water flow evenly while being held (Guillet 1987, Wu and Thornes 1995, Gerrard and Gardner 2000). In addition to ubiquitous leveled terraces common in all mountain irrigated landscapes, people here build a

network of what they call *Nang*, within a terrace. These Nangs are small sub-plots constructed within a terrace at the time of seed sowing to distribute water evenly (Jest and Combert 2000). They are designed by taking into consideration the size and shape of a terrace, its orientation to the feeding canal, and nutritional gradient within the terrace. They could be L-shaped, parallel, or perpendicular to the terrace, or mixture of all of them (Figure 5.2). The pattern of these Nangs varies from village to village. Usually, in the villages at lower elevation, these Nangs are designed in such a way that water is directly delivered to a Nang from the feeding channel and not from the neighboring Nangs. However, in the villages of higher elevation, these Nangs are usually rectangular or square shaped and watered from the neighboring Nangs. Usually, an experienced person with the knowledge of soil property and water flow pattern makes these Nangs before sowing. These Nangs are a very important structure in water management within fields as they let farmers use water more efficiently and evenly. They also help in preventing the manure flow to a larger distance within the plot while irrigating. Without these smaller sub-plots water and manure would not be evenly distributed. The terraces together with well laid out Nang form the infrastructural elements of the irrigated landscape.

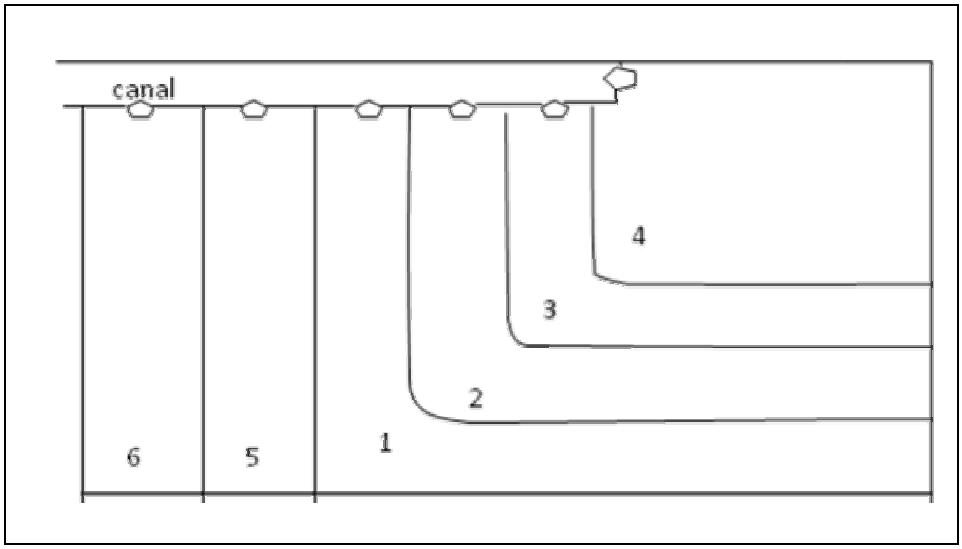

Figure 5.3 Layout of *Nangs* and irrigation order

A set order of watering is followed in these subplots. Usually, the outer most L-shaped Nang is watered first followed by the inner L shaped plots. Perpendicular Nangs are watered last. The usual order of irrigation within these subplots is shown in Figure 5.3, with the numbers indicating the order. If there is sufficient water on the canal, more than one sub-plots are simultaneously watered. During the first irrigation, the bunds of the subplots are also splashed so that they hold firm and do not break easily.

Differential access to water and equity

In most of the villages of upper Mustang, the institution of property inheritance has been historically and ethnographically a major social differential in defining an individual household's access to water. The traditionally followed impartible primogeniture inheritance of parental property creates two classes of people: those inheriting the property and those not inheriting the property. Households that do not inherit property have limited water rights, again varying in different villages. Although not extant in most of the villages of upper Mustang, the caste system which prevails in Lo Monthang, is another major social institution that differentiates an individual's water rights vis- a- vis the rights enjoyed by other people. The role these social differentials play in defining individual's water rights, and how these social differentials, in turn, are reshaped through struggles for water rights will be discussed in detail in this and subsequent chapters.

In spite of such inequities created by social institutions in relation to accessing water and its management, all societies here adhere to a principle of equity, a 'fatalistic equity' that pervades different walks of life. Many important decisions are made by casting a pair of dice called *Para*, so fate solely decides the outcome of such decision making processes. In many villages, turns for irrigation, selection of Ghempa, or other decisions of both minor and major significance are made by casting dice so that everyone in question has equal chances of getting the favorable outcome, dependent only on fate. This system of equity also has another implication that any decisions made by casting dice are acceptable to all the community members as it is perfectly impartial. This tradition of casting dice seems to have deeper

cultural roots in Tibet. Even the decisions of high political import seem to be made by casting dice in Tibet. Heinrich Harrer (1954) in the *Seven Years in Tibet* describes an event where the Dalai Lama's leaving of Lhasa and setting up a provisional administration in Yatung in 1950 was decided by casting dice.

Figure 5.4 *Para*, a pair of dice is an integral part of decision making in irrigation management

Institutionalization of rules

Rules for water allocation, repair and maintenance of the irrigation systems, and selection of authorities have been institutionalized into social systems through years of practice and persistence (Scott 1991; Baker 2005). As these rules have ingrained themselves into the social systems, they are not normally formalized through documentation. However, institutionalization does not construe that the rules are unresponsive to changes in social systems forced through various factors like enhanced interaction of local people with wider economic forces, foreign employment or hydrological changes brought about by technological interventions. Generally, these rules have been responsive to changes like

increased water availability brought about by technological intervention, or increased absence of male members of a community. While operational rules have been very responsive to such external or internal pressures, some of the collective choice and constitutive rules (Schlager and Ostrom 1992) like eligibility criteria for participation in water management authority, which are deeply embedded in social institutions, are more persistent and unresponsive to local pressures. Changes in such more-persistent rules, wherever they have taken place, had far reaching impact in the society. The dynamics of change in such rules are the theme of subsequent chapters but such constitutive rules are covered in the discussion of water management in the respective villages.

Rules for water allocation vary from a village to village. Broadly, the systems of water allocation can be grouped into two categories: one that allocates water to a household and the other that allocates water to a parcel or plot of land. Water allocation to a household is based on either the number of proportionate water shares held by a household or the landholding size of an individual household. In Tsaile, Ghyakar, and Namgyal villages, water is allocated based on the number of water shares held by a household. In the first two villages these water shares were allocated in the distant past and have remained unchanged ever since as they are not transferrable. The Namgyal village adopted this system of water share five years ago in place of a previously followed water allocation system based on property inheritance class. Also in Ghiling village, water is allocated to a household, but on the basis of landholding size. In Lo Monthang, water is not allocated to a household but to a plot of land. Water turns are set for sections of land and all the plots within a particular section are watered sequentially. However, in all of these villages, water allocation, whether to a household or to a plot of field, is dependant on the types of crop grown. In that sense, water is first allocated to a crop, then to a household or a plot of land. In Dhee village water is allocated to a household but not on the basis of landholding size or water shares. All eligible households for water turns get equal time of three days and nights to irrigate their field irrespective of landholding size. Water allocation rules are changed according to the growth stages of crop or the types of crop.

Although rights to access water are not explicitly tied to labor contribution as common in many indigenously managed irrigation systems (Coward 1979, 1980; Uphoff 1992; Guillet 1992), all households in Mustang contribute labor for repair and maintenance of canals. Different sets of rules are followed for labor pooling for regular repair work and for emergency repair work as in other indigenously managed irrigation systems (Coward 1979). Rules for contribution of labor range from lax to very stringent in different villages, depending on the availability of labor force in the village and urgency of the work. Water allocation rules serves as the basis for deciding labor contribution of individual household for system maintenance.

Each village in upper Mustang has a system of 'authority' to manage water within the village. However, this authority does not have any resemblance to the centralized 'authority' as conceived by the hydraulic hypothesis (Wittfogel 1957; Mitchell 1976). Neither are they regular Water User Associations which are primarily concerned with maintenance and distribution only (Coward 1976, 1986; Hunt 1989; Uphoff 1986). Distinguishing Water User Association and Irrigation Communities Hunt (1989: 84) writes:

> Yet Irrigation Communities, on close inspection, have several properties that WUAs do not have. First, Irrigation Communities have a clear charter of authority for the leadership roles, and there is accountability of those leaders to the farmers. Second, the Irrigation Community has responsibility not only for maintenance, but also for allocation and conflict resolution.

For the management of irrigation systems and other commons like pasture land, forest, if present, each village select a council of authority comprising of members ranging from two in Tsaile and Dhee to nine Lo Monthang. These councils are headed by a Ghempa, the village chief. In villages like Tsaile, Ghyakar, and Dhee, where the number of council members ranges from two to three, all the members are generally referred to as the Ghempa. Except in Ghiling, where the post of Ghempa is rotated among two households every two-year, in all other villages new sets of authorities are selected every year. These villages, with the exception of villages south of Samar (that includes Tsaile and Ghyakar), have a post of Ghempa Chhe, or the Chief Ghempa, from outside the village, who serves as both the protector of the

village and a higher authority for resolving disputes. Usually, either the Raja himself or his nephews serve as the Ghempa Chhe for these villages. Usually, the posts of the council are rotated among eligible households by casting dice or through a fixed rotation. In most of the villages eligibility of an individual to hold such posts is dependent on the inheritance-based class or the caste system if present in the village, which will be described later.

Water management in Lo Monthang

Agriculture

Wheat, buckwheat, pea, and rapeseed are the major crops grown. Wheat, the most favored crop occupying more than half of the cultivated area in any year, is rotated with buckwheat, pea, and rapeseed in a two-year rotation. The village council decides on the agricultural calendar for most fields, in accordance with astrological consultation. Such dates are announced during the ceremony of Shakaluka (described later). The planting begins in late April or early May. Wheat is sown first followed by other crops after a month or one and half month. Fields of the palace are planted first before any other households can attend its field. All households contribute labor for planting royal fields. After all the households have finished planting their fields, main accesses to the fields are barricaded and animals are prevented from straying into the field. Grasses inside the fields are allowed to be weeded out but those along the edges of the paths are not allowed to be weeded out so that if any animal enters the field it will feed on the grass along the path and not the crop. Weeds can only be pulled with hand and cannot be cut with a sickle until a date, around harvesting season, set by the village authority. Harvesting is closely monitored and coordinated. Royal fields are always harvested before the field of commoners. Peas are harvested first followed by buckwheat and then rapeseed. After harvesting these crops both in the fields of the Raja and the commoners, wheat is harvested first in the field of the Raja then the fields of commoners.

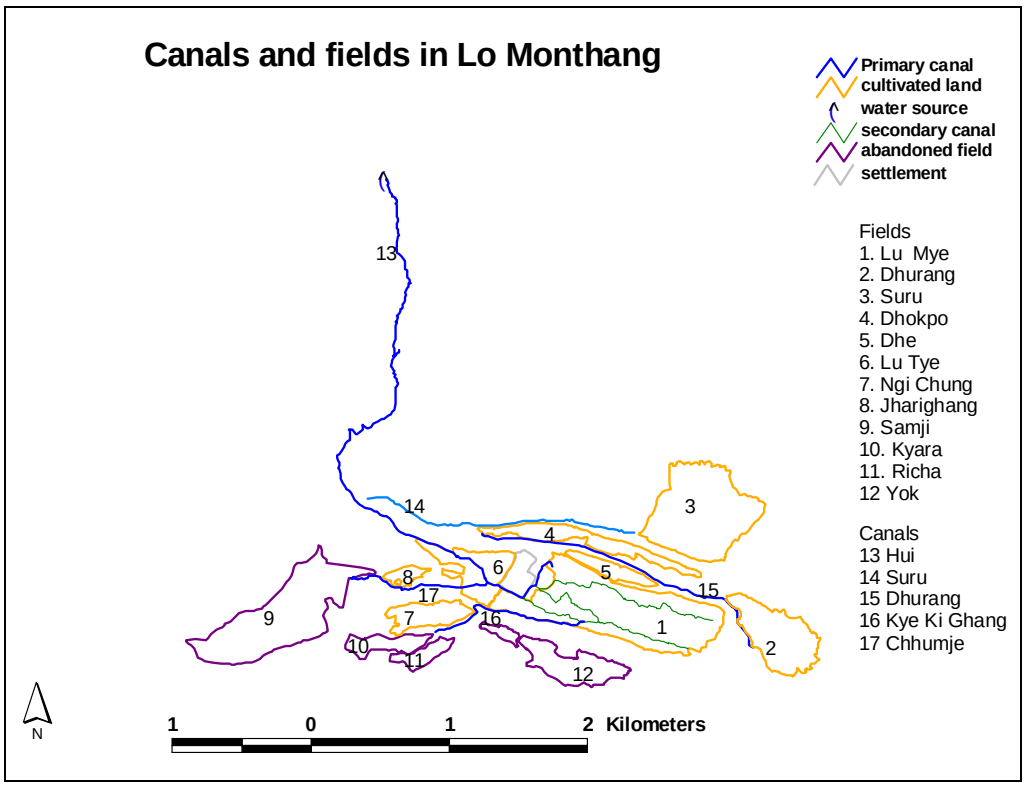

Figure 5.5 Fields and canals in Lo Monthang

Fields

There are many sections of the fields with different names. The largest field, *Lu Thang,* is divided into two sections, the one below the settlement called *Lu Mye* has an area of 56.8 ha, and the one above the settlement called *Lu Tye* has an area of 14.4 ha. Other fields (see Figure 5.5) are *Dhe* (5.5 ha), *Samji* (44 ha), *Kyara* (6.5 ha), *Richa* (4.5 ha), *Yok Tye* (19.9 ha), and *Yok Mye* (13.9 ha), *Jharigang* (2.8 ha), *Ngichung* (9.2 ha). In all these fields, Samji, Richa, Kyara, YokTye, Yok Mye, only a few plots are cultivated and most plots have been abandoned, some recently, some in the distant past. The Lu Mye and Dhey fields are irrigated by the Hui canal whereas all other fields mentioned above are irrigated by the Chhumje canal fed by water from the Ghyaka Chho, a moraine-dammed lake. A smaller canal called the Kye Ki Ghang also irrigates a section of Lu Mye. Symbolically, these fields are more important as expressed in the jurisdiction of the Village Council and the number of rituals associated with fields and

canals. The Village Council's decisions, although taken into consultation for other fields as well, are applicable to these fields only. Similarly, the Shakaluka, the most important ritual, and worshipping at the canals are all associated with these fields. For other fields, the rituals performed are either very perfunctory or non-existent.

The *Dhurang* field (20.8 ha) lies East of Lu Mye at a lower elevation. Fields in Dhurang were generally given to *Farang Marang* in olden days and hence the canal irrigating the field is also known as the Farang Marang Hyura. There are still a few houses of *Farang Marang*, although not occupied today. The field is irrigated by the Dhurang Hyura drawing water from the Chhyoro Dhokpo stream. A *Bista* family serves as the chief authority for this field year after year.

Across the Chhyoro Dhokpo stream on the north lies the field called *Suru* (40.9 ha). The Chhoede monastery owns a large portion of the land in Suru and hence serves as the chief authority for managing irrigation and agricultural activities. The Suru field used to be irrigated by two canals, the Suru canal drawing water from the Chhyoro Dhokpo stream and the Dhilu canal drawing water from Dhilu stream in the past. However, the Dhilu canal has stopped functioning. A large section of the land called Choprang (15.9ha.) lying at the lower section of Suru was abandoned in the distant past.

The field called *Dhokpo* (12.9 ha) lies along the bank of Chhyoro Dhokpo stream, which is at the lowest elevation of all fields. Most of the plots here are fenced separately and irrigated from many smaller canals diverted at different places from the Chhyoro Dhokpo stream. Most of the plots in this field were reclaimed recently and are planted with poplar trees, although some of the plots are planted with wheat and buckwheat. Since these plots are irrigated by many smaller canals they do not fall under any common village rules for water allocation and repair maintenance. However, rules for grass pulling (no use of sickles) and harvesting calendar are applied to all of these fields. Although all of these plots lie close to the houses of people living on the banks of the Chhyoro Dhokpo stream, most of them are owned by the people living inside the wall.

Water sources

There are three major sources of water for irrigation in the fields of Lo Monthang. One of them, the Kimling Khola, flowing from a mountain to the northwest of Lo Monthang, first drains Kimling village, a settlement in Chhonup VDC before reaching Lo Monthang. Water is diverted from a point just above the Kimling village toward a canal going to the Phuwa village. Water from this canal, after passing through the fields of Phuwa, later feeds the Hui canal irrigating Lo Monthang. Just across the Kimling village, a large flow of water is diverted from the Kimling Khola toward Namgyal (also please refer to Figure 6.2 in chapter 6). This diversion drains Namgyal village on its way and is called Chhyoro Dhokpo[25] stream when it flows north of Lo Monthang. The Chhyoro Dhokpo stream feeds water to a canal in Namgyal village and the Suru and Dhurang canals, which irrigate fields of Lo Monthang. The Kimling Khola, after it passes Kimling village, is called Dhilu Khola and flows straight east to join another lager stream called the *Shyahui* Khola, flowing southwards from Chhoser VDC. The Chhyoro Dhokpo stream also later joins the Shyahui stream, a major tributary of the Kali Gandaki river. The Kimling Khola is a snow- fed stream and partially freezes in winter. The water level rises after snow starts melting in the peaks in the late spring, and starts receding after October. Lo Monthang had a serious dispute with the villagers of Thingar, Phuwa, and Kimling over its claim for the ownership of this stream.

Another major source of water is a moraine-dammed lake called Ghyaka Chho, located at an elevation of 5,461 m about 9 km west of Lo Monthang at the base of the mountain Ghang Dhongma. It remains frozen in winter and summer months, and starts melting only in late May. This mountain faces toward Chhonup VDC and water from this lake flows towards Chhonup. Below this lake, some 2 Km to

[25] Chhyoro Dhokpo literally means water mill stream in local language. There are many traditional water mills along the bank just north off Lo Monthang. However after the introduction of oil-run modern mills the number of these traditional mills has dropped steep.

the east, at an elevation of 4,890m lies the intake of the Chhumje canal. The Chhumje canal feeds most parts of land above the settlement of Lo Monthang village. Although there is a good elevation

Figure 5.6 Ghyaka Chho, a moraine-dammed lake, a major source of water for Lo Monthang

gradient from the canal-head to the fields, a large mount of water is lost through seepage. Abandonment of a large area of land served by this canal suggests the decrease in the water flow through the canal over the years. Few people go to the lake as it is situated at high elevation and the path leading to it is steep and rather difficult[26]. Those who have visited the lake tell that the snow on the adjoining mountains has receded over the years. There are markings of other now- dried smaller streams joining the Chhumje canal. People in Lo Monthang tell a popular oral history of how their forefathers secured the ownership of this source in a dispute with Chhonup about two hundred years ago. This oral history is described in the next chapter.

[26] The person with whom I went to this lake told me that he went to the lake 25 years ago and he was surprised to find snow receding.

Another major irrigation water source is a spring called *Numagung* that originates in a small marshy land at an elevation of 3,962 m near Phuwa village. Except in the middle of the winter, it does not freeze for long. This is a stable water source whose flow does not fluctuate much with change in weather. Water from this spring feeds the Hui canal.

Another smaller source for water is a small stream called Jhyang that flows West to East in the southern side of the village. Water from this stream feeds the *Kye ki Ghang* canal which irrigates the lower section of the LuMey field. Water from the Chhumje canal also flows to this stream and in the past irrigated abandoned fields like Yok Tye and Yok Mye. In addition to irrigation, this stream is the only source for drinking water for the whole village in the winter months when the water freezes in drinking water pipe. This stream also freezes in winter but people chisel the ice out and collect the water flowing underneath for drinking. There are three water reservoirs for collecting water before irrigating some of the fields. However, these reservoirs do not hold as much importance as in other villages like Tsaile, Ghyakar. The drinking water for the village is derived from a small water spring located in a hill near Marang village southwest of Lo Monthang. There is also a hot water spring below the village along the bank of near the Shyahui river, where many people go to dip themselves to cure themselves of ailments.

Irrigation Canals

The major canals are Hui, Chhumje, Suru, and Dhurang. The Hui canal is 4.9 km long and irrigates the largest section of the land cultivated today. The main source of water for Hui canal is Numagung spring. The water from Kimling Khola that passes through the Phuwa village is also mixed into this canal. Water coming through the Chhumje canal (about 9 km long) also joins this canal near the south west corner of the settlement. The oral history suggests that the Hui canal was constructed during the reign of King Angye Dorje, after securing the ownership rights over the Numagung spring, indicating that it is about 200 years old. The canal passes through fragile slope in most sections, one of which is very treacherous requiring frequent repairs. Until a few years ago, people had to spend many days to work in

this section, almost every year during the irrigation season. Traditionally, water used to be carried through a series of wooden sluice in this section. The government, through district agencies, provided some supports to rehabilitate this canal in the past, but such rehabilitation work did not improve the canal much. In one such effort, the government awarded a contract to a Thakali contractor from the district headquarters to rehabilitate this section of the canal for an amount of about 2 million Rupees during 1995-96. Polythene pipes were placed in U-shape manner in this section, but the improvement would not last for even a single agricultural season. People still cite this incident as an example of how outside contractors would fleece the government for funds. As this was a very weak section and the canal would breach frequently people used to keep vigil on this section continuously-- even in night--during most parts of the irrigation season. They had built a small shed in this section for keeping the night vigil. Two years ago, a development NGO, called Mountain Resource Management Group, helped to build a suspension bridge over which the polythene pipes were laid out to transport the water. Since then people have stopped keeping the night vigil and the shed for night vigil has been demolished as well.

In addition to irrigating the crops, this canal provides water for domestic uses like cleaning grains, washing clothes, cleaning dishes, and bathing. As water from this canal is used for domestic uses, even the people who do not own land under its command area have to contribute labor for repairing the canal. The canal, when it reaches the Lu Mye field, is divided into three secondary canals called Tse, Ghung, and Nam, which run almost parallel West to East covering the whole field. These secondary canals feed water to a network of tertiary canals reaching all the plots. The turn for irrigation is fixed on the basis of these secondary canals during the *Shakaluka*. A symbolic repair of the canal performed during this ritual is done in this canal. The village priest also performs a worship called Lhapsang every year near the weaker section of this canal.

Another important canal called the Chhumje, which draws water from the Ghyaka Chho, runs the longest (about 9 km) through a difficult terrain mentioned earlier. Its head is located at an elevation of 4,890 m, about 2 km below the Ghyaka Chho. As the snow starts melting late at this high elevation, water

does not flow in this canal until June, and the flow reaches its peak from July to September. Water from other several tiny sources, some of which have dried since long, contribute to the flow of this canal before it reaches the Samji field. As it runs a long distance, large amount of water is lost through seepage. Water flowing through this canal used to be sufficient to irrigate all of the land located west and south to the settlement, most of which have been abandoned now largely due to water scarcity at the early stages of crop growth. Both the Hui and the Chhumje canals are not lined. Every year, the village priest performs the Lhapsang ritual near the canal-heads of both canals.

Another smaller canal called the Kye Ki Ghang Hyura fed by the Jhyang stream runs1.2 km along the southern boundary of the Lu Mye field. There is a small reservoir at the end of the canal from where water is distributed to a small portion of the Lu Mye field. The Dhurang Hyura which irrigates the Dhurang field draws water from the Chhyoro Dhokpo stream. It is 2.4 km long and some of the weaker sections of the canal were lined a few years ago with the support from the District Development Committee. No rituals are performed on these canals.

Water from the Suru canal is used for irrigating fields in Suru as well as running the micro-hydro power plant. During the day water is used for irrigating the field, and in the evening from 7 to 10 PM, it is used for running the hydropower plant. The village underwent a prolonged conflict over whether to use water from this canal for running micro hydro in the late 90s described in chapter six. The canal is 2 km long and draws water from the Chhyoro Dhokpo stream, a few hundred meters above the diversion of the Dhurang canal. It passes though a loose cliff requiring a frequent repair for several days before it was rehabilitated in 2000. Now the canal has been lined in all of the weaker sections. Although the Chhoede monastery is responsible for the overall management of the canal, the Lo Monthang Micro-Hydro Management Committee looks after the repairs.

Water allocation

Different sets of rules are followed for water allocation in different sections of the field. They are most complex for the LuMye field. In this field, water allocation is decided based on the combination of factors like the order of the secondary canals, the position of the plots along the canal, and the crops grown. The *Ghempa* decides which crop will be irrigated at a given time. So if it is the turn for irrigating wheat, one cannot irrigate buckwheat even if it is in the adjacent plot. The order of the three secondary canals, which run parallel from west to east covering the whole field, is decided during the *Shakaluka* by casting dice. All the plots serviced by the secondary canal that receives the highest number in the dice-casting are irrigated first starting from the top, followed by the plots serviced by the secondary canal that is next in the order. However, if there are plots with other crops interspersed between these plots, they are not irrigated until that crop gets the turn. Usually, a household grows the same crop grown in adjacent plots of neighbor for the convenience of carrying out various activities. So, contiguity is followed largely in irrigating these fields.

Crops are irrigated both during the day and the night, and sometimes, a household may get its turn in the odd hours in the night as well. A household gets water as long as it takes to irrigate the field in a given section. All the households know who are before and after them in the irrigation turn. When a household has almost finished irrigating its plots it has to inform the next household in line to be ready to take the turn. If a person does not inform the next household in line and water runs unattended a heavy fine is charged.

Dice are also cast during the *Shakaluka* for deciding the order for irrigation of Ngichung, Jharighang, and Yok fields, all served by the Chhumje canal. In these fields also, plots are irrigated on the basis of the types of crop grown and its location along the canal. The rule of turn does not apply to the irrigation of the Raja's field. The Raja does not have to wait for a turn and can irrigate as and when required.

Wheat is the most important crop and gets the maximum amount of water. It is irrigated five to six times. Buckwheat, pea, and rapeseeds are normally irrigated three times and if there is sufficient water flowing in the canal, sometimes, they are irrigated four times. Every year, the *Ghempa* ensures that the turn for irrigation is strictly followed until wheat is irrigated three times. These first three irrigations in the wheat crop called *Khang Chhu, Ngu Chhu,* and *Re Chhu*, respectively are considered very crucial. After the completion of the first three irrigations, it is up to the *Ghempa* whether to enforce the turn for remainder of the season or not. If the turn is not enforced and water allocation is left in the hands of irrigators, a household gets the turn by asking whoever is holding the water. If more than one person approaches, which happens often, the one who requests first gets the water. It is during this time that many disputes arise for water use. However, the *Ghempa* in recent years have been enforcing water turns until the crop is irrigated five times thereby minimizing disputes.

In the Dhurang field, no standard irrigation turn exists. One gets the turn either by being the first to reach the small water reservoir lying above the field in the morning or by requesting someone who has already got the turn to be the next in line. Since there is sufficient water available to irrigate the fields, people do not have much competition to get water. However, these types of arrangement sometime create confusion among the farmers.

Similar to Dhurang, whoever reaches the reservoir first in the morning gets the turn to irrigate in Suru as well. However, until 2000, when there was not sufficient water on the canal, the turn used to be decided by casting dice in the same manner as the LuMye field. In the Suru field also, the primary canal breaks into three secondary canals running parallel to one another. After major rehabilitation of the canal in 2000 as a part of the deal for using the water from this canal for running the micro-hydro power plant, water flow has increased and famers have switched to the new system of water allocation.

Repair and maintenance of canals

Every year all the canals are repaired before the planting begins. The Hui canal is repaired first, usually in early April, starting on an auspicious day decided by the Ghempa in consultation with the village priest. Labor contribution for repairing is roughly proportional to the size of the land held by an individual household. Basic unit of land measurement is *Kha.* One *kha* land requires two *pathis* (about 8 kg) of seed. A household owning 30 Kha of land, usually has to contribute one day of labor if work lasts a week. After the *Ghempa* makes the decision of the date for repair, the *Chhumae* yells the information from different spots in the town the evening before the repair work is scheduled. The following morning, people gather near the old shed in the weaker section of the canal. To mark the beginning of the work, one *Chhumae* offers a small piece of butter and a cup of *chhyang* to the *Ghempa* and a woman. However, the *Ghempa* usually does not go to the work and if he is not present the *chhyang* is offered to a young man. They paste the butter on their forehead and sprinkle the *Chhyang* on the head three times. The man digs and the woman shovels. After this brief ritual, the *Chhumae* and the *Mithui* divide the work among a group of people by measuring with a rope. They make sure that all individuals receive equal share of work. Usually, men do the digging while women shovel and remove debris and mud. If some sections require technical work like constructing a retaining wall, then the people with such skills work in these sections. During the first regular annual repair of the canal, all water reservoirs lying near the fields are also cleared of debris and mud.

In the case of urgent repair work, all households including those which do not own land under the command area of the canal have to contribute labor. Such universal set for labor contribution is called *me shala tangje*[27]. Every year, the major secondary canals running through the field are also cleared of debris and grasses. The cutting of grass and widening of the canals inside the field is called *Phui*. As in the case of emergency repair work, all households (*me shala tangje*) irrespective of landholding have to

[27] It literally means the households who burn fire

contribute labor for *Phui* as well. This is done mainly because of the canal's role in providing water for domestic uses like washing and cleaning.

During all the major repair works people usually eat lunch near the work site. They divide themselves into separate groups on the basis of *Siju*, and each *Siju* prepares food separately. The palace sometimes contributes food for emergency repair work. The *Chhumae* and Mithui keep the record of attendance, and absentees have to pay a fine, usually one *pathi* of grain per day.

Regular annual repair of the Chhumje canal begins late, usually in June, as the headwork is high up in the mountain and water will be still frozen when other canals are repaired. As it takes about three to four hours to reach the headwork of this canal many people camp there during the repair. They work around the headwork for three days. On the first day of the repair work, the priest also goes to perform the Lhapsang worship. Unlike other canal repairs, the *Ghempa* leads the repair work on this canal and participates in the worship performed at the headwork. Usually, the fine for absence in the repair of this canal is twice the regular fine.

Authority

A council of officials selected every year governs the irrigation systems in most of the fields of Lo Monthang. The council is comprised of nine members: a *Ghempa;* two *Mithui*s; and six *Chhumae*. The *Ghempa* is the chief and is responsible for proper management of agricultural activities, irrigation system, pastureland and grazing, public works, celebration of major festivals, and for maintaining social harmony in the village. This highly respected post is next only to the Raja in decision making hierarchy. Should any villager seek his service or help one has to offer a *Khata*[28] before making any request. He decides on dates for various agricultural activities like seed sowing, regular repair of canals, turn for irrigating different crops, weeding, grass cutting, and harvesting of different crops. The village priest finds auspicious dates for many of these activities referring to the Tibetan almanac and advises the

[28] A *Khata* is a white or yellowish scarf offered as a sign of respect or auspiciousness.

Ghempa. Although the Ghempa is the main person for making such decisions on the calendar of operation, other officials also actively participate in decision making. The Ghempa resolves most of the disputes arising in the village, either alone or in consultation with other officials of the council depending on the seriousness of the issue involved. If cases are complicated and beyond his ability to resolve, they are referred to the Raja. Only Bista households can serve as *Ghempa*. There are sixteen Bista households in the town, and the rotation among them for holding *Ghempa* has been set in a fixed order. If a household does not have a male member during the year of its turn it can request an exemption from this responsibility.

Next to the *Ghempa* in the hierarchy in the council is the *Mithui*. Every year, two *Mithui* are nominated usually from Gurung households, one by the Raja and the other by the *Ghempa*. This is a very responsible post in the council and hence an experienced, knowledgeable, and respected person is nominated. The *Mithui* plays a role of a mediator to settle any disputes in the village. If someone has been found to have violated the rules of irrigation, the *Chhumae Ama* (described later) informs the *Mithui*, who then goes to the person in question and inquires about the fact. If the person in question accepts the mistake and the fine for such a mistake, the *Mithui* reports back to the *Chhumae Ama* and the case is settled and not pursued further. If the violator does not accept the mistake or the proposed fine, the case is then referred to the *Ghempa*. The *Mithui* sometimes has to go back and forth several times between the violator and the council authority to negotiate the case. Both *Mithui* may work jointly or individually to settle a case depending on the severity of the case. In complicated issues, all *Chhumae*, *Mithui*, and *Ghempa* jointly resolve the case. If not solved within the council, a meeting of all the villagers chaired by the Raja is called, usually at the base of the Jhampa monastery, where a final decision is made. The *Mithui*'s role is not limited to irrigation activities but extends to all kinds of disputes in the village. Although the jurisdiction of the council (especially of *Chhumae*) is mainly limited to Luthang field and other fields in the south of the settlement, the *Mithui*'s jurisdiction extends to all the fields in the whole village. The *Mithui'*s role is crucial in minimizing the disputes and maintaining the social harmony in the

village. In addition to dispute settlements, one of the *Mithui* is also responsible for safe keeping of all the important documents related to irrigation and a royal seal of symbolic importance called *Bak Dhokchyang* (described in chapter six). The *Ghempa* seals the small sachet containing these items and the *Mithui* keeps it. Since there are two *Mithui*s, the elder *Mithui* -- who is also considered senior in seating arrangement-- usually keeps these sealed items. At least one of the *Mithui* always has to go to canal repair work.

Next in the council hierarcy are six *Chhumae*. These Chhumae are responsible for monitoring irrigation schedules, proper use of water, maintenance of canals, and preventing animals from damaging crop. One *Chhumae Ama* is selected from among six Chhumae who serves as the head Chhumae. There is not any set standard procedure for selecting the Chhumae Ama. Usually, the Ghempa in consultation with all the council members selects the Chhumae Ama from among the Chhumae who is elderly and can command the respect of other Chhumae. The main duty of Chhumae *Ama* is to keep the record of all the fines collected and supervise the fields every morning to make sure that water has not been misused. Every morning he goes to the field to look at the irrigated plots, level of water in the canal, and if anyone has let water flow outside the plots. If someone has been found violating the rules for watering he initiates a case by reporting it to the *Mithui*. The Chhumae Ama meets the Ghempa everyday to report the irrigation activities and water flow in the canal.

The remaining Chhumae divide the work among themselves to inspect the field and detain the stray animals from the field. Four Chhumae divide themselves into two groups and each group works for six days alternately. The fifth Chhumae, who is not in either group, works for 3 days with each group. If any announcement is to be made in the village these Chhumae yell the information at the top of their voice. If a male member in a Chhumae household is absent, females can take over the works like detaining stray animals and checking water use, but they cannot work as crier. Crying is exclusively a work for males. During the weeding time, a Chhumae stands in the main gate to check if anyone has cut the grasses with sickles, which is prohibited. The Chhumae are also responsible for making sure that every household fulfils the responsibility of shepherding horses. Horses are taken for grazing collectively

and each household has to contribute labor in proportion to the number of horses owned. Everyday, six persons go for shepherding horses, and Chhumae are required to inform a household of its turn.

Until a few years ago, these Chhumae had to keep continuous vigil of the Hui canal, especially until the wheat crop has been irrigated three times. Every night, two of them would stay in a small shed built near the weakest section of the canal, at 15 minutes walking distance from the village. If the canal breaches in any section, the Chhumae would then divert off the water in a safer section above the breach and inform the villagers. While two Chhumae stay in this shed for eight days the other two take charge of all the works in the fields and the village, and change their role every eight days. The fifth Chhumae again would work with each group for 4 days. However, this system of night vigil has ceased after the rehabilitation of the this weak section of the canal with the support of the MRMG two years ago, and the shade has also been demolished.

Only Gurung households serve as *Chhumae*. The turn for *Chhumae* is fixed considering the Gheku, the main gate, as the center point. Three contiguous households are selected from either side of this Gheku. The following year the next three households are selected to serve as *Chhumae*. Thus the turn rotates in clockwise direction in one half of the village and in counter clockwise direction in the other half. When the two directions eventually meet the selection direction is reversed.

The council sets the amount of fine for different kinds of violation of rules in advance. For some violations, such as being absent during the regular repair of canals or straying animals in the field, a pre-fixed amount of fine is charged. If animals are found straying during the day the owner of the animal has to pay a fine of Rs 10. But in the night the fine increases to Rs. 100. This further goes up during the harvesting time. If a horse is found in the night during harvesting time the owner has to pay a fine of Rs 500. In some cases, especially involving misuse of water, the *Ghempa* has the discretion to decide on how much to charge the fine. Usually, such a fine ranges anywhere between Rs. 100 to Rs. 500 (about $1.5 to $7.5). One example of such discretionary exercise was found when the *Ghempa* slapped his own *Chhumae* a fine of Rs 600. The *Chhumae*'s wife was found to have cut the grasses from the field when

only uprooting with hand was allowed, an infraction that would have normally cost a fine of Rs. 300. However, since the infraction was done by the Chhumae's wife, the Ghempa imposed twice as much fine.

The fine collected over the whole year is divided among Ghempa and Chhumae as remuneration. Usually, the Ghempa gets two shares and Chhumae gets one share each of the fine collected. The cash collected as fine is kept in a box. The Ghempa keeps the box while the Chhumae Ama keeps its key. This arrangement avoids the potential of misuse of the fund and concomitant disputes. The Mithui does not get any share of the fine thus collected. This has been designed especially to make sure that the Mithui does not have any conflict of interest in negotiating the cases. Council members do not have to pay any fine if their animals are found straying in the fields. The Raja and the monastery also enjoy this privilege. All of them do not have to contribute labor for grazing horses and cattle. They are also exempted from contributing labor for community works.

The village council does not regulate and supervise irrigation and other general agricultural activities over two fields: the Dhurang and the Suru. One Bista family serves as the Ghempa for the Dhurang field, and the Chhoede monastery for the Suru field. In Dhurang, besides Ghempa there are no other posts to manage agricultural activities. The Chhoede monastery discharges the duty of the *Ghempa* for the Suru field as it is the single largest owner of the land. The monastery owns about one third of the land which it leases out to individual farmers. The monastery assigns four monks to a post called *Ngiwa*. These *Ngiwa,* in addition to looking after day to day management of the monastery, serve as the *Ghempa* for the Suru field. They have a tenure of two years. They make all the decision about canal repair, turn for watering, harvesting and settling disputes arising out of water management. The monastery has appointed two commoners to work as *Chhumae* for the monastery since two years. Unlike other *Chhumae* of the village council, these two *Chhumae* are responsible only for detaining stray animals in the Suru field. As a remuneration for their service, these *Chhumae* keep half of the fines collected from the owner of straying animals.

Although the village council is responsible for the overall supervision of village commons, community activities, and maintaining social harmony in the village, conflicts sometimes arise with the Ghempa of these smaller fields over scheduling of agricultural calendar. One such conflict occurred in 2005 when the farmers of Dhurang field harvested their crops more than a week before harvesting the fields of the Raja. Normally, people can harvest their crops only after the royal fields have been harvested. As harvesting requires a large number of laborers, the village council closely supervises the harvesting schedule. This dispute in 2005 over crop harvesting arose mainly because the Ghempa of the village wanted to schedule the harvesting time for all the fields whereas the farmers in the Dhurang field, and particularly the Ghempa of this field, wanted to harvest crops as they ripen earlier than in other fields because of its lower elevation. The dispute was not merely for the date for harvesting of the crops but it was also over whether the village council could extend its jurisdiction over all the fields or not. Rules for harvesting schedule are closely followed and monitored. Those households which had a member died in a given year are allowed to start harvesting crops one day before other common households.

As discussed above, the eligibility to become a member of the village council, at present, is defined by the caste system. Only the Bistas can hold the post of the Ghempa and the Gurungs can hold the post of the Chhumae, and Bishwokarma are excluded from the village council. However, until 35 years ago, the inheritance based class system also cross cut the caste system in defining an individual's eligibility to serve in the village council, which will be described in detail in the sixth chapter.

Rituals

There are a few rituals celebrated especially for water management and agricultural activities. The most important among them is the *Shakaluka*. Literally, it is worship for soil and manure. This worship, which usually falls in the 12th or the first month of the Tibetan Calendar, marks the beginning of the agricultural season and the change- over of the officials of the village council. Although it is considered one of the most important celebrations in the village, not many people attend it as it falls at a

time when most of the people-- including the Ghempa-- migrate to southern parts of Nepal or India. Usually the incoming Ghempa is responsible for organizing the Shakaluka, and he deputizes someone to fill in for him.

A few weeks before the tentative time for the Shakaluka, the incoming *Ghempa* or his deputy goes to the village priest offering a Khata and Rs. 10 to request the letter for the *Shakaluka*. After referring to the Tibetan almanac, the priest finds an auspicious date and sends a letter to the *Ghempa* through an incoming *Chhumae* informing him of the date for the *Shakaluka* and the criteria for selecting a man and a woman to take part in this ritual. The man is called *Lopsangba* and the woman is called *Lopsangma*. The main criteria for selecting Lopsangba and Lopsangma is the age, which is auspicious for this ceremony in a given year. The *Chhumae* then starts looking for individuals in the village meeting those criteria. Usually, they try to find someone meeting the age requirement as well as having both parents alive. The *Chhumae* is also responsible for arranging a pair of Dzos to pull the plough, a white goat, a plough, a yoke, and *Chhyang* for this ceremony. On the day of the celebration, the priest worships in the Jhongla monastery near the Gheku, the gate, in the morning, consecrating a pair of dice made of dough, and prepares *Torma*, images of deities made of dough and butter. Then all the council members-- whoever are present in the village (both incoming and outgoing)—the priest, and the Lopsangba and the Lopsangmo, dressed in the traditional attire gather at the home of the incoming *Ghempa*. The Lopsangba and the Lopsangma are offered *Chhyang* in a wooden bowl decorated with colored butter at the edge, and a plate full of roasted wheat. A small piece of butter is also pasted on their heads. They sprinkle the *Chhyang* three times with right ring finger. Then the whole party goes to the stable and the Lopsangmo digs the manure while the Lopsangbo places the manure in a bamboo basket. Next, they go to the stable of the Raja and then the Chhoede monastery where the same steps of offering Chhyang and roasted wheat to the Lopsangbo and Lopsangmo, digging and filling of manure in a bamboo basket is repeated.

Then, they go to a small garden plot of the palace for plowing the land. A pair of Dzos is brought to the garden and painted with a band of red clay all over the body. The right horns of both the Dzos are

painted red while the left horns are painted black. The plow is hitched. As the priest starts reciting the holy texts, the Lopsangba pulls the Dzos by the ropes passing through the nostrils of the animals and the Lopsangmo holds the plow handle. Usually, she is assisted by another man in plowing. They plow a couple of furrows and then stop. This is the only time when women plow in Mustang.

While this is going on, women, dressed in their best clothes and ornaments, go to the field carrying a basket full of manure on their back. They also carry a large ladle filled with burning dung on which juniper incense is put. When they reach the field they sprinkle grain in all the direction chanting some prayers. A small hole is dug where a plateful of seeds is poured and then covered. The manure is dumped over this hole. The burning dung is also emptied at the base of this heap of manure. A stone called *Lu* is placed on top of the manure heap. Usually, all this ritual is done by woman. But if some households do not have a female member present a man can also perform this ritual. Those households which do not leave behind any member during the winter ask relatives or neighbor to perform this ritual in their field as well. This ritual is performed only in the fields where wheat will be grown, indicating the place of wheat in the Loba society.

In the afternoon again, the priest, all the council members, the Lopsangba, and the Lopsangmo, and local people gather at the same garden where plowing was done in the morning. Seven butter-decorated bowls full of *Chhyang* are placed in front of the seats of two *Ghempa*, the priest, two Mithui, the Lopsangba and the Lopsangmo. Even if those officials are not present in the village or if someone does not drink *Chhyang*, these bowls filled with *Chhyang* are placed on a low table in front of their seats. As the ritual progresses, one of the *Chhumae* applies red band to a white goat. A string with tiny pieces of colored cloth is sewed to its ears and the goat is released for the deity. This goat cannot be mistreated and killed and if it strays into the field the owner will not be charged fine. The priest again keeps reciting the holy texts. The Lopsangba and the Lopsangma are asked to go to a nearby canal assisted by *Chhumae* to perform symbolic gesture of canal repair work. The man digs and the woman shovels facing a particular direction as directed by the priest. They return back and take their seat. After some time of the symbolic

repair, the priest casts a pair of consecrated dough dice on a flat bamboo basket. The first cast decides which monastery's blessing is to be sought from among the three monasteries the Jhampa, the Thubchhen, and the Jhongla. A short praying is done for the winning monastery. Thus selected and worshipped monastery is believed to consecrate all the steps followed in this ritual. The priest again cast the dice to decide the order of irrigation in three secondary canals Tse, Ghung, and Nam running in the Lu Mye field. The largest number will secure a win. If there is a tie, dice are cast until the tie is broken. Dice are also cast to decide the turn of irrigation among Ngichung, Jharighang, and Yok fields. After deciding the turn of the irrigation the priests concludes the worship by reciting some more texts and by sprinkling wheat flour all over at the end. During this worship the priest also announces the auspicious date for the commencement of canal repair and seed sowing. Although the Shakaluka formalizes the change over of the village council and irrigations schedule mainly for the Luthang field, farmers perform worshipping in all fields including the Suru and the Dhurang on this day.

Figure 5.7 Celebration of the Shakaluka ritual in Lo Monthang

In the evening all the outgoing and incoming officials, the Lopsangba and the Lopsangmo, and local people gather at the house of outgoing *Ghempa*. They drink, sing, and dance to mark the change-over of officials. The out going officials offer Khata to incoming officials and then they exchange Khata. The expense for performing this ritual from morning to the afternoon is borne by the incoming *Ghempa* and the expense for the celebration in the night is borne by the outgoing *Ghempa*. Since most of the officials are not present in the village during the *Shakaluka,* the documents are handed over to the incoming team only after their return from winter sojourn. In earlier days they used to hand over the equipment owned by the community but the practice has ceased to exist many years ago. The Lopsangba and Lopsangma are exempted from contributing two days of labor in each of the Hui and the Chhumje canal repair for their participation. Besides this material honorarium, it is believed that they also receive religious merit for taking part in this ritual.

Another important ritual related to irrigation is the Lhapsang worship performed at the Hui and the Chhumje canals. This worship is performed first in the Hui canal, near a place carved out by a ravine where people have to repair the canal frequently. The village priest, assisted by a *Chhumae* performs this worship. Images of deities are prepared from consecrated flour and butter. While the worship is in progress the priest beats drum and cymbals in synchronously and prays deities for sending good water and conserving the canal. During the time of performing Lhapsang for the Chhumje canal, which happens much later than for the Hui canal, the *Ghempa* usually lead the worshipping team which includes other *Chhumae* and one of the Mithui. It is done at the time of canal repair. All of them go on horse back as it takes a steep climbing for about three hours to reach the place of worship. It is done at on a small plateau at an elevation of 4,779m just below the diversion of the canal. As the legend says this is also the place where people from Chhonup and Lo Monthang fought violently to claim the ownership over the water some two hundred years ago (described in detail in the next chapter). It is said that Lo Monthang could establish its claim over water after the death of a man named Kunsang Kyawa. During the worship, a

member of the village council offers cigarettes in memory of Kunsang Kyawa[29]. The priest returns to the village in the evening after completion of the worship while the *Ghempa* and the council members stay behind to supervise the repair work. For all these services rendered, the priest is exempted from contributing labor for community work in the village.

Another ritual called *Chhawang* worship is performed around the middle of the cropping season. Monks and priests worship at the Jhampa monastery for three days. During the Chhawang, women are not allowed in the field for three days. People believe that by performing this worship fields are protected from the insect infestation. The priest claims that this ritual is based on Bon religion and not the Buddhism.

In the tenth month of Tibetan calendar, the *Chhumae* and Mithui go to the Lo Ghekar monastery, the oldest monastery in the region, to light butter lamp. A large number of butter lamps are lit on this occasion, the expenses of which are borne from the village fund. The visit of *Chhumae* and Mithui to this monastery is also considered as a vow to work honestly.

The monks of Chhoede monastery who are responsible for managing activities in Suru used to perform some worships called Lui, and Sevi to appease the deities for water until a few years ago. However, citing various reasons, they have stopped performing these rituals now.

Water management in Namgyal

Agriculture

Agricultural pattern in this small village is very much similar to the one in Lo Monthang. Wheat, buckwheat , peas, and rapeseed are the major crops grown. Naked barley is grown only in smaller areas. Only one crop can be grown a year in any field. The agricultural season begins about a week later than in Lo Monthang. The crops are rotated in three sequence of wheat – pea- buckwheat/ rapeseed. Crops are

[29] It is believed that he was fond of tobacco and asked his comrades to offer the tobacco after his death.

grown in blocks, and individual household's decision of crop selection in a given field is largely dictated by the community decision.

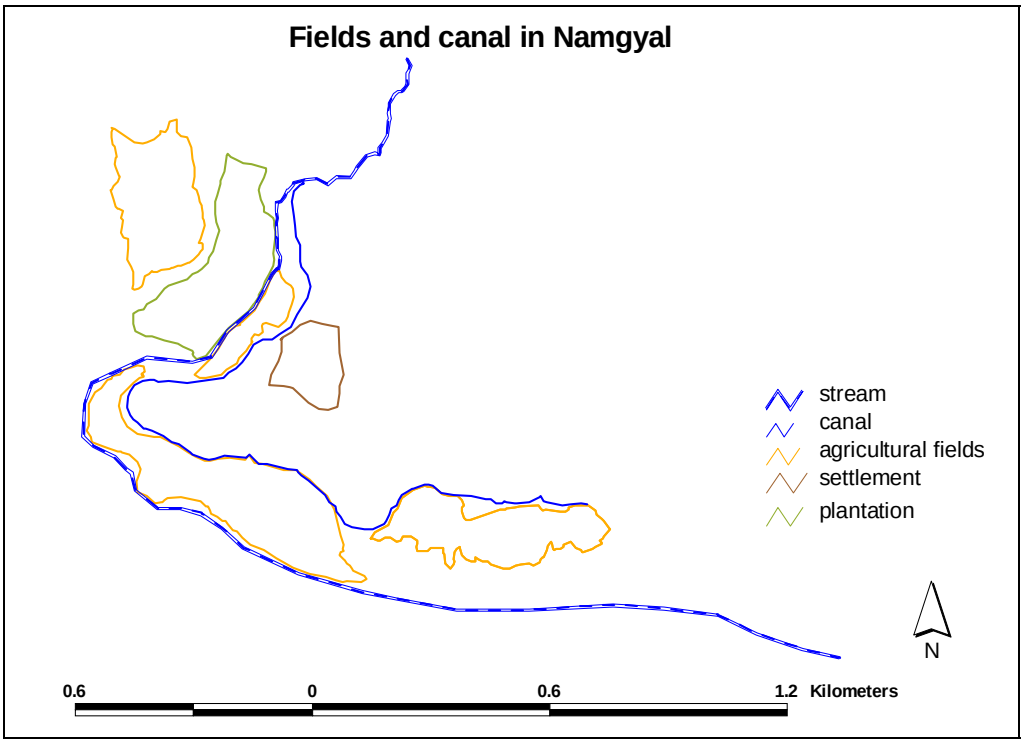

Figure 5.8 Fields in Namgyal village

The agricultural land lies in three sections. The one in the right bank of the Kimling Khola is called the Chhutilu and has an area of 14.8 ha (Figure 5.8). This land is largely owned by the monastery and some sections of the fields have tree plantation. The monastery leases out the land to all the households in almost equal parcels for cultivation. Another section, on the left bank of the stream, called the Jhongdhuin, has an area of 11.9 ha. The one just below the settlement is called the Shyakilu and it has an area of 6.7 ha. These two fields on the left side of the stream are communally and privately owned. The community owned land is parceled out to individual households. There are a few other smaller patches of the land spread along the bank of the stream. The total cultivated area in the village is 35.3 ha.

In 2006, Jhongdhuin mostly had wheat, Shyakilu had buckwheat, and Chhutilu had pea. The plantation areas are planted with Poplar trees. The tree plantation is rather a new development in whole of the region. In 1964, Peissel reports of finding trees only in the royal garden in Thingar, a nearby village, however tree plantation is a commons sight today, thanks to the efforts of development agencies like the ACAP. As a crop share called *Phutok*, famers pay grain to the village and the monastery which is equivalent to the amount of seeds required for planting the land. However, in earlier times, a famer had to pay twice the seed amount as Phutok.

Water sources and canals

The main source for irrigation water is the Kimling Khola flowing on the west of the settlement. A canal measuring 2.3 km, diverted off this stream irrigates the Shyakilu and the Jhongdhuin fields. This irrigation canal passes through very loose sandy soil along the bottom of a cliff which falls off frequently, thus requiring frequent repairing work. Every year, villagers spend many days repairing this section and the headwork. Until a few years ago, in some sections they used to place wooden sluice for transporting the water. Two years ago the MRMG helped to rehabilitate the canal by providing high density polythene pipe for the weaker sections of the canal. In 2006, the Regional Irrigation Office was also helping to rehabilitate this canal, especially near the headwork.

The Chhutilu field, on the right bank of the stream, is irrigated with a canal coming from the Phuwa village. This canal also draws water from the Kimling Khola but diverted off near the Kimling village. The canal irrigating Chhutilu is stable, as it passes through the grass and clay soil. Below this runs the Hui canal of Lo Monthang. After irrigating these fields people have to release water to this Hui canal. During the night they do not irrigate and all the water is let into the Hui canal.

Water allocation

Water is allocated to individual households based on the number of water shares called *Chhyukim*. In the case of Chhutilu and other smaller patches of the land in the right bank of the stream all the households have an equal Chhyukim. However, for the Jhongdhuin and the Shyakilu fields, they have varying shares ranging from 0.5 to 2.5. This system of allocation of water based on Chhyukim was developed five years ago. The table 4.1 reflects the distribution of water shares between different households, also classified based on inheritance-class system[30].

Table 5. 1 Distribution of water share among different households in Namgyal

Household	Dhongba/*Farang Marang* (D/F)	No of Chhyukim	group
A	D	1.5	3
B	D	1.5	
C	F	0.5	2
D	F	1.5	
E	F	0.5	3
F	D	2.5	
G	D	1	
H	D	1.5	3
I	D	1.5	
J	D	1	
K	F	0.5	1
L	F	0.5	
M	D	2	
N	D	1	
O	D	1	
P	F	-	
Q	F	-	

Since these *Chhyukim* were allotted five years ago primarily based on the land- holding size in the fields of the left bank of the stream, it also reflects the proportion of the land these households own. When the water share is in fraction, two households are grouped together to make the share a whole number. This

[30] Instead of name of the household- head alphabets have been used to indicate these households.

grouping of households is permanent and does not change year after year. So if two households are in a group, they have to irrigate together. The two households making a group decide within a group how to allocate water among themselves.

Holder of one Chhyukim gets a day to irrigate his/her land. When two households share a Chhyukim each irrigates for half a day. Usually, one finishes irrigating well before the allotted time. In such cases, one has to inform the next person in line to divert the water. Depending on the season, the turn rotates between 13 to 18 days. If water is lost unattended without informing the next person in line a heavy fine of Rs 500 is charged. The rotation is fixed at the beginning of the agricultural season by throwing a pair dice and remains the same for the whole agricultural season. Sometimes, especially at the later stage of crop growth when watering is not crucial, they may not adhere to the rotation and whoever goes first to the headwork in the morning gets the water.

The wheat crop gets the maximum amount of water and is normally irrigated six times. The fields are irrigated before sowing the seed and the second irrigation is not done for the next 49 days. The last irrigation is done just before harvesting so that harvesting becomes easier. Irrigation during grain filling stage is considered a very critical stage. Other crops like buckwheat and rapeseed are irrigated 3 or 4 times.

Authorities

Villagers form a committee every year to manage the agricultural activities in the village. The committee comprises of one *Ghempa*, one *Dhungi* and two *Chhumae*s. They also have an external higher authority called the Ghempa Chhe, always the Raja of Mustang. The *Ghempa* is rotated among all the households. If there is not any male member in the household, female can also work as *Ghempa*. Unlike in other villages where *Ghempa* is the leading figure in the community system, the *Ghempa* in Namgyal does not enjoy so much authority. His main responsibility is to decide when the community works begin and cry out the information to the villagers. Whenever a major decision has to be made they go to the

palace in Lo Monthang to discuss the matter with the Raja, their Chief *Ghempa*. Probably, the easy access to the palace made possible by very short distance from the village did not make it necessary to accord much authority on the *Ghempa*. *Ghempa* does not get any remuneration for the service rendered to the community.

The *Dhungi* keeps the record of all the activities, attendance on community works and the fines charged in the village. As this requires writing, and many households do not have people who can read and write, only two Bista households serve as *Dhungi*. However it should not be construed that only Bista can become a Dhungi. It is more of a response to the literacy level in the village and not a caste based responsibility. These two households exchange the *Dhungi* every two years. In compensation for this service, they are exempted from serving as the *Ghempa*. The records of penalty are read out at a village meeting after the harvesting is completed and before the people start leaving for winter sojourn.

There are four *Chhumae*s two for the land on the right bank and two for the land on the left bank of the stream. The main duty of these *Chhumaes* is to detain any stray animal that enters the field. Everyday, the *Chhumae* check the fields starting very early in the morning and four to five times a day. If an animal is found in the field it is detained in the corral until the owner comes to claim the animal. The fine for straying animals is determined by the types of the animal and time of the day when it enters the field. If a large animal like mule, horse, cattle, or Dzopa enters a field during the day, the fine is Rs. 25 or one-half a *pathi* of grain. For smaller animals like goat, sheep, calves it is set at Rs. 5. If animals are found in the night the fine is doubled. If there is extensive damage of the crop, the cultivator is also compensated. The *Chhumae* decides on such compensation amount. However, if the case is not solved locally the concerned parties go to the Raja as final resort. Usually, disputes for compensation arise only if the crop has been already watered at least three times.

This rule does not apply to the animals of the Raja. If the Raja's horses get loose and damage the crops, the villagers return these horses to the fenced corral, located near the village. However, if the

animals of *Chhumae* or *Ghempa* are found in the fields by anyone in the village, the Chhumae or *Ghempa* are charged twice the regular fine.

The *Chhumaes* keep all the fines collected throughout the year as their remuneration. The two *Chhumae*s share the fine equally collected from their area of operation. They maintain a separate record of fines collected from the fields on the two sides of the stream. If these Chhumae cannot write to maintain such a record of fines, the *Dhungi* helps them. From this fine, they also have to pay 15 *pathi*s of grain annually to the Raja. *Ghempa* is not paid anything.

Repair and maintenance of the canal

Every year, before beginning of other agricultural activities, they repair canal for three days. The committee jointly decides the date for canal repair/cleaning and the *Ghempa* cries out this information to all the villagers in the evening. The following morning, he again cries out and the people have to gather near the canal at 7 O'clock in the morning. Once seven peoples have arrived they start counting minutes, and for each minute a person is late after this one has to pay a fine of Rs. 5. If a person does not go to the cleaning of canal a fine of Rs 200 is charged. Such fine is usually used in buying foods and snacks for those who are working on the canal and does not go to any village fund. People contribute labor based on the number of Chhyukim one holds. This ensures the proportionate contribution of labor. If a person cannot attend a work in a given day, he or she may compensate it the next time. However, one has to inform of such inability to the Ghempa in advance. Both male and female can go for such work. The fine for absence in other regular repair work is Rs. 150. However, the amount of fine for being absent depends on the urgency of the work as well. In the case of urgent repair, fine is increased significantly. The *Dhungi* keeps all the record of work and attendance.

If the canal is damaged during the operation, the villagers together first decide whether the damage was caused by the negligence of the user or by means beyond one's control. If the user is found responsible for it he has to pay a fine of Rs 300 for each meter of damaged canal. The fine thus collected

is used for buying food when the villagers fix the canal. If the repair work is done on the canal supplying water to the Chhutilu field, which is largely owned by the monastery, the monastery gives about 4 *pathis* of grain to villagers for each day of work. If there is not any fund left, people take food items from home and cook near the work site. There are not any instances of water stealing.

Lo Monthang the downstream village sometime imposes fine on Namgyal for not properly managing its water. The previous year a man from Namgyal released the water from his field flowing toward Suru canal. The monastery in Lo Monthang, which is responsible for managing the Suru canal charged a fine of Rs 700. A few years ago another man was fined Rs. 1,500 in a similar case.

There are not many worships or rituals performed for water or canal. Every year before beginning any agricultural activities and first repair of the canal, they perform a worship called Lhapsang at the *Ghempa's* house for a day. This is done especially to pray for good agricultural season. The expense for this worship is borne by the whole community. The priest called *Chhiwa*, also a villager, who performs the worship is exempted from one day of work during the canal repair for his service.

The current system of water allocation and selection of authorities was introduced five years ago. Prior to this, water was allocated only among the Dhongba households. The condition under which this system was changed, and the dynamics of such a change are discussed in chapter 6.

Other water uses

There used to be four traditional water mills in the village for grinding grains. However, seventeen years ago, a Thakali entrepreneur from southern Mustang, established a modern multi -purpose water mill in the village. This mill can extract oil from rapeseed in addition to grinding grains. After the establishment of this mill all the traditional water mills have disappeared. People from as far as Samar come here for extracting oil. The monastery later bought the mill from this Thakali entrepreneur and now it leases the mill to one operator for a fixed annual rent of Rs 100,000. Villagers have to pay one eighth of the grain grinned as a fee. The current drinking water system was established seven years ago after the

previous drinking water system was destroyed by the villagers from Lo Monthang over the dispute over the water source. The dynamics of the dispute is discussed in the next chapter.

Water management in Tsaile

Agriculture

Agriculture is the mainstay of people. The village's low dependency on livestock compared to other adjoining villages because of its very little access to forest and pastureland makes the agriculture more important for the village. It depends on Chhuksang village for accessing forest and pasture land. It has 9.75 ha of cultivated land. In the year 2006, villagers reclaimed 4.6 ha as a community land by terracing an abandoned section and erecting a fence around it with the financial support of the MRMG.

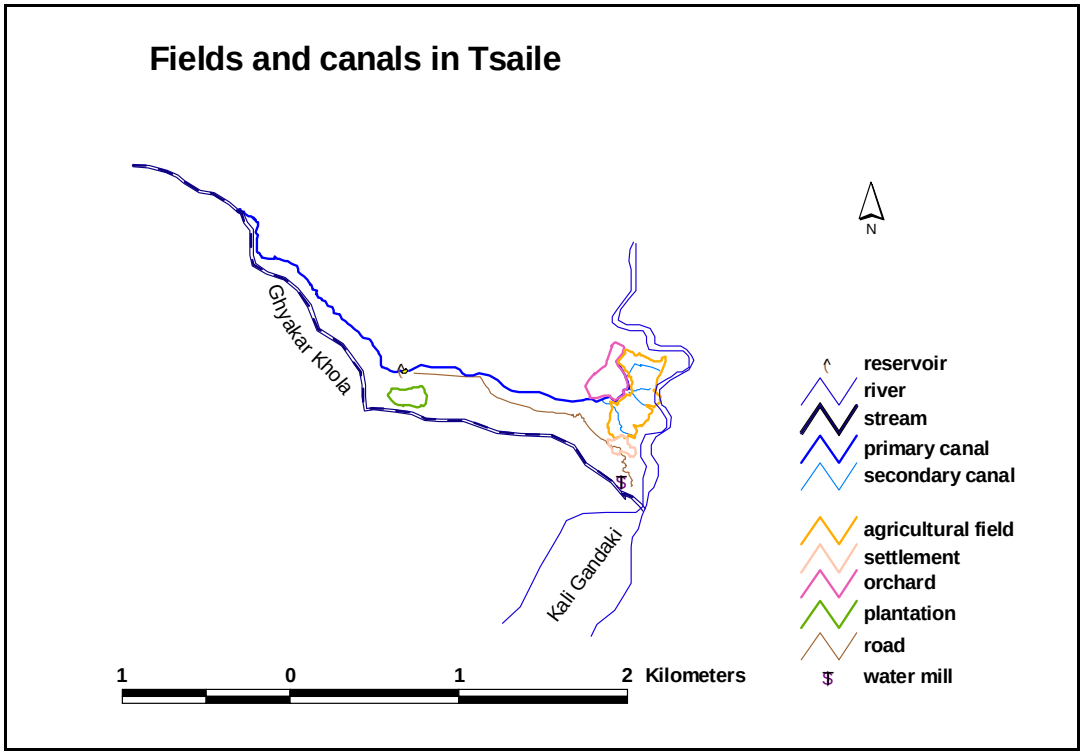

Figure 5.9 Fields and water sources in Tsaile

Terracing and fencing work was contracted to workers from Rolpa district who have come here looking for the work after being displaced from the village by the Maoist insurgency. They have planted apple saplings in the newly reclaimed land. Crops are grown in two seasons: in winter season naked barley and barely are grown; and in summer buckwheat, corn and beans are grown. Naked barley is the major crop in winter season and occupies most of the area whereas barely only a small area. Barley is grown mainly as a feed for horse and mules. Immediately after harvesting winter crops in May summer crops are grown which are harvested in October. Buckwheat is the major crop grown in the summer season. Apple was introduced in the village 33 years ago. Apricot and *chili,* a local apricot, are other fruits grown in the village. Today most of the households have small fenced gardens called *Vikas* to grow fruit trees and vegetables. Major vegetables grown are beans, mustard greens, cabbage, radish, cauliflower etc. Until less than 10 years ago, a local variety of radish and potato were the only types of vegetable grown in the village. The cultivated land is divided into three sections by two parallel running secondary irrigation canals (Figure 5.9).

Water source and canal

The only source for irrigation water is the Ghyakar Khola, a snow-fed small stream flowing from mountains on the West of the village. Since this mountain is not perpetually snow covered, the level of water flow in the stream largely depends on the amount of snow fall the previous winter and the weather on any given day. During March- April, when the water is much needed for irrigation, a sunny day melts the ice on the mountain increasing the water flow, and conversely, water flow decreases on a overcast day. The water flow again increases during rainy season of July to September. Ghyakar, an upstream village in the south west direction also depends on this stream for irrigation water. These two villages underwent a series of conflict over the access of water for almost two decades until last year when the dispute was resolved. The dynamics of the dispute will be discussed the next chapter.

This stream is also the source of water for running the only traditional water mill of the village, located at a corner of the confluence of this stream and the Kali Gandaki river. A separate short canal feeds water for running this mill. A small spring emerging on a slope above the bank of this stream near Ghyakar village is the source of drinking water for Tsaile. The villagers from Tsaile requested the Ghyakar villagers offering a Khata and Rs. 8 to use this water source for drinking water and the drinking water system was built in 1983 with the support of the government. A small collection tank was built near the source and the water is carried in 1 inch diameter pipe all the way to the village, with a series of break pressure tanks in between. During the height of conflict between the two villages, Ghyakar villagers cut the drinking water pipe and the water supply was interrupted for a short while. There are two tap stands running twenty four hours in the village. Prior to the construction of this drinking water system people had to rely on the irrigation canal for drinking water. Whenever the irrigation canal was dry people used to collect water in a large drum from the Ghyakar Khola below the village and carry on back to the house. A small pond lies next to a tap stand for watering livestock.

Water for irrigation is diverted from this stream at an elevation of 3,380m msl to a canal that traverses through a very steep cliff. It is very risky and difficult to negotiate through this cliff as the soil is very loose in most sections of the canal. Until 1993, when the CARE- Nepal pipelined most of the canal in this section, it was an open canal and the dirt and boulders falling off the cliff would block the water flow and damage the canal frequently. There is a small water reservoir called *Ching* above the village. The water is stored in the reservoir in the night before releasing for irrigation the following morning. From the intake, the canal runs a length of 1.67 km until it reaches the reservoir. From the reservoir to the field the water passes through a ravine for a length of 1.35 km. The most porous portion of this ravine is pipelined and willow saplings have been planted along the water course. Once the canal reaches just above the field it is split into three secondary canals dividing the field into three sections. There is a network of tertiary canals and feeding channels all over the field for irrigating individual plots.

The reservoir is earth-lined and has an area of 660 Square meters and average depth of 2.5 m. The intake and outlets of the reservoir are close to one another and not in the opposite ends, which helps in reducing the problem of siltation. The CARE- Nepal has supported to install an outflow control valve. Usually, the reservoir fills in one night. In the year 2006, the District Development Committee gave a grant of Rs 50,000 to increase the capacity of the reservoir and to cement line the outlet.

A major rehabilitation of the canal was done in 1993 with the technical and financial support of the CARE- Nepal. All the difficult section, over 1,200 m long, running through the cliff was pipelined with polythene pipe of 200 mm diameter. The headwork of the canal was also rehabilitated. It took about one month to complete the work, and the CARE Nepal invested about 1.3 million Rupees to rehabilitate this canal. Although some sections of the canal were pipelined in 1978 with the support of the Hill Agricultural Development Program, this rehabilitation of 1993 was the major breakthrough that has changed the water management system in the village. It also further aggravated the already ongoing dispute with Ghyakar village over water.

Prior to this rehabilitation, water was passed through a series of wooden sluices along the cliff section. Every year youths from the village would go down to Thini, a village near the district headquarters, to fetch wooden sluices. There they would request the village chief, offering a Khata, for arranging sluices from the forest near Kaisang. There is no forest in nearby areas with large enough trees to make wooden sluices. Every year they would bring 12 wooden sluices[31] before the irrigation season begins in late February. The canal had to be frequently repaired throughout the cropping season. As the canal would be frequently blocked or breached they used to hire a 'canal guard' to keep the vigil of the canal all the time during irrigation season. The guard was collectively paid in grain on the basis of number of water share held by a household. A small shed was built near the reservoir for the guard to stay the night, which stands till date. Not only this guard, but also a person who had to irrigate the

[31] Holder of one share of water was required to bring one wooden sluice each. There are 12 water shares hence the 12 sluices.

following day would keep the constant vigil of water flow. It would normally take 20 to 24 days for completion of one cycle of the irrigation. But all this has become a happy story in retrospect. The water flow reaching the reservoir has increased, the time for once cycle of irrigation has come down to 12 to 18 days, the frequent repair is not required, and they don't hire a canal guard anymore

Water allocation

Water allocation is defined by the types of crop grown, and the number of water shares called *Chhyure* a household holds. Different allocation rule applies for different crops. Water allocation for two major crops namely naked barley and buckwheat is based on the number of water share whereas for minor crops it is based on the location of the land. There are 12 *Chhyure* in the village, a number that was fixed by their forefathers and it has remained the same. The number of *Chhyure* held by one household does not necessarily reflect the amount of landholding size. Many households hold *Chhyure* that is not in a whole number. These households are grouped into many smaller groups so that the total number of water shares held by a group is always a whole number which facilitates in water allocation. The grouping remains the same year after year. The table 5.2 shows the number of *Chhyure* held by an individual household and the grouping pattern.

Since these crops are grown in smaller areas they are irrigated first. All the plots under these crops in the winning section of the field are irrigated starting from the top to the bottom. Sometimes few of these plots are contiguous, but quite often interspersed by many plots under the major crops. But the plots under the major crops cannot be irrigated this time. Once irrigation in one section is completed, plots in the middle section, and then the last section are irrigated starting from the top. A household gets its turn based on the location of its plot in the given section.

Once barley or corn (depending on the season) is irrigated in all the three sections, they again cast the dice to decide the turn for the major crops. The turn for irrigating the major crop is decided on the basis of *Chhyure* and not on the basis of location of the plot as in the case of minor crops. The dice are

cast for each Chhyure. When more than one household hold a *Chhyure* in common, one of the households of the group stands in to get the turn. A household holding one and fractions of *Chhyure* get one day for itself and some hours in another day shared by other household(s) in the group. This way the turn is set for all the 12 *Chhyure*s.

Table 5.2 Water share distribution among households in Tsaile

Household	No of *Chhyure*	Grouping	Group
A	1.50	}	3
B	1.50		
C	1.25	}	3
D	0.50		
E	1.25		
F	1.50	}	3
G	0.75		
H	0.75		
I	1.00		1
J	0.25	}	1
K	0.75		
L	1.00		1
Total	12.00		

Irrespective of the location of the plots, a household irrigates its plot in its turn. When the turn is for a common *Chhyure* held by more than one household they divide the water among themselves in understanding. Sometimes, households split the water and irrigate simultaneously and at other times, one irrigates after another. They may also throw the dice among themselves to decide who gets the water first. If someone does not finish irrigating all the plots in one's turn, which often happens for naked barley, then he/she has to wait until the completion of the rotation to irrigate the unfinished plots. All the households which have not completed irrigating in one rotation again cast dice to decide the turn to irrigate remaining plots. If someone finishes irrigating before the allotted time it has to give water for the remainder of the time to the next *Chhyure* in line under normal situation. But this rule changes when the crop is in critical growing stage. Third irrigation of naked barley is considered such a critical stage when the crop is at panicle formation stage. This also coincides with the time of low water flow in the source

stream. Timely irrigation is very critical and delay by even a few days seriously reduces the yield. This time, they again cast the dice to set the new turns. If someone finishes irrigating one's plots before the allotted time then the water for the remainder time should be given to its group partners and not to the next *Chhyure* in line as in normal time. Naked barley is usually irrigated four times and buckwheat three times, sometime extended to four times.

One can irrigate fruit gardens during its own turn. However, during the critical stages of crop growth no one is allowed to irrigate any other crop than cereals. Tree plantation, and grasses are irrigated before the cereal crops are ready for irrigation or between the irrigation schedules. Until some ten years ago, people were not allowed to irrigate vegetables from the irrigation canal, but such restrictions have been relaxed now as vegetables are viewed differently, especially after the advent of tourism in the region.

Frequency of use of water mill fluctuates over the year. The peak period is after the harvest of major crops naked barley and buckwheat. In the peak period they cast the dice to decide the turn among all the households for grinding grain. However, in the normal season one can use the mill as and when needed.

Authorities

Two households, one as the Ghempa and the other as the Chhuwa are selected every year from among the Dhongba households to manage the agriculture, irrigation, and other community resources. However, in everyday language both of them are referred to as the Ghempa, the elderly one as the senior Ghempa and the other as the junior Ghempa. Both male and female can serve as the *Ghempa*. If a household holds two *Dhongba* then it has to serve as *Ghempa* twice in one rotation. Every year around late February or early March, a village meeting is called and people from all the *Dhongba* households gather in the courtyard of the school. The existing *Ghempa*s are required to prepare *Chhyang*, tea, and snacks for the attendees of the meeting. Naked barley for preparing *Chhyang* for this occasion is given

from the community fund. In the meeting, the record of all the fines collected in the past year, stock of the tools owned by the community, and any fund received from outside sources are checked. Then a pair of wooden dice are cast amongst the *Dhongba* households who have not yet served as *Ghempa* in the current rotation. The two households getting the largest numbers (total of two dice) become the *Ghempa*s. If there is a tie, dice are cast again until the tie is broken. New *Ghempa*s are offered *Chhyang* or tea and a little piece of butter is pasted on their forehead. Butter is also pasted on the rim of the jug through which *Chhyang* is poured. After the selection of the new *Ghempa*s, the previous *Ghempa*s are taken into the village monastery where they have to take oath saying that they did not do anything wrong knowingly, all the while holding the religious text on their head. They also have to sip *Chhyang* after oath taking. The box containing all the documents and records are taken to a house of one of the new *Ghempa* and another *Ghempa* holds the key. Seniority among the *Ghempa* is decided based on the age.

These *Ghempa* are responsible for arranging all the irrigation repair activities, setting the turn for irrigation, keeping straying animals from the fields, and managing all the community works. One activity that keeps them most busy is keeping animals away from the field. If animals are found straying in the field the owner is fined Rs 20 per head of the animal and if the animal is found straying in the night the fine is doubled. If animals are from outside the village the owner has to pay a fine of Rs 50 during the day and Rs 100 in the night. However if a villager finds animals of the *Ghempa*s straying in the field the *Ghempa* is fined twice the regular rate. If a villager (excluding the *Ghempa*) detains animals of another villager then the fine is not imposed. If one *Ghempa* finds the animals of another *Ghempa* then the fine is halved.

The *Ghempa* also fines anyone showing up late in the meeting. One *Ghempa* walks through the trail in the village crying out for the meeting in a loud voice. He also tells whether the meeting is to be attended by all the households in the village (*Mhepti*) or only by the *Dhongba* households. He cries out three times in quick succession and wait for five minutes and cries for the final time. He waits in a corner and people start showing up. After five persons have arrived in that corner the *Ghempa* starts keeping

time. Anyone who is late even by one minute (after five people have arrived) is fined Rs. 10. And for complete absence, one is fined Rs. 20. This rule applies only if a person is within a specified boundary, from above the bottom of the hill to below a mound lying just above the settlement. However, a person is exempted from this if one is watering the field, grinding grains in the water mill, or is sick. A *Ghempa* can call meeting at any time[32]. Women cannot cry out for meeting. If the only *Ghempa* present in the village is female then she has to ask another male member in the village to cry for the meeting. Two *Ghempa*s keep half of the fine collected for the whole year and half goes to the village fund. The amount is equally divided between two *Ghempa*s. In the year 2005, the two *Ghempa*s divided Rs. 400 each.

Repair and maintenance

Regular repair of the canal is done three times a year. First repair is done before sowing naked barley in November. As this repair is done after the rainy season, they concentrate mostly in the intake section, which is usually damaged by the increased flow in the rainy season. The second repair is more extensive as it falls after the winter season. The debris deposited by snowmelt is cleared. They also remove mud and silt from the reservoir during this repair. The third repair is done before sowing buckwheat in May. All of these regular repair works need two- day work, contributed in proportion to the number of *Chhyure* held by a household. Partners sharing a *Chhyure* set the turn among themselves to contribute the labor for the shared *Chhyure*. Sometimes, they hire labors, especially the skilled ones to work on the intake and for other technical works. They pay these labors in proportion to the number of *Chhyure* held. Contribution of labor for collecting materials like sand, cement is also done in proportion to the number of *Chhyure* held. The canal has become more stable now after the repair of 1993 and does not need any emergency repair, except the intake which needs emergency repair sometime. In old days, all the adult people between the age of 14 and 60 had to go to work during the emergency repair. In such

[32] In one occasion the *Ghempa* called a meeting at 12:30 in the night when a person staying in the village accused of illegal wildlife products trade was found to have fled.

cases proportional labor contribution was not followed. Each *Chhyure* had to bring one wooden sluice for the section along the cliff, mentioned earlier. Although they have rules of fine for absence from repair and maintenance of irrigation canal, such rules never had to be invoked as no household has ever been found violating such rules.

Labor contribution for repairing water mill and its canal is based on the number of households and not on the *Chhyure*. So is the case for repairing the drinking water system. However, the water mill and the drinking water system do not need regular repair every year. A woman's group called *Ama samooha* takes the responsibility of managing the water mill. The users do not have to pay any fee for using the facility. The pond for drinking livestock is cleared every year. All the households owning Dzos go together with the villagers of the nearby Chhuksang village to a distant pasture land to clear the debris from water holes. Other than minor offering of Chhyang, incense to deities near the Ching and the headwork no major rituals are performed.

Water management in Ghyakar

Agriculture

Agriculture is the main occupation of the village, although animal husbandry, especially goat rearing is also common compared to the Tsaile village. The agricultural land lies in two sections one above the settlement is called *Tong se* and the one below is called *Mong Se*. The Tong Se and the Mong se fields have an area of 8.1 ha and 14.4 ha respectively. This area also includes the abandoned land of three households who have left the village in the recent past. The whole field is fenced with 1.89 km long wall except where the top of the cliff on the northern and eastern side becomes the edge of the field. Above the agricultural field lies a big plantation area of 21.3 ha. Villagers have planted saplings mainly of Poplar with the support of different NGOs.

In the last 25 years, the agriculture system in the village has undergone a major change, with the most important change being the conversion from single cropping to double cropping. They used to rotate

wheat and buckwheat in two fields every year and keep the field fallow for remainder of the year. After introducing naked barley 25 years ago, they shifted to growing two crops a year, which has greatly helped to mitigate the food deficit of the village. Now naked barley has almost completely replaced wheat.

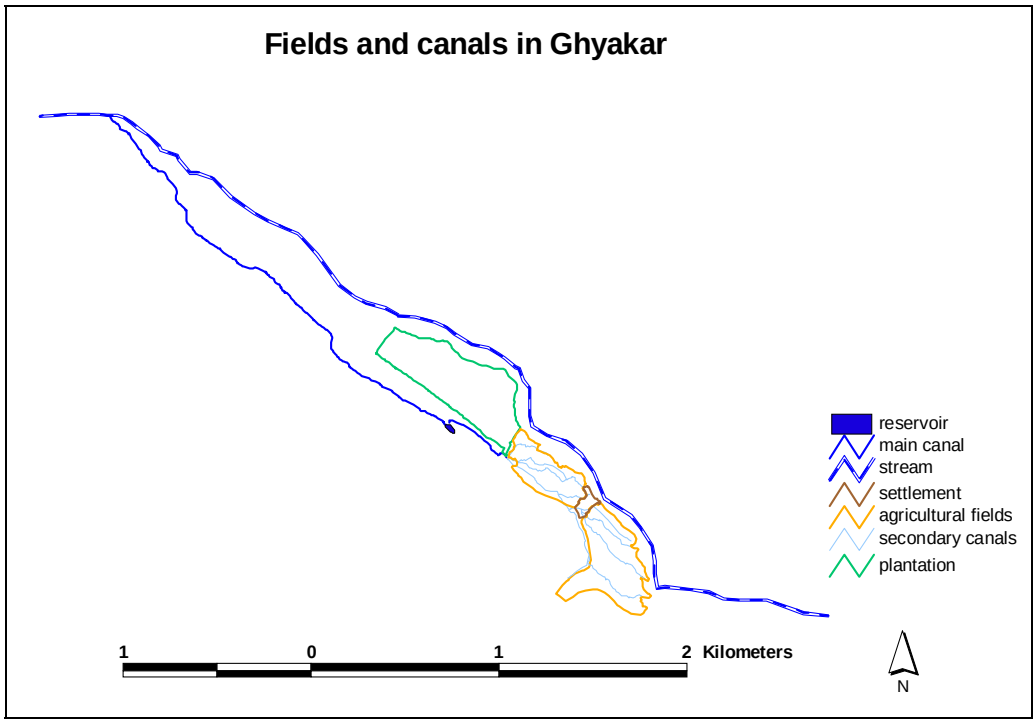

Figure 5.10 Fields and canals in Ghyakar village

Naked barley is favored for its easiness in harvesting, and for preparing better quality *Chhyang*. Now naked barley is sown in two phases to spread the risk of crop failure so that even if one crop fails another crop would rescue. This way, they can also spread the critical water requiring period. In the first phase, it is sown in November and the second phase sowing is done in February. Barley and rapeseed are grown in grown in smaller areas in February. Some farmers sow wheat in a few plots. After harvesting winter crops in June buckwheat is sown. Corn and beans are grown in smaller areas as summer crops. In the potato fields only one crop can be grown in a year. However, the large yield of potato compensates for almost a season of fallow. Until a few years ago, they used to grown garlic in larger area. However owing to the

fear that the village deities dislike garlic and bring bad omen to the village, the area under garlic has been greatly reduced in recent years. Most of the households have small fruit gardens near the settlement. They grow apples, apricot, and walnut in these gardens. Vegetables like cauliflower, cabbage, Swiss chard, squash, radish etc. are also grown in these gardens.

Water source and canals

The village's only source of water for irrigation, the Ghyakar Khola, is shared with Tsaile village. However, the point of diversion of the canal is at much higher elevation at 4,068 m msl just above the point where two smaller streams meet to create the Ghyakar Khola. The water remains frozen through the winter at this elevation until late March. The intake can be reached after a tough climbing for more than two hours from the village. From the point of diversion, the water is passed through a 2.85 km long canal to a water reservoir located just above the village. Upper section of the canal is either lined or pipelined. In the lower parts of the canal-- which is mostly open-- it is stone paved on the three sides. From the reservoir water is passed through another 850m long canal to a point near the settlement where the canal is split into five secondary canals to irrigate the lower, *Mong se* field. The upper field *Tong Se* is irrigated with 3 secondary canals (Figure 5.10).

Long before any development agencies extended their activities in any part of the upper Mustang region, a major rehabilitation of the canal was done with the support of the Khampa guerrillas, who had established their camp in Chhumbak, some 3.5 km South of Ghyakar. They also had established a medical unit above the village. Ruins of the camps are still found today. They volunteered to rehabilitate the canal around 1965[33], probably in their attempt to win local favor. Some one hundred of them worked for about a month for free to rehabilitate this canal. They widened the canal breadth near the headwork and lined

[33] Informants said that Guerrillas helped to rehabilitate the canal after 5 to 6 years of arrival. So the year is approximated to be around 1965 which could be off by a few years.

the canal in lower sections with stones in the three sides[34]. This stone lined section is very much intact today and very little water leaks in this section. Local people used to give a few drums of *Chhyang* to the Khampa guerrillas every few weeks and they also gave a couple of old Dzos for meat. Prior to this, the canal was earth lined and would easily breach whenever there is overflow on a sunny day.

This canal was again rehabilitated in 1978 with the support of the Hill Agriculture Development Program (HADP). A few hundred meters section of the canal below the intake was pipelined with 150 mm diameter pipe. As sufficient water was not coming to the village continuously even after this rehabilitation because of the frequent breaching of the intake, a village representative went all the way to Kathmandu to request the expert of the HADP who had visited the village during the rehabilitation. The expert came again to the village to find out the problem, and after returning to Kathmandu sent polythene pipe for pipelining the intake section. But this time, they gave 100 mm diameter pipe. So, although the lower main section could carry much water in the larger pipes installed a few years ago, the intake had smaller pipe. This anomaly can still be found near the intake.

In 1984, Tsaile, a downstream village entered into a long-lasting dispute over water sharing with Ghyakar by destroying the canal headwork of Ghyakar village. While the dispute kept on, villagers repaired the headwork and continued diverting water from this source for irrigation. The headwork was again rehabilitated in 1993, with the support of CARE Nepal which further aggravated the dispute between two villages. This dispute is discussed in detail in the next chapter.

In old days, the reservoir was farther away from the village. The present reservoir is at 850 m distance from the settlement. It has an area of 1250 square meters with an average depth of about 2.5 meters. A big tall mound of red clay in southeast corner of the reservoir is considered the residence of the deities for irrigation and thus the reservoir is considered holy. A few large juniper trees stand along the boundary of the reservoir near the inlet and outlet. The reservoir is earth lined except in a small section

[34] These Khampas seem to have been involved in farming actively. A large tract of abandoned land, with a large water reservoir can still be found in Chhumbak. Local people say these Khampa carved out an irrigation canal for this land through a steep rock with great difficulty. The irrigation canal is still there.

near the outlet which has a concrete structure. The CARE- Nepal has installed an outflow control valve for controlling water flow. The reservoir remains dry through October to March as the water at the source remains frozen. After the irrigation season begins, water is stored in the reservoir and released only on alternate days for a day as the incoming water does not fill the reservoir in one night. However, during rainy season when the water flow increases in the canal significantly, water is stored only in the night and released every day. Only the *Ghempa*s are allowed to open and close the water flow from the reservoir. So a person who has the turn for irrigation requests the *Ghempa* to release the water in the morning. In the late afternoon or in the evening the *Ghempa* again closes the reservoir.

The source for drinking water lies on a very steep slope about 4 km away from the village at an altitude of 4,128 m msl in a land traditionally owned by the Chhuksang village. The villagers were allowed to use this source in 1992, for which they also gave Chhuksang villagers a water source originating in their land. Although the source is at high altitude, it does not freeze for long in the winter as it is in the sunny side of the hill. The water is passed through 25 mm polythene pipe all through out the length interrupted by a series of break pressure tanks. Until 2005, the pipe was passed through a shadow side of the hill and water would freeze all through the winter and people had to go to the Ghyakar stream to fetch the drinking water. They changed the alignment at the end of the year with the support of the District Development Council and the drinking water is now available all through out the year. There is one small pond in one corner of the village for drinking animals. This pond is filled with water from the irrigation canal.

A traditional water mill has been installed along the irrigation canal between the settlement and the reservoir, so the mill can be operated at the same time while irrigating the field. Until a few years ago, there were two such mills installed near the stream but they are not operated anymore.

Water allocation

Water for irrigation is allocated based on the crop type and the number of *Chhyure*, the water shares held. The village meeting decides which crop is to be irrigated in a given time. Naked barley is always irrigated first followed by other crops. Once the crop to be irrigated is decided, the turns of individual household for irrigation is decided by casting a pair of dice based on the number of *Chhyure* held by a household. There are 18 *Chhyure* in the village, and each day of water is allocated to three *Chhyure*. Only one household holds 3 *Chhyure* and the rests hold less than three *Chhyure*. These households are grouped into smaller groups so that each group has a total of three *Chhyure*. Unlike in Tsaile, where a household could be a member of only one water share group, here a household could be a member of more than one group. In other words, a household's *Chhyure* could be split into two groups. The table 3.3 shows that some households belong to more than one group.

Table 5.3 Distribution of water shares in Ghyakar village.

Group	Household	Number of *Chhyure*
1	A	1.5
	B	1.5
2	C	1.5
	D	1.5
3	E	1.5
	F	1.5
4	G	1.5
	H	1.0
	I	0.5
5	G	0.5
	J	1.0
	E	0.5
6	K	3.0

Although there are very few cases of buying land, a person does not get additional water share for the land bought. He has to cultivate the newly acquired land with the existing water share. This is an important deterrent for land accumulation even if one can afford to. Altogether there were 21 *Chhyure*s before three households left the village. A person cannot give its *Chhyure* upon leaving the village if its

land is not cultivated by somebody else. If someone decides to return back, which has not happened yet, one has to pay its share for all the work done on canal during his absence. These *Chhyure* were allotted by their forefathers and have remained the same.

The naked barley sown before the winter is not watered in winter as there will be sufficient moisture in the ground through snowfall. And even if there is not sufficient moisture, the crop cannot be irrigated as the water remains mostly frozen. November- sown naked barley is watered first followed by February-sown naked barley. A household cannot irrigate the February –sown naked barley-- even if there is water in its turn-- before everybody else in the village has watered the November-sown crop. This rule follows in every cycle. Naked barley is followed by barley, mustard, and potato. In the summer, the buckwheat crop is irrigated first followed by the corn. If some households cannot water all the plots in one turn, dice are again cast to set the turn among the households that have unfinished plots. Once all the plots are irrigated dice are cast again to decide the turns for the next rotation. If there is sufficient water supply, naked barley is watered four times. A household does not have a choice of which crops it wants to irrigate during its turn. For example, if the turn is for naked barley one has to apply water to naked barley and not on fruit gardens. This rule is strictly adhered to and monitored during the irrigation of naked barley and buckwheat. However, it is not strictly monitored in the case of other crops. Fruit gardens are watered between the irrigation cycles of the cereal crops.

Authorities

A *Ghempa* and two *Chhowa* are selected every year to manage community works in the village. The Chhowa are like assistant *Ghempa*s, and are also commonly referred to as the *Ghempa*. These three officials are selected in a village meeting by casting a pair of dice. Such a meeting to select the Ghempa is called before the onset of the winter when the people have not yet begun to leave for winter sojourn. Dice are cast only among the 11 farming households who have not yet hold the post in the current cycle. However, this rule has some qualifications. If a household does not have any adult male (between the

ages of 14 and 60) it dose not have to hold the post. Similarly, if the headman of a household has died in the last three years, it is also exempted from holding this post. In the past, presence of the eldest son of a family who holds the post was required in the village all the time. Due to the difficulties most of the households faced with this rule, all the villagers agreed to change the rule four years ago and now any adult member of the family can serve as the Ghempa in lieu of the absent eldest son. After this change, a woman can work as a proxy *Ghempa*.

Although the new set of authorities is selected well in advance before people start their winter sojourn, the change over of the responsibilities formally begins on an auspicious day decided by the *Lhewin*, a priest from the monastery in Chhuksang. On the auspicious day three *Ghempa*s go to the monastery in the village and one of them cries from the roof of the monastery facing a particular direction advised by the priest informing all the villagers of take over of the responsibilities by the new set of authorities. In the evening only three of them feast. If any one of them cannot attend this inaugural ceremony he may ask someone to represent him but has to pay the proxy a fine of Rs 1,500.

The *Ghempa*'s main responsibilities are to keep the straying animals away from the fields and to manage the irrigation system. If any animals are found strayed in the field they have to immediately detain the animals. Prior to the construction of the fencing wall problem of crop depredation by animals was severe. The owner of an straying animal has to pay a fine of one *Pyang*. However, the fine doubles if an adult person in the village detains *Ghempa*'s animals. The *Ghempa* are also responsible for calling any village meeting by crying. The late comers are charged a fine of 1 Pyang grain. However, if the meeting is for casting the dice for deciding the irrigation turn, such a fine is not charge. The late comer will get the last turn.

Disputes for water use within the village are not common. The most common types of dispute arise when a partner of a share-group (of *Chhyure*) uses more water than another partner. If someone uses water out of one's turn a heavy fine of one *pathi* of grain is imposed for each plot of the land irrigated out of turn. If water is not used properly or allowed to spill away fine is imposed on the defaulter.

All the fines collected become the remuneration for the *Ghempa*s. Fines and the Phutok are collected twice a year after each harvest. After winter harvest Phutok and fines are paid in naked barley and after summer harvest fines are paid in buckwheat. In addition to the fine collected, the Ghempas are each paid 15 *pathi*s of grain every year from the community fund. Individual household also pay a fee of one *Pyang* grain to each of them for one *Chhyure* of water.

Villagers appoint two households to manage the water mill, who are called the 'friend of mill'. The turn is fixed by rotation among the households. The 'friend' has to help to carry the grains to the mill and then flour back to the house. The 'friend' also has to carry the lunch for the person grinding the grain in the afternoon. For their service 'friends' are paid 1 *pathi* of grain for every 30 *pathi* of grain grinned. However, they also have to pay Rs 20 each annually to the community fund.

Repair and Maintenance

The first regular repair of the canal is done in March for three days. Every adult person in the village, irrespective of the number of Chhyure held by a household, has to go for this repair of the canal. However, foods for this repair are paid by individual households according to the number of *Chhyure* held. All the households have to give rice for food during canal repair as it is the most favored food. For other normal repairs, labor is contributed in proportion to the number of *Chhyure* held b a household. Labor contribution for drinking water, water mill repair if required is based on the number of household and not on the water share. Similar to Tsaile, no one has been found to default from contributing labor for canal repair.

Rituals

They perform a worship called *Lhapsang* every year near the source of the canal, reservoir, and two more places to pray for good water flow. Another important worship called *Pholokoro* is performed at the base of a Juniper tree near the canal source. All the adult persons were required to attend this

worship in the past, however, this requirement has been eased now. Each household contributes grains for performing these rituals. *Chhyang* for these worships is prepared from the village fund.

Water management in Dhee

Agriculture

The village's location at lower elevation at 3,407 m msl allows double cropping here. Naked barley is planted in November/December and harvested in June. Immediately after harvesting naked barley, an early maturing variety of buckwheat is sown. The buckwheat grown in this village matures in 80 days compared to other villages where normally it takes 90 days for the crop to mature. In the summer season other crops like a local variety of radish called Lu, turnip, bitter buckwheat, and wheat are also grown. Wheat, bitter buckwheat, and turnip are grown largely for livestock. As the climate is relatively warmer, they also grow fruits like apricot, apple and some vegetable crops. However, only the Dhongba households own these own these fenced gardens.

Most of the agricultural land lies in a single block of 7.6 ha below the settlement. Another smaller parcel of agricultural land of 1.7 ha lies north of the settlement. A few small fenced gardens for growing fruits and vegetable occupy an area of 0.6 ha. Only the Dhongba households own these fruit gardens called, the Vikas. Tree plantation, mostly of willow and Chinese poplar, are along the banks of the Mustang Khola and occupy an area of 2.2 ha (Figure 5.11). These trees were planted with the support of NGOs like the ACAP, CARE-Nepal.

Unlike most other villages of upper Mustang, where no outside persons own land in a village, a household from Surkhang-- a village at half-an-hour walking distance-- own land in this village. This household, a Dhongba, is also included in the water schedules and the turns to become the Ghempa of the village.

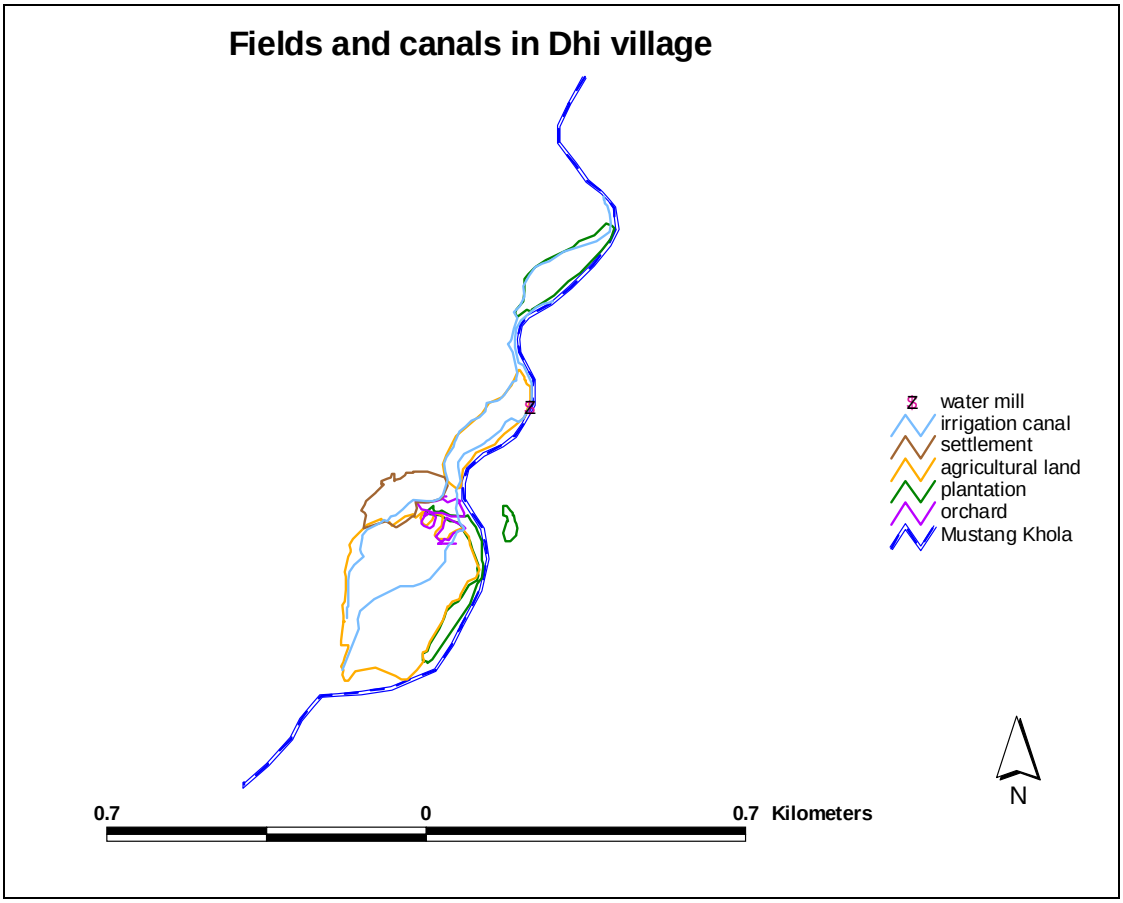

Figure 5.11 Fields and canals in Dhee village

Water source and canals

The only source of irrigation water for the village is the Mustang Khola, the main tributary of the Kali Gandaki river. Two canals are diverted off this stream from a very narrow section encased between vertical cliffs. Writing about the difficult terrain through which these canals pass Peissel in 1964 observed that:

> I had, of course, plenty to do, including being obliged by the local duke to risk my life climbing along a cliff to see where a man had just been killed working on the most remarkable system of irrigation canals I had ever seen. These canals followed for miles a small aqueduct along the sides of the vertical cliffs encasing the Kali Gandaki river (Peissel 1967:298).

Although this observation seems to have exaggerated the length of the canals, it truly reflects the feature of the terrain through which the canals pass. The water level starts rising from April/May when the snow starts melting on the mountain peaks. Almost every year, the headwork of the canals, especially that of the upper canal, is swept away many times by the flood from June to September. The water on the stream has a high load of silt and sand and thus the canals are frequently filled with silt and sand. The Mustang Khola is also the source of water for running a water mill for grinding grain. A small spring, the source of drinking water lies about 2 km away from the village on a cliff which is also very difficult to access.

There are two irrigation canals, running almost parallel to one another, which service all the fields of the village. The upper canal, called the Hyurangya is 1.3 km long and passes through a vertical cliff. Near the headwork, the canal runs through a cliff for more than a hundred meter. People have to literally crawl and prostrate themselves while working on this section of the canal. Some difficult sections of the canal have been now pipelined, where water used to be passed through a series of wooden sluices in the past. Prior to the construction of the lower canal, called the Hyuro, some 40 years ago, this upper canal used to be the only irrigation canal. Several agencies such as the District Development Committee, the CARE-Nepal, the MRMG, the ACAP have provided support at different times to rehabilitate this canal. Although a large section of the canal is stable now through these rehabilitation works, the topography near the headwork does not allow construction of a permanent headwork, and it is frequently swept away. For some years in late 1980s, the District Panchayat also provided two generators and kerosene to run these generators for lifting water from the stream when the canal could not be repaired. However, such measures could not last long.

The headwork of the lower canal is in a much gentler and wider area and it does not pass through as difficult section as the upper canal. The lower canal runs 1.1 km length and has a larger water flow than the upper canal. A man died while constructing this canal, and as a tribute to his contribution his

grandson is now given the first turn to irrigate the field through this canal. Some sections of this canal have also been pipelined through the support of the CARE Nepal and the MRMG.

Water allocation

The irrigation water is allocated only to the fourteen Dhongba households. The Farang Marang households and Ghenchang cultivate only a few plots of land given to them by their Dhongba relatives, and they get access to water only through these Dhongba relatives in their turns. In order to get the turn for irrigating however few plots they cultivate, the Farang Marang wait until their Dhongba relatives have finished irrigating their plots. Among the 14 Dhongba households, water is allocated for a fixed time of three days and nights for the upper canal and two days and nights for the lower canal, in a fixed order that has remained the same. The order of the turns is different for two canals. In the case of the upper canal, there are two sets of two households who swap the turn among themselves every year. If a household finishes irrigating the plots before the allotted time, the next household on line gets the turn. Usually, all the households finish irrigating their plots before the allotted time. A household can irrigate any crop or field it wishes, including fruit trees and vegetables during its turn.

Although the field is not spread over a long length to create a situation of differentiating cultivators into head-enders and tail-enders, the system of ordering of the turns creates head-enders and tail enders temporally. A cultivator at the bottom of the rotation gets the turn almost a month after the cultivator at the top of the rotation irrigates his field. The problem aggravates more in the case of buckwheat crop because of its short duration. Those cultivators at the rear end of the rotation quite often can irrigate buckwheat only once whereas those in the front of the rotation can irrigate their crops at least two times. The problem for the tail-enders is much severe in the case of the upper canal which has comparatively less water flowing in the canal and the turns for water change only after three days. Until 25 years ago, a Dhongba household would get a turn for six days, which created a serious conflict between the head-enders and the tail- enders. To protest this unjust allocation of water, year after year,

some of the tail-enders refused to contribute labor for emergency work when a big mound of clay fell on the headwork. As the buckwheat crop started withering for lack of water, the case was reported to the Raja of Mustang, who intervened and changed the rules of water allocation. As a result, since then a household gets water for three days only. Some fifteen years ago, a few tail- enders again requested the Raja to change the fixed order of rotation, so that tail enders also could get the turns at the beginning, but their request was turned down. Some people in the tail-end claim that the head-enders are powerful people in the village so it is difficult to change the system against their wishes.

Selection of the authority

Two Ghempa are selected every year from among the Dhongba households. In a village meeting held around November and attended only by the Dhongba households, a pair of dice is cast among the households who have not yet become the Ghempa in the current rotation. After all the households have finished serving one term, a new rotation begins. These Ghempa are responsible for calling meetings, collecting fines, record keeping and managing all the agricultural, irrigation activities and other commons. Although the Ghempas are responsible for all these activities, all the Dhongba households take part in decision making process and settling any disputes. The Ghempa although respected, is not considered someone who is above them. Any issue that cannot be tackled at the community level is referred to the Raja, who is the Ghempa Chhe of the village. The villagers have to pay the Raja 10 pathi of fine quality naked barley. Every year, after harvesting of the naked barley crop, the Ghempas personally have to go to the palace to offer this honorarium to the Raja. This grain is paid from the community fund. No other persons are appointed to any other post in the village.

This village jointly works with the Surkhang village in activities like the repair of water mill and its canal, construction and repair of bridge, and in celebrating some rituals. The villagers have leased out the water mill to a powerful member of the village for an annual rent of Rs. 1,000.

Repair and Maintenance

Amongst all the villages studied, the irrigation canals here need frequent repairing. The canals are fed by a large stream which often floods between June and September. The headwork of the canals, especially that of the upper canal is swept away almost every year, and many times in a year. The location of the diversion point does not allow it to be shifted to a different place or construct it in a permanent manner. Moreover, the heavy load of silt and sand on the stream water fills the canals frequently requiring clearing of the canal work many times a year. Most of the canal repair is required during the crop growth period of buckwheat. Under normal minor repair, only the Dhongba households contribute labor for repairing these canals. However, major repair works are very common and all the households, including Farang Marang, have to contribute labor. Labor contribution of an individual household for canal repair is based on the number of family members aged between 14 and 59. A household has to contribute labor not only for those family members who are present in the village but also for those who are away from the village in business or foreign employment. Students, monks, and the sickly people are exempted from this compulsory labor contribution for canal repair.

A household has to find a proxy for its absent family members for canal repair or pay a fine. The table 5.5 shows the discrepancy of proportion of land owned and labor contribution between the Dhongba households and Farang Marang households. Although the number of labor to be contributed by different households, for each day of work, ranges between 1 and 4, it is not in proportion to the land held by an individual household. All the Farang Marang households hold very small area of land compared to their Dhongba counterparts, yet the number of labor contribution per day of work is more or less equal. The difference in labor contribution in terms of landholding become enormous when the total number of days spent on canal repair is taken into account. In the year 2005, the villagers spent 35 days on canal repairing, and this was not an exceptional year as far as canal repair is concerned. Farmers reported that almost every year they work for a month or more on these canals.

Figure 5.12 A section of the head-work of the upper canal along the Mustang Khola

Since almost every household has one or more members away from the village, in a given day, the number of people working on the canal is much less than the total number labor to be contributed. The number of people working on a canal on a given day depends on the rules of fine, which in turn depends on the urgency of the work. Normally, a Dhongba has to pay a fine of 1 pathi of grain, and a Farang Marang half of that, for being absent from the work. However, the rate of fine increases with the urgency of work, and it reaches as much as 3 pathi of grain per day. When the rate of fine is high, people request their relatives and friends from other neighboring village to work on the canal. In the year 2005, the total amount of fine paid by all the households for being absent from work on the canal repair was 232 pathi (about 900 kg) of grain. Large portion of grains thus collected is used to prepare *Chhyang* for community feasts.

Although, the Farang Marang resent such an iniquitous labor contribution for canal repair, the Dhongbas skirt such resentment claiming that being a member of the community requires the Farang Marang to contribute the labor. The Farang Marang get equal access as the Dhongbas to other resources

like pastureland, and tree plantation. Normally, during canal repair, the Dhongba households provide food for all those working on the canals.

Table 5.4 Landholding, labor contribution, irrigation turn in Dhee

SN	Household	Category	Landholding (ropani)	Labor Contribution(no of persons /day)	Turn for irrigation	
					Upper canal	Lower canal
1	A	Dhongba	21	3	6	3
2	B	Dhongba	23	3	2	2
3	C	Marang	2.5	3	-	-
4	D	Dhongba	8	2	10	11
5	E	Dhongba	36	2	4	1
6	F	Marang	0.5	1	-	-
7	G	Farang	0.5	3	-	-
8	H	Dhongba	18	3	5	7
9	I	Dhongba	11.5	3	11	10
10	J	Dhongba	8	2	-	12
11	K	Dhongba	15	2	7	8
12	L	Dhongba	21.5	2	8	4
13	M	Dhongba	19	3	9	9
14	N	Farang	2.5	1	-	-
15	O	Marang	0.5	1	-	-
16	P	Dhongba	17	2	3	5
17	Q	Ghenchang	3	-	-	-
18	R	Ghenchang	3.5	-	-	-
19	S	Dhongba	17.5	4	1	6
20	T	Farang	0.2	2	-	-
21	U	Farang	0.7	3	-	-
22	V	Farang	1.5	2	-	-

The landholding size of households was obtained from the VDC secretary

Rituals

Although the planting of naked barley in November marks the beginning of the new agricultural season, at least, in agronomic sense, the Shakaluka celebrated after celebration of the Tibetan New Year in February marks the beginning of new agricultural season ritually. The Shakaluka is not celebrated as elaborately as in Lo Monthang. Women dressed in their best carry a basketful of manure on their backs to the field and sow seeds on the Shakaluka. After the celebration of the Shakaluka, until the harvest of

summer crops in October, they perform four other worships related to agriculture and water management. The monks from the Tsarang monastery perform two rituals called the *Jhekchag*, and the *Salodholo* to protect crops from insect. The monks from the Luri Gonpa, a Kagyupa sect monastery, perform a ritual called the *Chye.* Expenses for these rituals are borne from the community fund and the Ghempa is responsible for organizing these rituals. In another ritual called the *sui,* three elderly women go to a pasture land called Amgha for three days before the harvesting of naked barley. After worshipping there for good harvest they return back to the village and dance near a Chhorten, a worshipping place in the middle of the field. Other males and females also participate in this ritual. These are the only rituals performed in relation to agriculture and irrigation. They do not have their own monastery in the village.

Water management in Ghiling

Agriculture

Wheat, naked barley, and buckwheat are three major crops grown in three- year rotation, in three agricultural fields, all of them running parallel to one another along the slope. These three fields known as *Le Chhuimi, Lho* and *Dhong* have an area of 19.93 ha, 20.4 ha, and 35.7 ha respectively, and are separated by lines of trees (Figure 5.13). Along these separations run the secondary irrigation canals and trails to the fields. There are a number of subfields known with various names within these major fields. In a given year, one crop is grown in one field. For example in the year 2006 buckwheat was gown in Le Chhuimi, naked barley in Lho, and wheat in Dhong. The standard sequence of rotation is buckwheat -wheat-naked barley.

This sequence is adapted to suit the manure requirements of the crop. Naked barley is the most manured crop followed by wheat. Buckwheat is never manured. Wheat gets manure only if there is any manure left after applying for naked barley. Since many households keep large flocks of Himalayan goat, manure supply is comparatively better and no chemical fertilizers have been used yet in the village. It is

believed that the residual effect of manure applied for naked barley would suffice the nutrient requirements of buckwheat.

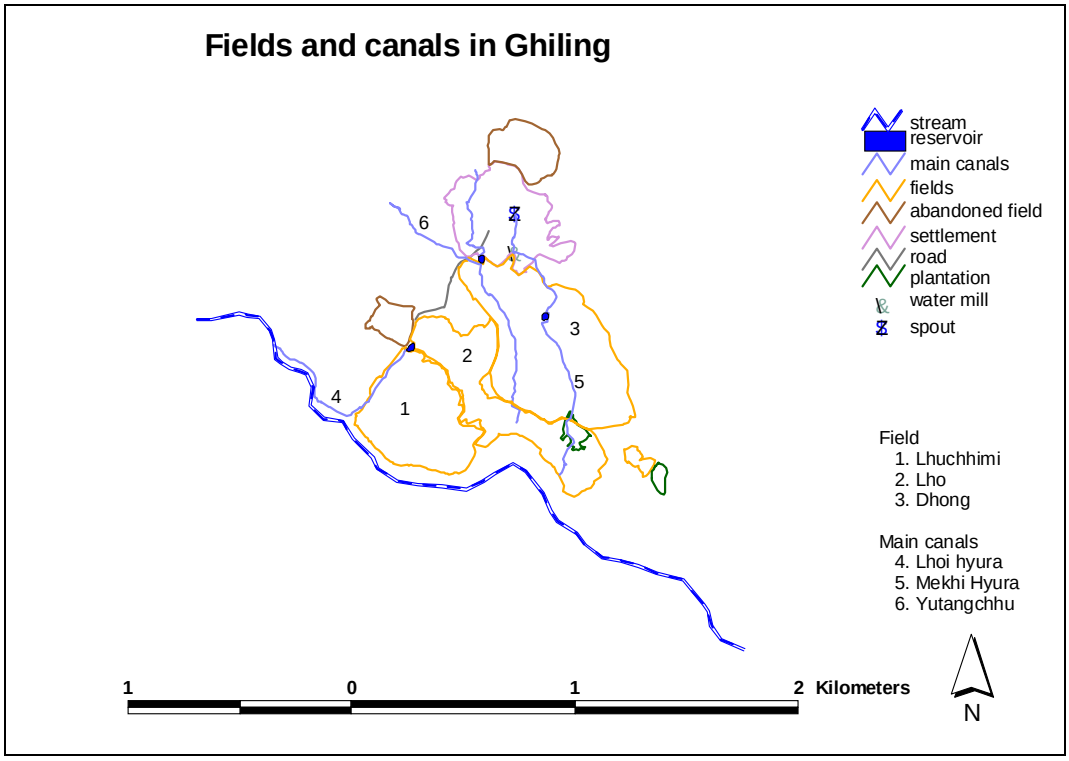

Figure 5.13 Fields and canals in Ghiling village

This also reflects the social status attached to different crops. Naked barley and wheat are preferred crops. Naked barley is sown earlier, followed by wheat in February/March. Buckwheat is sown in June and harvested later than other crops. This temporal variation in crop maturity helps people to spread the labor supply, especially during harvesting.

Other minor crops like potato, radish, and pea are also grown. These crops are usually grown in the same field as buckwheat. However, potatoes are grown usually near the homesteads. This village is renowned for potato production both in terms of quality and quantity in the whole upper Mustang. Over the years, the purpose of potato production has shifted from home consumption to commerce.

Water source and canals

The main source of water for irrigation in Ghiling is Tamagang Khola, a snow-fed stream. This stream feeds water into 1.1 km –long *Lhoi Hyura*, the main canal that irrigates bulk of the cultivated area. Although surrounding areas of the village are dry, there are many smaller water sources originating in the village itself. A small channel of water called Yutang chhu flows from just above the village and irrigates middle section of the field. Several small water springs emerging in the village feed another canal called Mekhi hyura (1.44 km) at the lower section of the village. These springs emerging in the village feed water spouts, the source of drinking water. Several development agencies such as the District Development Council, the MRMG, and the CARE Nepal have provided financial and technical supports to upgrade *Lhoi Hyura*. The headwork has a good retaining wall and the canal near the source is lined whereas its middle section has polythene pipes. These polythene pipes although used in the carved out section in the cliff, have not been joined properly in some sections.

This canal feeds a large water reservoir called *Jhuin.* During the crop growth period, water is stored in the reservoir every night and released the following morning to irrigate the fields. Stored water, when let out, lasts about 6 to 9 hours depending on the level of water flow in the canal. This reservoir has lined wall on outer faces. A major improvement work was carried out with the support of MRMG. There are a few large Juniper trees near the outlet of the reservoir. At the base of the trees are images of deities where people perform a worship every year. There are other two smaller water reservoirs one near the village fed by *Yutang Chhu* and another below the village in the middle of fields fed by Mechi Hyura. These two reservoirs are earth lined and not as large as the first one. Separate fields are irrigated by the reservoirs and the canals. Every evening around five or six o'clock water from canal is diverted to the reservoir and stored.

Water allocation

For the purpose of water allocation and selection of authorities, all the households in the village are divided into four groups called *Chhyo.* These four *Chhyo*s are *Sa Tang Te, Sa Tang Me, Jha Tang Te, Jha Tang Me.* The grouping of a household in a given group is permanent and it has been practiced since long. However, this classification is not a spatial grouping in the village. The number of *Dhongba* and *Farang/Marang* households in these different groups is shown in the following table 5.5

Table 5.5 Number of households in different irrigation groups in Ghiling

Chhyo	No of *Dhongba*	No of households with 2 *Dhongba*	No of *Farang/Marang*
Sa Tang Te	12	3	3
Sa Tang Me	12	1	7
Jha Tang Te	13	2	7
Jha Tang Me	9	0	3
Total	46	6	20

As shown in the table, altogether six households hold 2 *Dhongba* each, so the total number of households is 60. Although Farang Marang households are excluded from holding any post in the village council for the management of water, all households, whether Dhongba or Farang Marang, are included in the water schedules. Every year after the completion of the first regular repair of the canals and the reservoirs, dice are cast among these four *Chhyo*s to decide the turn for irrigation. All the plots within a field are allotted water either from the canal or from the reservoir, but not from both. If the layout of feeding channels in the field allows a plot to be irrigated from either of the sources, the owner has to choose from which source one wants to irrigate. Once decided one cannot switch to another source. So if a plot is to be irrigated with the reservoir water, one cannot irrigate with the canal water even if it is available, and has to wait until one gets turn to irrigate with the reservoir water. The dice are cast to decide which *Chhyo* gets first turn to irrigate with the canal water and which one gets with the reservoir

water. The *Chhyo* which gets first turn to irrigate with the reservoir water will be the last one to irrigate with the canal water and vice versa. In a given day, two *Chhyo*s will be irrigating, one from the reservoir and another from the canal. Usually, the reservoir water does not last all day and the irrigator has to wait until the following day to irrigate the fields.

Within each *Chhyo*, households are arranged in a fixed order for irrigation, which remains the same year after year. Once a household gets its turn, it gets water as long as it takes to irrigate all the plots in a given field. Just before finishing irrigating one's plots the next household on line is informed to take over the turn. Since the turns are set for households which do not necessarily have plots contiguously, the principle of contiguity is not followed. The amount of water a household gets is directly dependent upon landholding size.

The *Ghempa* decides the timing of irrigation for each of the three major crops. Since a particular crop is grown in block in one of the three fields, one field is irrigated completely before moving to the next. Minor crops like potato, radish are irrigated when the major crops in the adjoining plots are irrigated. There is not a separate turn for these minor crops. Sometimes, a household may be allowed to grow naked barley in the wheat field if the plots where naked barley is supposed to be grown are not fertile enough. In such cases, naked barley is irrigated at the same time as wheat. Wheat and naked barley have similar growing period and both mature after about 145 days. Buckwheat matures in about 90 days. During the last irrigation of buckwheat, since both naked barley and wheat would be ripened and do not need irrigation, the water availability increases. Farmers thus do not follow any turn around this time. Naked barley, being the most preferred crop, is irrigated about 5 times whereas buckwheat is irrigated only three times. Water scarcity is felt mostly before the onset of monsoon season.

This fixed rotation of the turn within a *Chhyo* was set some sixteen years ago. Prior to that, no turns used to be set and whoever goes first to the canal or the reservoir in the morning would get the water until he or she finishes irrigating all the plots. Sometimes, people would stay all night near the water source to secure the turn in the morning. Once a person got hold of the turn this way, the next person

would have to ask him to be the next on line after the first person finished irrigating. However, quite often, once a person got hold of the turn he would give the turn to his relatives even if another person comes to ask for water before his relatives. Fighting for the turn to irrigate was a common scene. To overcome this distribution problem they together with the chief *Ghempa,* Raja devised a system of rotation among *Chhyo* and households. A rotation among households within a *Chhyo* was fixed which has been followed ever since. The rotation among different *Chhyo* is set each year by casting dice.

Repair and Maintenance

The canals are repaired every year at the beginning of the second month of Tibetan calendar[35] before planting begins. In the evening before the regular repair begins the *Dhurappa* (described later) cries from a raised place in the village that the canal will be repaired the following morning. The following morning again two *Dhurappas* yell the name of each household head and a person from each household has to come. If someone comes late *Dhurappa* are authorized even to whip the latecomer, which they do not resort to. Both adult male and female can go for such works. On the first day of repair, the village priest and the *Ghempa* worship at the diversion point with juniper incense and butter. After the worship they clear the canal, refix the bunds, linings. In the evening all the people gather at the village community hall and discuss about the rules for the whole year. Although the rules usually do not vary in different years, dates for various agricultural activities and amount of fines etc. are announced in this gathering. They also announce in this gathering that from which day they cannot use sickle to cut grasses in the fields, and how many days will be allowed for carrying grasses, harvested straws, and grains. They also discuss about how far water from different sources could be taken in case water level decreases in a

[35] Calendar is not strictly followed in repairing of canal. It is done usually two weeks before sowing naked barley in the month of February. The Tibetan calendar, sometimes, has 13 months in a year.

particular source. Usually, they clear all the canals in two days, and another two days are spent on clearing silts debris from the reservoirs. The casting of dice for selecting the turn for each of the *Chhyo*s is done during repairing.

The canal is not weak and normally does not need any repair work after the first regular repair. However, if the canal breaches anytime during the crop growing season all the villagers go to repair. Labor contribution for repair is not proportional to the landholding size. In the case of *Dhongba* households, one household contributes one labor for each *Dhongba* held. If a household holds two *Dhongba*s it has to contribute two labors. In the case of *Farang Marang* one household contributes one labor a day for such repair work.

Authorities

The village has undergone many changes in different times in institutional arrangement of water management. Under the current system, the village council responsible for the management of agricultural activities, irrigation, and other commons comprises of one *Ghempa,* two *Ngiwa,* one *Dhungi* and two *Dhurappa*. The *Ghempa* is the chief who decides on cropping calendar, timing for irrigating crops, settling disputes, management of other community resources like forest, pasture land, community land etc. The two *Ngiwa*s work as assistants to the *Ghempa*. The *Dhungi* is responsible mainly for keeping the record of all the expenses and income of the community. He has to keep the record of expenses for performing various worships and rituals, expenses for canal and reservoir repair and maintenance, income from fines, collection of crop share called *Phutok* for community land etc. The *Dhurappa*s are the crier for the village to hold meetings or other village gatherings. A member of the Bista family from Chhoser, one of the most northernmost villages in the region serves as the *Ghempa chhe,* the higher external authority of the village. This arrangement was started two years ago.

The posts of the Ghempa and the Dhungi are swapped by two households every two years. The current *Dhungi* takes up the post of *Ghempa* after a two- year term and *Ghempa* takes up the post of

Dhungi. These are the only two households in the village called *Ghyawa Dhongba*, a hereditary senior *Dhongba*. Locals claim that their grandfathers were accorded these titles for their community services. The current *Dhungi* claims the title was given by the royal order of the Mustang Raja whereas the *Ghempa* claims the title was given by the villagers for his contribution as a priest of the village. As *Ghyawa Dhongba*, they are entitled to tether one of their horses in a meadow surrounded by cropping fields even during the crop growing season. For all other households this practice of tethering a horse would not be allowed and if anyone's horse is found there a fine would be imposed. This privilege of tethering a horse in the middle of meadow bestows a superior status on the holder. The *Ghyawa Dhongba* are also exempted from contributing labor for some community works.

Two *Ngiwa*s have a tenure of one year, and are selected in rotation from among *Dhongba* households. Although they are considered as Assistant *Ghempa*, they also form the core of decision making body for the village. If a household does not have a male member present in the village, female members can also serve as the *Ngiwa*. The *Ghempa chhe* has instructed all these four people to make decisions jointly. Although, traditionally, the *Dhungi*' was required only to keep the record of expenses, after adoption of the current system he is also required to participate in all of the decision making.

The *Dhurappa*, the crier, is also rotated among the males of the *Dhongba* households. This post is exclusively held by male and rotates on the seniority basis. Four eldest *Dhongba* males of the village are selected as the *Dhurappa* and once a person is selected he has to serve for three years in alternate years. Since in a given year there are two *Dhurappa*s, and they have to serve for three years in alternate years, a set of *Dhurappa* serve for six years. One does not get exemption from holding this post even if one dies before holding the post. If someone dies before serving as *Dhurappa*, his surviving family member has to fill in for him when his age group people take the turn. The *Dhurappa* keeps the fines collected from late comers in the meeting. The *Ghyawa Dhongba* are exempted from this responsibility of serving as the Dhurappa.

There are other two posts which are also important for management of the agricultural activities in the village. One is the post of the *Rongya,* an adjudicator for disputes related to crop depredation by stray animals. This is a responsible and respected post given only to a *Dhongba*. If a dispute arises out of an animal eating somebody else's crops the Rongya has to settle the case. The compensation amount decided by the Rongya is final and cannot be disputed. The *Ghempa* selects the Rongya during the *Chhyoka* worship. The selection process appears as if the *Ghempa* is pleading a person to serve as the Rongya. The Ghempa proposed a person to take over the post for that year and he usually does not accept it the first time. The *Ghempa* then makes repeated requests offering a *Khata* and the person accepts the post. Usually he does not get any material benefits by taking up the post except for little bit extra meat and *Tsampa* during the *Chhyoka* worship. The person has to have a good knowledge of local crop ecology as the stages of crop growth, productivity of the field etc are taken into account for deciding the compensation amount.

Another post is of *Kawa Takye* who detains the stray animals. Every year three persons are selected to serve as the *Kawa Takye*. If an animal enters the fields during crop growing season a *Kawa Takye* brings the animal and detains in a corral until the owner of the animal comes to pick up and pays the fine. For a cattle, horse or such a big animal the fine during the day is Rs 50 or 2 *phakting* (about 2kg) of grain. If an animal is found in night the rate doubles. If smaller animals like goat or sheep enter into a field the fine is one fifth as that of the bigger animal. The *Kawa Takyes* keep all the fines thus collected.

No Farang Marang are allowed to hold any of these posts. Although the village does not have differentiation based on the caste system, the inheritance system is the major social differential in the village. The exclusion of the *Farang Marang*s is not only limited to holding of these posts in the village council but also extends to restriction in their participation in many rituals. This institutional arrangement of water management was formed two years ago. The modalities and the backdrop against which institutional changes took place will be discussed in chapter 7.

Rituals

The agriculture cycle of the year begins in the first month of the Tibetan Calendar (around January/February) after celebrating the *Shakaluka*. The village priest, after referring the Tibetan almanac, decides the auspicious day for this ritual. The *Shakaluka* here is not as elaborate as in Lo Monthang and falls a few days later from that of Lo Monthang. People, in their best dress, carry basket loads of manure on their back to the field while holding a pan with cinders and sprinkling juniper incense. In one of their plots they dig a few spades and spread the manure and sow the seeds. The agricultural activities do not begin for some time as it is still very cold when the *Shakaluka* is performed.

Another important ritual, the *Chhokya* is performed in the second or the third month depending on the auspicious signs on the almanac. For this worship, they need a four –years- old white ram, without any injury or scar on ears and horns for sacrificing. It is the *Dhurappa*'s responsibility to find such a ram, and quite often they have to go to other villages in north to find it. A large amount of *Chhyang* is brewed well in advance for this ritual. A young man whose both parents are alive is selected for this worship and he is called as *Phachomoso*. The *Phachomoso*, accompanied by the *Dhurappa* and the traditional musicians playing the musical sets, has to go to the priest's house carrying a jug of *Chhyang* to invite him for officiating the worship. The priest is dressed in the traditional dress. All of them, including the *Dhungi* then go to a place in the south east corner across the stream. The *Phachomoso* has to tether the ram when the team proceeds for the worship. The priest then prepares the *Torma*s (images of deities made of flour and butter). The *Phachomoso* kills the ram by slitting near the heart. He pulls out the heart and places it on a stone near the priest so that he can observe the pattern of palpitation of the heart. The priest also has to observe other organs like liver, lungs, and intestines. There is also specified division of labor. The *Ghempa* has to clean the intestines whereas the *Dhurappa*s have to burn furs off the head. The priest then has to sleep for a while in order to *dream*. At the end of the worship, the *Torma* is thrown away in the stream and the priest has to observe the way *torma* submerges. Around the time of completion of the worship a horse is sent from the village carry all the items back. When the worshipping team returns back,

women of the village, especially the elderly, welcome them near the fields. In the evening, they sing, dance and feasts. The following morning people again gather in the village community house, and the priest, depending on the observation of hearts palpitation, liver, lung, and intestine of the ram and his dreaming predicts and tells the gathering how the general agriculture and weather conditions will be like in that year. The mutton, *Tsampa* (the roasted naked barley flour), and *Chhyang*, which are all considered holy are distributed. No *Farang Marang* come to this gathering and consequently do not get any of the consecrated food, considered of high religious merit. At the time of performing this worship, the *Ghempa* and *Ngiwa* bear all the expenses for this ritual which will be reimbursed later at the closing of the village accounts.

A clear contradiction can be clearly noticed if we consider the overwhelming role the Buddhism plays in guiding the belief and day to day life of the people and the principal aspects of this ritual. The Buddhism does not allow killing of an animal, and sacrificing a ram is an essential component of this worship. When inquired about this obvious contradiction, it was said that when they abandoned sacrificing a ram the crops were infested with insects and they had to resume the practice.

On the fifth month they perform another worshipping called the *Lha Chhyo*, especially for water and crops. The village priest performs this worship at the base of the juniper tree along the outer wall of the main reservoir. While the priest performs this worship the monks from the monastery also read religious texts (*Ghetungma*), in a nearby place, a bit higher up from the reservoir, facing towards the village. On this day water coming from the canal is stored in the reservoir the whole day and the plots are not irrigated. The following morning people from all the households gather and they bring the holy texts *Kangyur*, *Tengyur*, and the idol of *Shakyamuni* from the monastery. Carrying these religious books, idol, and fluttering praying flags they go around all the fields in a procession led by the chief monk and other monks from the monastery. Traditional instruments like *Gyalen, Romo, Tong* are played while walking along the fields. This procession is called the *Chhyogo.* It is believed that, crops are protected from insect pests through this worship. The water stored the previous day in the reservoir is let out to irrigate the

fields of the *Ghempa* and the *Dhurappa* only. This consecrated water cannot be let out in the field of other people, not even that of the *Dhungi*.

Each of the four *Chhyo*s (the irrigation groups) has a separate *Chhorten* (a small temple) spread in different places of the field. The names of Chhorten of these four *Chhyo* Sa Tang Me, Jha Tang Me, Sa Tang Te, and Jha Tang Te are Ngewa Chhimi, Karma Chhi, Lupti and Jhung respectively. No special worship is performed in these temples. However they are colored every year at the same time as other Chhortens and monasteries are colored. Coloring of these religious sites is also done exclusively by *Dhongba*.

Ghiling's ritual calendar has one or the other worshiping almost every month. But other worships are not directly meant for water and agriculture hence not discussed here. They do not have any special rituals for harvesting. The day before naked barley harvesting begins, [36] people gather in a village assembly house to discuss about harvesting schedule and the rules for releasing animals in the field. This gathering is also followed by drinking *Chhyang*. The *Farang Marang* are not allowed in this meeting too.

[36] Naked barley is always sown first and also harvested first.

Table 5. 6 Summary of water management in six villages

Features	**Lo Monthang**	**Namgyal**	**Tsaile**	**Ghyakar**	**Dhee**	**Ghiling**
Group size	126	19	13	11	22	60
Water source(s)	Kimling Khola, Ghyaka Chho, Numagung	Kimling Khola	Ghyakar Khola	Ghyakar Khola	Mustang Khola	Tamagang Khola, and springs
Reservoirs	Five, some are not indispensible	No	One, integral part	One, integral part	No	Three, integral part
No of major canals	Four	Two	One	One	Two	Two
Cultivated area (ha)	164	35.3	9.8	22.5	9.3	76
Water allocated to	Land	Household	Household for major crops, land for minor crops	Household	Household	Household
Basis for water allocation	location of the land.	no. of water shares	no. of water shares, and location of the land	no. of water shares.	Fixed turn	landholding size
Turns for water	Order of the secondary canals selected by casting dices, and plots along a canal irrigated contiguously	Dices cast among the share holder at the start of agricultural season.	For minor crops dices cast for the section of the field; For major crops dices cast for each share.	Dices cast for a subgroup of share holders which holds a total share equivalent to a day of water.	Turns allocated to a household in a fixed order for 3 days in each rotation.	Turns within an 'irrigation group' in a fixed order, dices cast among groups to decide the order of the reservoir and the canal water.
Change in the order of irrigation	The order of secondary canals remains the same for one year, the order of plots always fixed.	The order of turns remains the same for a year.	For minor crops order fixed for one season; for major crops the order is set at the start, and changed during critical periods	Dices cast for each cycle of irrigation for both major and minor crops.	The order is fixed year after year.	The order for irrigation groups remains the same for a year; within a group it is fixed.
Labor contribution for regular repair of canals	Roughly based on the landholding size	In proportion to water shares	In proportion to water shares	In proportion to water shares, but all adults have to work	All adults of a household whether present or absent in	1 person per Farang Marang household; based on no. of

				in the first repair	the village	Dhongba held for Dhongba household.
Social diff. to water accessing	no differentiation	No differentiation	Farang Marang included in water turns	No differentiation	Farang Marang excluded from water turns	Farang Marang included in water turns
Authorities	1 Ghempa, 2 Mithui, 6 Chhumae	1 Ghempa, 1 Dhungi, 4 Chhumae	2 Ghempa	3 Ghempa	2 Ghempa	1 Ghempa, 1 Dhungi, 2 Ngiwa, 2 Dhurappa, 1 Rongya, 3 Kawa Takya
Higher authority	The Raja	The Raja	None	None	The Raja	The Raja's nephew
Turn for authority	Ghempa and Chhumae rotated in a fixed order among eligible households	Ghempa, Chhumae rotated in a fixed order, Dhungi rotated among 2 households	Selected by casting dices among eligible households	Selected by casting dices	Selected by casting dices	Ghempa and Dhungi swapped between two households,
Social diff. in the village council	Authority based on caste	All HH eligible to hold the posts	Only Dhongba can hold the post	All HH are eligible to hold the posts	Only the Dhongba are eligible	Only the Dhongba are eligible

CHAPTER 6: CONFLICTS FOR CONTROL OF WATER SOURCE

Introduction

Cooperation and conflicts are integrally associated with irrigation systems throughout the world (Bacdayan 1980; Coward 1979, 1980; Hunt and Hunt 1974; Mitchell 1976; Leach 1961; Millon et al. 1962; Guillet and Mitchell 1993; Baker 1997). Social processes involved in construction and maintenance of irrigation systems, allocation and distribution of water, governance and conflict resolution necessitate the cooperation of all water users. Conflicts are so interweaved with any irrigation system that their resolution is considered one of the fundamental tasks for sustained operation of the system (Coward 1979, Hunt 1989, Uphoff 1992). Some analysts consider that conflict related to irrigation is of primary importance since basically "the study of water policy is a study of the resolution of conflict over water resources use" (Jackson 1981:176).

Competition for accessing and controlling water arises when the scarcity of water increases. In the literature, whether competition over limited water destroys cooperation and creates social conflict (Kelly 1983) or provides an incentive for collective action (Jackson 1981) is disputed. Klausner (1965) argues that if the stress is moderate it serves as an organizing signal, and if it occurs in extreme form it may destroy an organization. Political, ecological, and social contexts interweave together in shaping how conflicts arise, unfold, and get settled in irrigation systems (Gragson and Payton 1997, Wade 1988, Hunt and Hunt 1974). Although both inter and intra community conflicts for irrigation water exist, they vary by a large degree in their origin, persistence, and possibility for resolution. Although conflict within a community is common, it tends to be expressed more strongly between communities (Hunt and Hunt 1974, 1976). One of the salient features of the inter-community conflicts is that they are persistent over long period of time, perhaps due to the fact that there are fewer mechanisms for their resolution between

communities than exist within a community (Brush 1974 quoted in Bolin 1990). Conflicts over water rights have important consequences on the social and economic spheres of life (Downing and Gibson 1974).

The literature on legal pluralism suggests that when such conflicts over water rights arise people shop around among multiple normative frameworks such as customary law, state law or religious law, co-existing in a society, depending on which of the laws they consider would help validate their claims (Bruns and Meinzein- Dick 2005, Pradhan and Meinzein-Dick 2003, Spiertz 2000). The ideas from the theory of legal pluralism, although very helpful in analyzing and understanding conflicts over water rights, implicitly assume that people have prior information of provisions of different legal frameworks, at least in relation to water rights. The logic of shopping around also assumes that conflict over water rights arises when there is conflict between different legal frameworks. However, the cases of conflicts over water rights in upper Mustang, described in this chapter show that conflict over water rights arose not because of conflicting provisions in different normative framework but because of conflicting arrangements within a single framework –customary law.

The cases described and analyzed in this chapter cover conflicts related to inter-sectoral use of water, water sharing, and the control of water sources. Except for the dispute over inter-sectoral use of water, all other disputes were inter-village conflicts, arising mainly out of sharing a common water source. These cases of disputes reflect the interplay of local hydrology, politics, and people's struggle for legitimizing their claims for water. A diachronic perspective on such disputes will help elucidate the issues like the socio- political background of disputes, role of multiple actors—including disputants, mediators, and adjudicators--played in shaping the outcome of the dispute. After describing these incidents, I discuss on the role these disputes played in overall social systems of respective societies.

Land for water in Tsaile and Ghyakar

One interesting case is a dispute between Tsaile and Ghyakar for sharing water from Ghyakar Khola. Two smaller streams confluence to create Ghyakar Khola, just below the point of diversion of water for Ghyakar village. About a kilometer and half below lies the point of diversion for Tsaile village (Fig 6.1). Prior to 1985, water from both of these smaller streams was diverted to Ghyakar village. A small canal carved through a rock would divert water from the stream on the left and then mix with water from the stream on the right. As the headwork did not have any permanent concrete structure, large amount of water would be lost by seepage and leaking. Increased by flow from several tiny springs down stream, this leaked water would form the source of irrigation water for Tsaile, which was not sufficient to irrigate all the fields and the problem would intensify especially during the dry season. In 1985, people from Tsaile camped for three days near the Ghyakar diversion site and destroyed the carved out canal so that water from the stream on the left would not be diverted to Ghyakar. They also damaged the intake structure at the diversion point from another stream.

People of Tsaile claimed that the stream on the left was theirs since it flowed through the land traditionally used and owned by them. They also claimed that the land through which the stream on the right, the larger one, was a shared land so the water from this stream should also be shared. People from Ghyakar did not so much dispute about the land but claimed that they should get the right to use water from both the streams on the basis of long use or customary rights. People from Ghyakar sought the help of the District Administration Office to let them use water from both the streams. One month after the incidence of sabotage, an agreement was forced between the two villages in the presence of government officials and political leaders. This agreement reconfirmed the claim of Ghyakar which was allowed to continue use of water from both the streams without interruption. Tsaile village was fined Rs. 3,000 for sabotaging the headwork of the canal going to Ghyakar. This agreement also required that the supply of drinking water from the source near the irrigation canal headwork for Ghyakar should not be interrupted.

This forced agreement was not honored in totality, and the animosity between the villages persisted and was further fueled by other incidents. Tsaile did not stop claiming rights over water from both streams. Other developments, like a plan to build an elementary school for Tsaile village six years later, fueled the already heightened animosity. When the people from Tsaile tried to build the school on a public land lying between both villages, people from Ghyakar objected. In the midst of this land dispute, people of Ghyakar destroyed the drinking water source for Tsaile which lies on its land. The District Police Office entered the scene and an agreement was reached between the villages not to sabotage drinking water source in the future. As a part of the negotiation, Tsaile village was required to shift the school building site to land located within the village.

One year later, CARE- Nepal, implementing development activities in the region, explored the technical feasibility of rehabilitating irrigation canals of both villages. It was agreed that a water collection tank would be built at the confluence of two smaller streams near the headwork of the Ghyakar canal. As a part of the agreement, a minimum water flow, at least at the level before the construction of the collection tank (4 lit /sec), was to be maintained at the diversion point for Tsaile. Water would be released from the collection tank for Tsaile if the water flow was less than 4 lit/sec at the diversion point. However, the CARE- Nepal later decided that it was not technically feasible to construct such a collection tank. It proceeded with the rehabilitation of canals in both the villages simultaneously in 1993. The intake structure was to be improved and the canal was to be pipelined in most of the difficult and porous sections. They lined the canal with 200 mm pipe which could carry much more water than it was agreed and confirmed on the agreement. While the work was progressing at the intake of Ghyakar, people of Tsaile objected vehemently to cement lining as it would completely stop any seepage and leaking that would otherwise increase the flow for Tsaile canal. Although the water from the left stream was not to be diverted to Ghyakar, the reduction in the water level after preventing seepage and leaking was an issue of grave concern for Tsaile. Despite a series of attempts for negotiation the issue could not be resolved while the rehabilitation work continued.

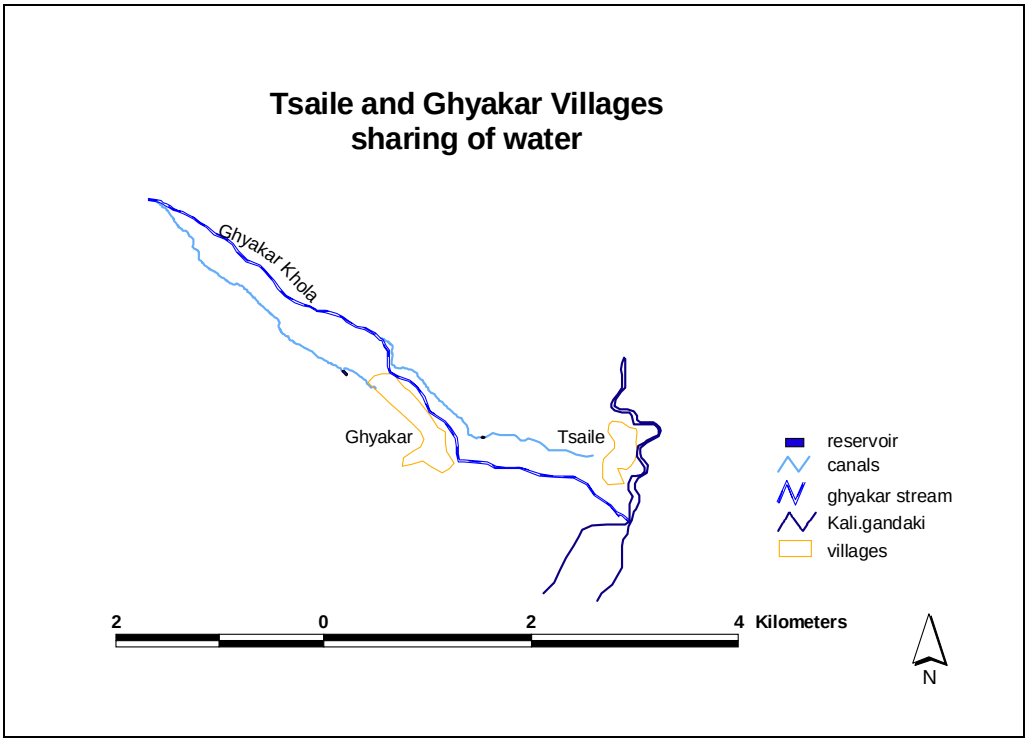

Figure 6.1 Map of Tsaile and Ghyakar villages with disputed water source

Figure 6.2 Disputed water source between Tsaile and Ghyakar villages

Dispute between these two villages also evolved into a political dimension. These two villages were leaning toward two major opposing political parties of the country, at a time when any dispute or the issues of development would be viewed through a political prism. People of Tsaile tended to support the Congress Party, the ruling party both at the capital and the district. And people of Ghyakar tended to support the Communist Party of Nepal, the largest opposition party at the parliament. The representative for parliament from the district was also from the Communist Party. These political tendencies of the villages obscured the fact that there were some households within both the villages supporting to other parties, yet united in their quest to control the water source. The Member of Parliament, the Chairman of the District Development Council separately tried to resolve the dispute through several meetings, negotiations, coaxing and coercion without any success. Any persuasion, maneuvering, or negotiation efforts made by these facilitators would naturally be viewed through the political prism and to some extent that was not an incorrect stocking of the situation. The political leaders also had their own interests in seeing this case resolved in a way that it will reinforce their strength among the people. After holding one of such negotiation meetings in nearby Chhuksang village, on the way back home, they started a violent brawl, fighting one another at the bank of Kali Gandaki river. Several peoples were injured mostly from Ghyakar including an old man whose leg was fractured. This incident further drew the attention of the government officials and politicians who, in turn, did not fully resolve the conflict. Unity among the people within each village was further solidified while increasing the animosity between them[37].

Meanwhile, despite the continuing dispute over the control of the water source, most sections of the canal in both villages were pipelined. This has tremendously improved the water supply to both villages. Not only was the water flow increase at a given time but there was improvement in continuity of supply. The villagers did not have to frequently undertake emergency repair work. Despite the dispute hitting the peak after the violent fight, the mood slowly calmed down in both the villages as they were not

[37] I found a minute of a village meeting in Ghyakar village which pledged all the people of Ghyakar so that neither people nor their animals like Dzopa, mules would go to Tsaile for any work. However, exemption was made for labor pulling during harvesting time.

constantly reminded of sensitive issues caused by the low level of water flow. An agreement was reached in 1994 to distribute the water based on past pattern and rules until a new settlement was reached.

Over the next decade, the dispute between the villages over water source remained latent and farmers continued watering their crop as required. However, in 2004 when the government planned to construct a suspended bridge over the Ghyakar Khola to link Ghyakar village to the main trail, the dispute over water surfaced again. Construction of the bridge would require erecting a pillar on the land owned by Tsaile. Villagers of Ghyakar then requested the villagers of Tsaile Offering a *Khata* to let them use the land for building the bridge. Although the relationship between the villages had returned to a normalcy by then, Tsaile villagers tied the land for bridge to the issue of water sharing and rejected the request of Ghyakar. After a series of negotiations, which were initiated and facilitated by the District Administration Office, they signed an agreement to share the water and use the land for building a bridge in 2005. This agreement carefully skirted the issue of ownership, and instead highlighted how the water should be shared. The agreement stipulated that water sharing will be done the same way it was being done –that is Tsaile will get water from the right stream and Ghyakar from the left. However, should there be any scarcity of water especially during dry season, water will be rotated between the two villages to irrigate only the privately registered and cultivated land for which tax has been regularly paid. Water will be allocated proportionately to the land size in both villages. A committee comprising people from both villages will be constituted to manage such allocation of water. In such cases, it states, that water will not be used to irrigate plantation sites where trees are grown. In the case of sufficient water supply such restrictions would not be imposed. In return, Tsaile was required to give the land for bridge construction.

Although people of both villages acknowledge that the situation of having to adopt the water rotation between the villages is less likely to arise, the agreement served as an insurance, should such a condition ever arise. Leaders of both villages state now that they underwent an unnecessary conflict. In several agreements signed between these two villages and Chhuksang, especially for drinking water source, they have clearly stated that the village getting drinking water source from another village should

not construe it as a claim over the land. This attention to making such specific cautious provisions and caveats in otherwise ‘not too legal’ documents indicates how people perceive that access over one resource may establish claim over another resource.

Inter-sectoral water use dispute

Water from the same source is used for multiple purposes, both domestic and productive. For example, water from irrigation canal is also used for bathing, washing, cleaning grains, drinking livestock, and running water mills in addition to irrigating fields. Similarly water from drinking water pipes is used for irrigating small vegetable gardens. If use of water from irrigation canals for purposes other than irrigation does not reduce the water flow no contestation is forthcoming. Installing a traditional water mill along the water course does not affect the water flow downstream. However, when one use of water reduces the availability of water for another use significantly, people contest such opposing uses. One such case is when the water from irrigation canal is used for generating power. There are only two functioning micro-hydro power plants in the whole of upper Mustang, one in Tsarang and another in Lo Monthang. The one in Lo Monthang was not brought into operation for several years even after it was ready for operation mainly because of the dispute over water. In simple terms, as the use of water for generating power would not make it available for agricultural use, the contest mainly revolved around which use of water should get priority. However, issues of prioritizing inter-sectoral water use are entangled with multitude of factors like needs and interrelationships between different groups of people and power structures. The background information of how the dispute arose has been covered in the chapter 1 of this dissertation. This section adds ethnographic data on how the conflict was resolved.

As discussed earlier, people and the monastery who owned the land in Suru were not ready to permit the use of water from Suru canal for running the turbine for various reasons. They feared that once they let use water for running turbine the hours for running the turbine might be extended under various pretexts. Moreover, no concrete commitment was made by any party to maintain the canal. Even a

commitment without any tangible proof that such commitments will be honored would mean little, especially against the background of many broken promises. The possibility of getting water from Dhilu canal was practically over. Some sections of the society also perceived that the micro-hydro power was a project for the elites and was more for status rather than a project to meet general immediate needs. Many people truly felt that the contractor who had built the headrace from Dhilu siphoned off large sum of money without doing any quality work whereas they did not any significant support for rehabilitating the Suru canal. Many sections of the Suru canal were very fragile which would breach anytime if the water flow was not properly regulated. As the largest owner of the land in Suru and the managing body of irrigation system there, the Chhoede monastery had a pivoting role in whether to let use the water for running turbine. Even within the monastery monks with opposing ideas would lobby the abbot. Some people who were against the project from the beginning also lobbied not to let use water from the Suru canal. Collectively, they exercised their rights as to which use of water should get priority.

In a series of negotiations that followed, the officials of the Village Development Committee vigorously lobbied to use the water from Suru canal for the micro-hydro Project. In the year 2000, after all the maneuvering, lobbying, coaxing and coercion they reached an agreement that the Village Development Committee and the Annapurna Conservation Area Project and the monastery would create a fund of one million Rupees for repair and maintenance of the canal. Intake and the weaker sections of the canal were repaired. This greatly improved the water flow in the canal reducing the time required for watering the field. Several agencies helped to repay the loan incurred by the villagers in installing the power plant. Those people who had mortgaged the land got their land deed back only in 2005. The power plant came into operation only 5 years after it was built because of the dispute over water use. Now the whole village shoulders the responsibility of repairing the canal.

Legend for ownership

Customarily, throughout Mustang it is accepted that a village has ownership over the water if it originates in its land. Not conforming to this customary law, Lo Monthang owns water originating in the land owned by Phuwa, a village north of Lo Monthang. Today people from both Lo Monthang and Chhonup VDCs tell a story that has been told for generations, of how Lo Monthang got the ownership of this water source. It is not sure how much fiction has been added to the original story but what is clear is that the story firmly established the ownership claim of Lo Monthang village over this water source, beyond any dispute. There are two phases of maneuvering of people of Lo Monthang which gave them control over precious water sources.

The principal flow of water from *Ghyaka Chho*, a moraine-dammed lake, and one of the major sources of irrigation water for Lo Monthang, goes to villages in Chhonup VDC. As the story tells, generations ago[38]a group of people from Lo Monthang deliberately planned a fight with the people of Thingar so that they could claim the right over water source. A man named Kunsang Kyawa form Lo Monthang told his friends that if someone died in the fight then they could use the death as bargaining chip for securing the ownership of water. And he was ready to sacrifice himself in this cause to secure the water for the whole village. As planned, they tried to divert the water drained from *Ghyaka Chho* from the same point where the headwork of the Chhumje canal lies today. This act of forceful diverting of water ensued the planned fight and Kunsang Kyawa died. In the aftermath of this fight and death, the King of Mustang negotiated the case which resulted in Thingar giving up the ownership right of water in return for Lo Monthang's not pursuing the death of Kunsang Kyawa. Today, every year people from Lo Monthang go to the place of the fight to perform *Lopsang* ritual and to offer tobacco to Kunsang Kyawa. They claim that before he died he had asked his comrades to place tobacco on his mouth prior to his funeral rite as he was very fond of tobacco. Today people without traditional tobacco, instead offer

[38] One account by the village priest, who is one of the most learned men in the village about history of the place suggests that this incident happened during the reign of King Angyan Dorje. If his statement is correct then it must have happened in late 18th century.

cigarettes in memory of this man. People consider it a ritual of high importance to offer cigarette and perform *Lopsang* at this place as indicated by the fact that the *Ghempa* personally goes to this ritual, although it takes a tough climbing for about three hours to reach here. Normally, the *Ghempa* would not go to Lopsang ritual performed at another canal. Although a descendant of Kunsang Kyawa still lives in the village, he does not get any preferential treatment in water use. Many people of Lo Monthang today agree that, looking at the flow direction and the location of the water course, it should have been the water for Thingar, but the need of the day must have overruled such an ecological logic.

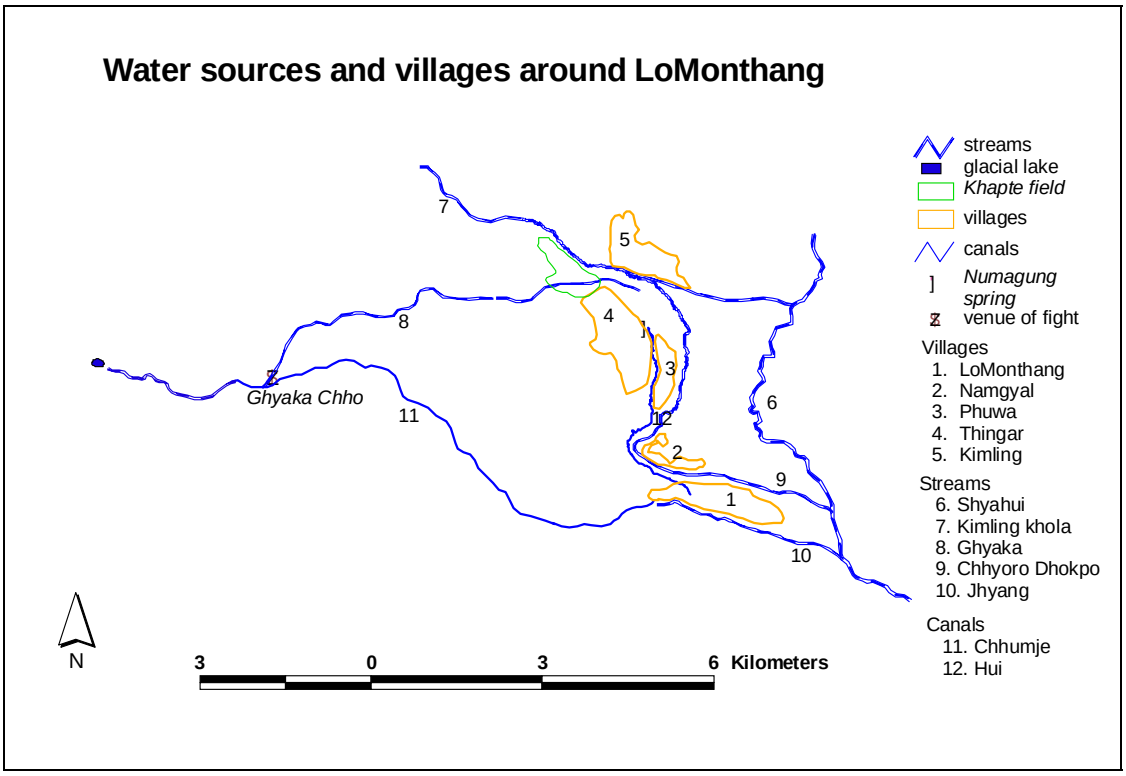

Figure 6.3 Water sources of dispute between Lo Monthang and other villages

This incident firmly established the ownership right of Lo Monthang over the water flowing from Ghyaka Chho. This right also led them to the next stage of maneuvering to establish ownership over water emanating from *Numagung* near Phuwa village described above. The story people tell is a story of

Figure 6.4 The *Lhopsang* ritual and offering of tobacco

deception. In order to establish their ownership over water in Numgaung, they claimed that the water from *Ghyaka Chho*, for which they had already established the ownership right, leaked and again emerged in *Numagung*. Since they already owned the water from *Ghyaka Chho* they claimed that water emanating from *Numagung* should also be theirs. The *Numagung* lies more than 4 Km away from the supposed place of seepage (figure 6. 3). In order to substantiate their claim they proposed a test that they would place a block of red clay up there in the supposed place of seepage and people could check the color of water emanating from *Numagung*. Confident of getting the negative result, people of Thingar and Phuwa accepted the proposal of the test. As agreed upon, they placed a clump of red clay in *Ghyaka Chho* water and the following morning went to check the color of water emanating from *Numagung*, and everyone found the color of water red. Little did the people of Thingar know that someone from Lo Monthang surreptitiously placed a small clump of red clay in *Numagung* too just before the check. Thus the people of Lo Monthang established the ownership right over water from *Numagung*. An informant says “Oh… our forefathers were very clever and shrewd. Those from Thingar must be fool…. they even

did not know that seeped water would not get the color from red clay from that far. Whatever it is, we got the water because of ingenuity of our forefathers"

People today say that the Hui canal was constructed only after legitimizing their ownership right over the Numagung source. Today, this is the most important canal for Lo Monthang as it irrigates the largest tract of the land within the village. Since the water is not snow-fed, amount of water flow is not very much affected by the snowfall in the previous season or by the daily weather fluctuation. Not only did Lo Monthang claim the ownership of water from *Numagung* but also established rights over other smaller springs emanating around this locality. Some oral histories suggest that this incident of claiming water from *Numagung* and construction of canal also happened during the reign of King Angyan Dorje, in the late 18th century. People today consider him a great king more for his role in restoration of the famous Jhampa and Thubchhen monasteries than for his role in helping to establish rights over water. In fact, many of them do not know when did this incident of establishing ownership happened.

A dispute over the use of water emanating from around *Numagung* again arose 11 years ago in 1995 with the people of Namgyal. People of Namgyal had constructed a drinking water system using a small source near *Numagung*. They had built a small collection tank near the source and passed the water through one inch pipe across the Chhyoro Dhokpo stream to the village. When Namgyal chose to drop out of a proposed joint micro -hydro project with Lo Monthang the issue of ownership of water sources was raised. However, when Namgyal villagers were building the tank near the source and laying out the pipe to the village from the tank, people of Lo Monthang did not object. Namgyal villagers also claimed that by being a part of the Chhonup VDC they should have the right to access the water that originates within the same VDC. However, Lo Monthang had already established the ownership over the water source long ago and it appears that other villages did not object to this historical claim. Namgyal villagers also claimed that if they did not have the right to use this source for drinking water Lo Monthang should have objected when they were constructing the system.

As the animosity was brewing up between the villages following the withdrawal of Namgyal from the micro hydro project, the irate villagers from Lo Monthang went to Namgyal and destroyed the water collection tank near the source and broke the pipe. They claimed that there was not enough water for their crops and people upstream should not divert the water. People of Namgyal could do little after the tank and pipes were destroyed. They were forced to drink water from the stream until the new drinking water system could be developed. Since the amount of water diverted for meeting the needs of seventeen households of Namgyal was not significantly large to make any difference for irrigating crops in Lo Monthang, the issue was more of exercising ownership right than that of need.

Discussions at Lo Monthang revealed that the people of Namgyal approached office bearers of the Village Development Committee[39] Lo Monthang to request for a water source for drinking water. There was a dispute between the traditional leadership system[40] and the VDC leadership as to whether to honor the request of the Namgyal village. Ultimately they decided against giving water source to Namgyal village. The Namgyal village then requested the *Raja* to give water from the *Sya Khola* which he owns. He was ready to give the water, but it was far away from the Namgyal village requiring heavy work. Finally, the villagers could obtain a water source from the land owned by the monastery of Namgyal. This new source is not very far from the previously destroyed source. Another drinking water system was developed with the support of the district line agencies. Since this new source is on the land owned by their monastery they are confident that disputes will not arise. However, some voices of discontent can be heard in Lo Monthang that their water has been given to Namgyal.

[39] Village Development Committee office bearers used to be elected every five years in each VDC through out Nepal. In other parts of Nepal, they are usually responsible for management of all the resources within a village. They are different from the traditional resource management system practiced in these villages. However, because of the derailment of the political process in Nepal owing to Maoist insurgency there are not any elected officials in the VDC since 2002.

[40] The traditional leadership system refers here to the authority headed by *Ghempa*.

Contestation for ownership and unity within a village

Lo Monthang underwent conflicts with neighboring northern villages for each of its major water sources, either recently or in the distant past. Lo Monthang engaged in a series of conflicts to control water originating from Kimling Khola. This stream has its origin in snow capped mountain on the West and flows through Kimling before one of its division reaches Lo Monthang. Kimling and Thingar are the upper riparian villages and Lo Monthang a lower one (see figure 6.3). Thingar and Phuwa villages, located in the upper riparian zone, planned to reclaim some of its uncultivated land by terracing in a place called Khapte and irrigate it with water from Kimling Khola which flows nearby. They terraced the land, fenced it with stone wall and diverted water from Kimling Khola just above the Kimling village. Lo Monthang objected to such diversion of water as it would reduce the water flow reaching Lo Monthang, especially during the dry season. Although water was diverted from a point above Kimling village it did not object to such diversion. While the conflict between Thingar and Lo Monthang was flaring up for use of water from Kimling Khola to irrigate newly reclaimed land in Khapte, a few individuals from Lo Monthang captured two yaks of a man from Thingar killed and had a feast. This added a new dimension to the dispute. People of Thingar filed a case against Lo Monthang at the office of Zonal Commissioner, a very powerful administrative and political post in those days in Baglung[41].

Compared to other parts of Nepal, filing a case at the office of the Zonal Commissioner from upper Mustang is not a normal step due to peculiarities of the socio-legal system of the region. Almost all the disputes, whether within a village or between the villages of the region, used to be resolved by the *Raja* of Mustang. Taking a case to the Zonal Commissioner indicates two issues: one that the case was taken very seriously by the people of Thingar, and the second that they did not get a fair hearing from the *Raja* of Mustang. It also indicates that they resorted to the state law because they did not get justice through the local law.

[41] The post of zonal commissioner was dissolved after the democratic movement in 1990 as it was viewed as the main instrument for implementing the autocratic doctrine of previous government system. Zonal Commissioner used to be the chief administrative officer of a zone which comprises of several districts.

The Zonal Commissioner along with the Chief Administrative Officer (CDO) and other officials went Lo Monthang for field inspection. Notably, the *Raja* of Mustang was a member of the powerful Royal Standing Committee in Kathmandu and the Zonal Commissioner would not have decided the case without consulting the *Raja* and in a way that will be objectionable to the *Raja*. However, it is not clear if the *Raja* himself favored Lo Monthang. He seems to have tried to remain neutral in this dispute. However, his very presence in Lo Monthang- even without his taking side in the case- would have influenced the outcome of the case. These government officials decided that the people of Lo Monthang should refrain capturing animals of other village and people of Thingar should not 'steal' water going to Lo Monthang. People of Lo Monthang had to pay a fine of 100 *pathi* of pea for illegally eating Yak of Thingar. For the people of Lo Monthang, as long as they get right over water source paying fine for capturing yak was a minor issue. Moreover, due to the large number of households each household had to contribute little to pay 100 *pathi* of peas. The visiting officials also ruled that water should be used only on the land that has been traditionally irrigated and not in the newly acquired land. And to this effect they gave both villages a signed paper. This incident had its ramification in resolving another case that arose some years later.

Every year, leaders of Lo Monthang would go to villages in the North to inspect if any new additional land has been reclaimed and to instruct people not to do so. People of Kimling village terraced some new additional land. They claim that this newly reclaimed land was privately registered land for which they had been paying revenues. They also built stone-wall fence around this newly acquired land and planted peas.

For the villagers of Lo Monthang, the action by the villagers of Kimling was a serious breach of their rights. The leaders of Lo Monthang instructed at least one person from each household should go and destroy new land put into cultivation in Kimling. A powerful *Kutak* family from Tsarang village tried to pacify the leaders of Lo Monthang not to take any such measures but to no avail. The *Raja* himself tried to interfere in the case but the people of Lo Monthang took the matter in their hands. And one day,

the group marched northward destroying any newly built land along the way in the villages of Phuwa also. In Kimling, they brought down all the wall fences and trampled the crop. The destroyed land measures an area of 15 ha. In the course of this destruction, people of Kimling claimed that a few parcel of traditionally cultivated land was also trampled. The people of Kimling would be a mere spectator of destruction of the land and could not object to the mass of Lo Monthang. People of Kimling today claim that had they objected to Thingar's reclamation of Khapte field and diversion of water earlier, they could have claimed the right over water. In their version of the story, Lo Monthang's main basis for claiming rights over the water is that they prevented people of Thingar to use water from the stream earlier. *Raja* of the Mustang tried to force a negotiation between the people of both the villages without any success. As a final resort, people of Kimling sought the help of the CDO.

When the villagers of Kimling filed a case at the district headquarters, an important incident took place in Lo Monthang that signifies how unity among the villagers is reinforced. In order to counter the claim of Kimling Lo Monthang villagers wanted to show all the old documents as an evidence of their rights over the disputed water. However, to the dismay of all the people, the small sachet containing all the documents was lost. As usually the *Ghempa* is the responsible person for safeguarding such documents and since only the *Bista* people could hold the post of *Ghempa*, people suspected one of the *Bista*s must have lost it. This incident created a brief moment of tension between the *Bista*s and the Gurungs. Then, in their search for the lost document, they wanted to make every *Bista* take the oath of not possessing such a document. Usually oath of a minor significance is taken in a separate place than the oath of a major significance, and they initially planned to go to a place where oath of minor significance is taken. However, the villagers changed the plan and went to a place called '*Sume Sumda'*, at the eastern corner of the field where oath of grave concern is taken. This place, a confluence of three rivers, and adjoining a mound of black clay, bears a sign of bad omen and any oath taken here are considered of grave significance. They killed a black sheep and placed its hide on hole dug near the confluence of the

rivers and poured all the blood of goat over the hide. They brought an idol of *Mahakala* from one of the monasteries. They also brought *Bak Dhokchyang*, an ammonite on which royal signet has been carved

Figure 6.5 *Bak Dhokchyang* a royal seal and a symbol unifying the people.

(Figure 6.5)[42]. Each of them would hold this *Bak Dhokchyang* in a palm, dip in the blood and with a raised fist and take an oath that one does not have the sachet of the document and then say *"Dha Horang Dhokca Chikti"*, literally meaning we are all one. A priest would place the idol of *Mahakala* on the head of the person taking such oath. As the oath taking was progressing, before a *Gurung* man was about to dip the *Bak Dhokchyang* in the blood a woman standing nearby asked him not to take oath because a small sachet that she had seen at his house might be the lost sachet for which all of them had been taking this

[42] It is not sure how old is this copy of royal signet. According to David Jackson (1984) a royal signet with the *A-tham* seal was initiated from the late 15th century by King Amgon Sangpo. But it is not clear if this ammonite seal was also being used since then or was it made by the later kings. The descendants of king Amgon Sangpo were called A-ham and this signet also has Aham on it.

oath. And this turned out to be true, thereby vindicating *Bistas*. This man's father had served as *Mithui* a few times in the past and he might have forgotten to return back the documents to the new *Mithui*[43]. Although the document was already found, the rest of the people continued taking oath to pledge their unity. As such practices of taking oath are considered against the religious norms, the abbot of the monastery rushed to the site of oath taking to stop the people. Since about half of the people had already taken the oath, the abbot was convinced to return from half way even before reaching the site of oath taking. This incident marks a significant moment in Lo Monthang's history of resource management and its effort in unifying the people especially to meet the challenges posed by other neighboring village. This incident morally obliged them not to have any deviant idea about water resource control from that of the whole village.

When the CDO and other officials arrived in Lo Monthang the amount of land abandoned in different villages became the basis for resolution of the dispute, and not the water itself, which naturally would favor Lo Monthang. People of Lo Monthang showed all the land abandoned both recently and long ago to the visiting officials claiming that since they had large tracts of land abandoned because of the water scarcity any additional land cultivation upstream will further force them to abandon more land. They also showed all the previous documents to prove their claim for water. After inspecting the fields of both the villages the visiting official team decided that since the land abandoned in Lo Monthang is much more than any other villages the villages upstream should not add any new land. One man in Kimling resenting the decision of the CDO said "When we met him in Jomsom he said he would solve the case but when he reached Lo Monthang he started trembling after meeting people of Lo Monthang." Both the people of Kimling and Thingar requested the *Raja* to let them use water from the Sya Khola, a stream fully owned by the *Raja* located further north from both the villages. He allowed them to use the water from Sya Khola to irrigate the land in Khapte and some additional land in Kimling village. The District

[43] *Mithui* keeps the *Bak Dhokchyang* and all the documents packed separately and then wrapped together in a *Khata*. The *Ghempa* seals the wrap. It is very likely that the *Bak Dhokchyang* and other documents were packed separately then as the *Bak dhokchyang* was used as symbolic means to search the lost document.

Irrigation office gave them large amount of money to build the canal and a reservoir pond. The field in Khapte is now totally abandoned and the canal together with cross over bridge lie idle whereas people of Kimling have been cultivating the land irrigated by the water derived from Sya Khola.

These two incidents of Khapte and Kimling firmly established the ownership right of Lo Monthang over Kimling Khola also. People of Thingar, Phuwa, and Kimling have usufructual right to irrigate the traditionally cultivated land but cannot bring any new area under cultivation. They also have to release water and let flow to Lo Monthang every evening after 6 PM. Any one violating this rule in these villages is severely fined by the *Ghempa* of respective villages. Today, inspection of any addition of field in the upper riparian village has become relatively lax. Amount of water flow reaching the village has increased because of the improvement of most of the canals. In the last 11 years no major dispute has taken place between any of these villages.

Discussion

The previous chapter showed how each of the village had developed an elaborate system to manage water. They had clear rules as to how to allocate water among various users, how to repair and maintain the infrastructure, how to monitor and enforce the laws, and how to form the managing body. Any disputes arising out of water use within the village would be immediately resolved. The concept that the scarcity of the resource is the principal cause of conflict did not seem to apply in these cases. To a large extent the effects of scarcity or seasonal fluctuation of water availability would be mediated by institutional mechanisms. For example, water collection reservoirs would help increase the amount of water, and stricter and separate sets of rules during the time of severe scarcity would mitigate the effect of hydrological scarcity. Individual's water rights are subjugated under the community's collective water rights. Comparing the scenarios of water management within a village and the cases of limited water supply between the villages leads to consider two dimensions of water scarcity: one hydrological and the another institutional. As is the case within a village, the hydrological scarcity of water is largely mediated

and absorbed by institutional mechanism and its effect are much more nuanced and portrayed in the institutional responses. However, when the hydrological scarcity of water crosses the boundary of a village, its effects become much pronounced as there are not as effective supra-village institutions to smoothen such effects. In other words, the institutional scarcity magnifies the hydrological scarcity.

Above cases of disputes demonstrate the scenario where contestations are made based on several types of water rights. In the case of Tsaile-Ghyakar dispute, Ghyakar claimed the access to water based on customary rights. It had been using water from both the streams since long. However, Tsaile validated its claims on the basis of traditional ownership of the land through which water flows. It claimed that the smaller stream on the left flowed through the land it owned and another stream flowed from the joint owned land. Another dimension of the dispute is the local understanding of hydrology and the concomitant expectation as a result of such understanding of hydrology. Traditionally, the upper riparian community used to divert the water using locally available materials like twigs, rags, stone, sand etc. that would leave large reasonably good amount of water leaking down from the point of diversion. This leaked water would form a significant component of water supply for the downstream community. However, having a permanently lined structure would prevent any leaking. This improves the water flow for the upper riparian but diminishes the level of water flow for the lower riparian. Even if the amount of leaked water contributing the flow for lower riparian is very little or insignificant the very fact that the lined structure has been developed becomes a cause enough for contestation. In fact, the lower riparian community considers such leaking as their rights. In this dispute also, it was found that Tsaile had categorically contested the permanent lining of headwork of Ghyakar intake.

The conflict between Thingar and Lo Monthang over reclamation and irrigation of *Khapte* field raises the issue of conflict between riparian rights and prior appropriation (usage) right. Thingar being an upper riparian claimed the right to use water in Khapte from Kimling Khola. And in contrast, Lo Monthang's claim relied on prior appropriation rights as it had been appropriating water before the reclamation of Khapte. Any new diversion of water upstream would diminish the water availability

downstream. The Lo Monthang-Kimling dispute also had similar contestation between riparian and prior appropriation rights. The statutory law is also not clear in such cases which rights should get priority. However, the Water and Energy Commission Secretariat Report of 1987 (Pradhan 2000) states that riparian rights should get the priority over prior appropriation rights, but implementation of such provisions of state laws is an complex issue. Moreover, for people of Thingar and Kimling it was not a case of bringing community land under cultivation, it was their privately owned land for which they had been paying taxes.

These conflicts cannot be explained simply in terms of contestation of riparian and appropriation rights. The dispute extended to contestation over the ownership of the Kimling Khola. Lo Monthang claimed the ownership over this water source based on the prior usage, whereas upstream villagers claimed the control of the stream based on the fact that it flowed through their land. Although Lo Monthang claims that it had traditionally own the Kimling Khola, the dispute involving killing of Yaks of Thingar in retaliation for reclamation of land suggest that their claim was based on traditional use and not on traditional ownership.

The most important dimension of these disputes was the differential political power wielded by these villages. Very presence of the *Raja* in Lo Monthang, whether he directly supported the claim of Lo Monthang's claim or not, favors Lo Monthang. Besides, its history of being the capital town of the kingdom of Lo, and residence of several noble class families tilts the balance of power in favor of Lo Monthang. Any government officials visiting the region to settle the disputes cannot ignore the power relations between these villages. In fact, these power relations are so overwhelming that no decisions can be made which appear to grossly contradict the interest of Lo Monthang. At the best, they can help negotiate the case to lower the stake of each village. The basis for deciding such disputes are also shaped by the power relations existing between the villages as seen in the dispute of Lo Monthang and Kimling. The area of abandoned land became the basis for deciding the case.

These cases also demonstrate how people resort to different normative frameworks to validate their claims. When they could not validate their claims at the local level they resorted to the state laws. However a particular normative framework validates a claim, the power relation existing between the villages influence such validation. And as it seen in the cases of Lo Monthang and the northern villages these contestations further enhanced the rights of a village over water sources vis a vis another village. Lo Monthang now has the control over the Kimling Khola and decides on how other people should use water from it.

The case of Lo Monthang's ownership right over the water sources of *Ghyaka Chho* and *Numagung* demonstrates how rituals and shared stories are used to validate one's claim over the water sources. In fact, such rituals and stories overrule the logic of hydrology or the state laws in claiming water rights. These rituals performed year after year and stories told from generation after generation not only validates the claim for water but also strengthen the authority of one group of people against another. These rituals are also a means to ossify the unity of people within a village. The incidence of oath taking described earlier transcends the boundary of symbolism and materially impacted the water management issues. The inter-village disputes for water rights served as a cementing glue within a village.

CHAPTER 7: INSTITUTIONS AND CHANGES

Introduction

The role of irrigation systems in shaping social institutions has become a widely investigated field in anthropology following Wittfogel's formulation of 'hydraulic societies' (Wittfogel 1957; Steward 1955; Gray 1963; Fernea 1963; Downing and Gibson 1974; Millon 1962; Mitchell 1976; Sidky 1996; Price 1971). Following Wittfogel's hypothesis, many anthropological studies focused on testing whether the need for irrigation management leads to a centralized bureaucratic structure and formation of despotic government. Many of these studies posit that there is not a simple relationship between despotism and irrigation, however supporting the view that there exists a 'clear relation between water control and the sources of power of the ruling elites of the irrigated society' (Hunt and Hunt 1974). Following this first series of anthropological investigation on the relationship between irrigation systems and political institutions like state, the second wave of anthropological investigations focused on the relationship between organizations and irrigation systems at a societal level (Leach 1961; Coward 1979, 1990; Wade 1988; Hunt and Hunt 1976; Hunt 1989; Uphoff 1992; Guillet 1992; Guillet and Mitchell 1993).

Several theoretical perspectives on collective action (Bromley 1992; Ostrom 1990, 1992; Tang 1992; McCay and Acheson 1987; Agrawal 2001), new institutional economics (North 1990), and anthropology have contributed towards understanding of institutions. Early accounts of institutions -–in structural functional and functional anthropology- -emphasized their functionality arguing that institutions arose and were maintained because they served societal needs. Common pool theorists, drawing ideas from new institutional economics (North 1990), view institutions as rules and regulations that impose constraints on human behavior to facilitate collective action by minimizing transaction costs and uncertainty. Institutions are defined as 'simply the set of rules actually used (the *working rules* or *rules- in*

–use) by a set of individuals to organize repetitive activities that produce outcomes affecting those individuals and potentially affecting others' (Ostrom 1992: 19). Studies in anthropology and sociology, drawing mostly from Giddens'(1984) structuration theory and Bourdieu's (1977) theory of practice, view institutions as people's social practices regularized over a period of time, and less in terms of rules (Leach et al. 1999; Scoones 1999).

Recent scholarship aims to elucidate the processes of institutional changes and outcomes (Ensminger and Knight 1997; Guillet 2000; Cleaver 2000; Lesorogol 2003). However, different disciplinarian approaches put emphasis on different elements in explaining institutional changes. Property rights theorists used functionalist evolutionary logic emphasizing fitness or efficiency to suggest that inefficient institutions are eliminated or become efficient over time (Alchian 1950; Demsetz 1967). Theories on institutional economics attribute the institutional change to "fundamental and persistent change in relative prices" (North 1986: 234). Discussing on institutional change organizational theorists suggest that institutional change arises from the development of contradictions, the force of exogenous environmental shocks, or other factors such as procedural rationality (Jepperson 1991). Jepperson (1991:152) further states "contradictions can develop between an institution and its environment, between it and other institutions, or with social behavior. Such internal contradictions or exogenous environmental shocks can force institutional change by modifying the reproductive procedures of institution".

Scholars drawing ideas from practice theory and structuration theory recognize that individual agency and choice play a role in the institutional transformation (Bailey 1969; Giddens 1984; Bourdieu 1990; Ortner 1984). Several studies have shown that institutions are dynamic and remade through resistance and reinterpretation by individual agents in their daily struggles over property rights (Robbins 1998; Knight 1992). Following this strand, inequalities, power relations, and conflicting interests among different social groups have been found to provide impetus for change (Lesorogol 2003; Ensminger and Knight 1997; Mosse 1997).

Emergence of new institutions is a political affair (Gibson 1999; Peluso 1992). Sahlins (1976) argues that people will seek to enhance their respective positions when opportunity arises, although they will do so by traditionally available means to people in their positions. Several studies have shown that there exists a two-way relationship between irrigation systems and power structure in a society: the rules for management of irrigation system reflect society's existing power structure; and simultaneously irrigations systems' dynamics influence power relations and can either reproduce or transform prevailing societal relationships (Boelens and Doornbos 2001; Bolin 1990; Mitchell and Guillet 1993; Van der Ploeg 1998).

Following Ortner (1984:147), who argues that 'the most important forms of interaction for analytical purposes are those which take place in asymmetrical or dominated relations which best explain the shape of any given system at any given time', most of the changes discussed here involve asymmetrical relations within a society. Coward's (1980: 18) operationalization of institution as 'the rule of continuous irrigation, the custom of performing a ritual ceremony at the headworks of a community irrigation system, and law requiring payment of fees' helps to analyze the institutional change.

Change in operational rules

Rules for use, access, and control of water articulate a society's response to the resource condition at a given time. Some rules, especially the operational rules, are very dynamic, changing frequently, whereas other rules which are more rooted on social relations such as eligibility to participate in the village council for water management show a feature of stability. Change in the resource base, like the increased availability of water, and improved infrastructure for carrying water, as a result of technological intervention, leads to a society responding accordingly by modifying the rules for water allocation or maintenance of the system. When the stability of irrigation canals improved after major rehabilitation of the canals, the rules for continuous monitoring of the canals were changed immediately. For example, in Lo Monthang and Tsaile, rules for constant vigil of canals during the watering season

were abolished. Similarly, rules for labor contribution for emergency repair also changed as the need for such frequent emergency repair diminished. For instance, prior to the rehabilitation of the canal in Tsaile, in cases of emergency repair, all the adults present in the village were required to participate. Now in such emergencies, labor is contributed in proportion to the number of water shares held by a household.

These are a few examples of change in rules which were initiated through a collective interest of all the farmers involved, and these changes cannot be attributed to the clash of interests between different groups. However, cases of change in operational rules owing to conflict of interest between different groups are common in irrigation systems (Ostrom and Gardner 1993; Mosse 1997, 2003; Yoder and Martin 1998). One of the most common types of inequality and the source of conflict in irrigation system is the asymmetric relations between the head-enders and tail-enders of irrigation system, as the famers at the rear end of an irrigation systems are at a disadvantageous position in relation to the water availability (Ostrom and Gardener 1993; Wade 1988; Laitos 1986; Lam 1998; Price 1995). Although command area of all the irrigation systems studied in this research do not stretch over a long enough area to create a situation of differential water availability between head-enders and tail-enders, such a differential situation of head-enders and tail-enders exist in the Dhee village, in temporal sense, because of water allocation rules.

Under the current water allocation system in Dhee, only the Dhongba households get water for three days per rotation in a fixed order, which remains the same year after year. Since there are twelve Dhongba households included in water allocation schedule, and one household gets water for up to three days, those households which are at the rear end of the rotation get water almost a month after the household at the top of the rotation. The effect of this temporal variation in access to water, and the concomitant grievances of the tail-enders are more pronounced during the cultivation of buckwheat, a short duration crop maturing in 80 days. Although most of the households finish irrigating their plots before the allotted time of three days, and, as a result, the tail-enders get water a few days in advance, they rarely get to irrigate their buckwheat crops when it is required the most. However the current

allocation system may appear iniquitous, it is more equitable compared to what it was before around 1975[44]. The previous system of water allocation allowed a household to use water for six days, thereby virtually reducing the number of times a tail-ender could get water for his crops.

Although many famers, especially those who got turns late, would complain of such an iniquitous water allocation, they could not force the change in allocation rule until they resorted to what Scott (1985) calls 'weapons of the weak'. When a big mound of clay fell and blocked the headwork of the canal, those farmers who were at the bottom of the rotation refused to contribute labor for repair as a form of their resistance to water allocation rules. The Raja, the Ghempa Chhe of the village, had to intervene as the case could not be resolved locally. The Raja then changed the allocation rules so that a household gets water only for three days instead of a previous system of six days. The person who led the resistance to participate in repair work states:

> "We had such rules in this village which did not exist anywhere else. If a person on the top of the schedule waters his fields for 6 days our crops would dry by the time we got water. If our crops dry anyway, whether we work on the canal or not, whether there is water in the canal or not, why should we work on the canal? When we refused to work to remove that big mound of clay and those farmers who irrigates early on could not remove that themselves, they went to the Raja. The Raja then changed the rules and reduced the number of days a household could get water to three. Oh.. yes it is better than six –days turn. But now also, rules like ours do not exist anywhere else in upper Mustang. But what can we do?"

The context under which the allocation rule was changed is an example of how an environmental shock could lead to an institutional change (Jepperson 1991). Although some farmers again pleaded the Raja to change the fixed rotation of the turns about 10 years ago, so that they could also get turns in front in some years, their request was not granted. Some famers, including those who get turns early on the schedule, claim those farmers in the front of the rotation are "the Raja's men", and thus powerful. Notwithstanding the exclusion of Farang Marang from the water schedules, the water allocation rules even among Dhongba households reflect the underlying power structure existing in the village.

[44] The exact year of the change of the rule from six- days turn to three -days turn could not be ascertained, but based on the cross references it happened around 1975.

Change in the authority of *Ghempa*

Although villages differ in the number and types of post for managing irrigation activities, all the villages shared the common feature of the post of the *Ghempa*, the village chief. However, there is a wide variation in the role, responsibilities, and power exercised by a *Ghempa* in different villages. In villages like Lo Monthang, the *Ghempa* holds a considerable power in decision making, settling disputes, enforcing, and even in forming new rules. He exercises discretionary power in deciding the amount of fines, although within a normally accepted range. Procedural decorum like offering of a Khata to the Ghempa when requesting for his service symbolically reinforces his authority. If anyone has to make a request to or seek justice from the *Ghempa*, then one has to offer *Khata*, a symbol of honor for the *Ghempa*, and of awe and respect for the person offering *Khata*. The *Ghempa* is next to the Raja in exercising authority in the village, and hence truly a village chief. However, in contrast to authority and power exercised by the Ghempa of Lo Monthang, the *Ghempa* of Namgyal is responsible just for crying out to call a meeting of the villagers, a job done by a *Chhumae* in Lo Monthang. He does not even get to collect the fines, although he can make decisions on issues like timing for various community activities, and meetings. This contrast of authority exercised by the Ghempas of two villages can be attributed to the fact that the position of the Ghempa in Lo Monthang is embedded in the caste system, whereas all the households become the Ghempa by rotation in Namgyal. In Lo Monthang, even while not serving as Ghempa, a Bista family is respected and accorded privileges.

In Tsaile, Ghyakar, and Dhee, the *Ghempas*' role centers on monitoring and enforcing the already set rules. The *Ghempa* in these villages can exercise little discretionary power. People regard him as someone enforcing the rules set by them and not someone whose authority is superior to their own. Symbolically also, people do not offer a Khata to the *Ghempa* when making a request. He is not an adjudicator of disputes arising within the village, and the whole village jointly makes a decision whenever such a dispute arises. The *Ghempa*'s minor role is also reflected by his name's absence on many of the documents signed on behalf of all the villagers. On many occasions, these documents have been signed by

'village representatives' and not by the *Ghempa* himself. The *Ghempa* of Ghiling, as described in previous chapter, also enjoys both symbolic and managerial power, but not to the same extent as that of Lo Monthang.

Although, generally males serve as a Ghempa, a change in gender role in relation to participation in the village council can be documented. For example in Ghyakar village, only the eldest son of a family could become the *Ghempa* and his continuous presence was required during his tenure. His absence would be heavily penalized in some occasions like during the time to changeover of authority and observance of certain rituals to bless the canals. However, complying with such rules became increasingly difficult as many elder sons who held the post of *Ghempa* were involved in personal business requiring frequent and long absence from the village. All the villagers agreed to change this rule so that women can now serve as *Ghempa* in lieu of their son or husband.

As discussed in Chapter 5, most of the villages in upper Mustang have an external higher authority called the *Ghempa Chhe,* or the Chief *Ghempa*. The *Ghempa Chhe,* besides being considered the protector of the village, is also a superior authority to enforce the local laws should the village-level authority be unable to maintain the community harmony or implement any local rules. Mostly the Raja, or his nephews serve as the *Ghempa Chhe* in the villages north of Ghiling. In all the villages of Chhonup VDC and a few villages in Surkhang VDC, the Raja is the *Ghempa Chhe* and in other villages his nephews take over the post. A member of a powerful Thakali clan from Tukche (please refer to chapter 3) used to serve as the Ghempa *Chhe* of Tsaile and Ghyakar. However, when the member of the Thakali clan who was serving as Ghempa Chhe moved to a city area from Tukche, the system of appointing an external authority also ceased in these villages. It was also claimed that the same person used to be the *Ghempa Chhe* of Ghiling village till it remained a part of Chhuksang VDC. The Raja was asked to become the Ghempa Chhe of Ghiling after the village was incorporated into Ghemi VDC from Chhuksang in 1974. Local people claim that the *Ghempa Chhe* is necessary to maintain the law and order in the society as sometimes people do not abide by the authority from within the village. His decisions are

Figure 7.1 The Raja of Mustang, also the Chief Ghempa for many villages

much more authoritative and enforced accordingly. Many of the villages pay the *Ghempa Chhe* a certain amount of grain annually as an honorarium for his service.

Although the *Ghempa Chhe* is highly respected and his decisions are fully complied with, local people collectively could remove him as the case of how people of Ghiling changed their *Ghempa Chhe* a few years ago illustrates. The process of changing the *Ghempa Chhe* started when a dispute over access to and control of pastureland between Ghemi and Ghiling villages arose. As traditionally done in such disputes, the case was referred to the Raja who until then was the *Ghempa Chhe* of Ghiling. Any decision the Raja takes on this case would be viewed through the prism of social networks the people of these villages have with the palace in Lo Monthang. There are no royal relatives or *Bista* families, who usually have closer ties with the palace, in Ghiling village, whereas a niece of the Raja is the leading household in

Ghemi. Members of this household have very good access to the Lo Monthang palace. Whether such a difference of social networks of members of these villages with the Lo Monthang palace actually influenced the Raja or not in deciding the case, the people of Ghiling believed that the raja sided with Ghemi. As a result, they took the case to the District Administration Office (DAO) in the district headquarters in Jomsom.

A nephew of the Raja, who is in an opposition camp[45], assisted the villagers from Ghiling in filing the case and in tackling other administrative issues. Without help of some facilitators it is difficult for the people of upper Mustang to get access to government offices. The problem of accessing a government office is further aggravated by their poor knowledge of the Nepali language, the official language of the government. In addition, the Raja's nephew had also represented the people of upper Mustang in the District Development Committee until a few years ago, and had good access in the government offices. The DAO later negotiated the case between two disputing villages in 2003, and the outcome favored the Ghiling village in opposition to the ruling of the Raja. This new ruling from the DAO further reinforced their speculation that the Raja, instead of being impartial, sided with Ghemi village on the pasture land case. Ghiling villagers resented the Raja's decision which encouraged them to discontinue him as the Ghempa Chhe. As an alternative measure, they requested the Raja's nephew to accept the post of the *Ghempa Chhe*. He had been already serving as *Ghempa Chhe* of other villages in Chhoser VDC as well. Despite their repeated requests, he did not accept their offer mainly because he was in the opposition camp of the Raja and his willing acceptance of the post would apparently further fuel the rivalry. Later he acquiesced to their demand and became the Ghempa Chhe of Ghiling in 2005. Discussing on the reasons for changing the Ghempa Chhe, an elderly man of the village said:

[45] The royal family and relatives have divided themselves into two opposing camps around 1996 following a dispute between the present Raja and his sister-in-law, the widow of the previous Raja over property (and probably over the heir to the throne). All the royal relatives have sided with one or the other camp. In 1996-1997 this royal dispute created a grave tension in the whole of upper Mustang region. The dispute also acquired a political dimension in it because of leaning of these opposing camps to different political parties of the country (for details of the disputes please refer to Tulachan 2003). I was working in this region when this dispute reached its climax and caught most of the people of upper Mustang who would otherwise have little interest in internal affairs of the palace.

> "….No we did not change him. The Raja himself created the situation. People of both villages should have been equal for him. But he sided with the people of Ghemi. And how could we continue him as our Ghempa Chhe when he did not treat us equally with the people of Ghemi? His actions forced us to take this step and it is not a big thing. We needed one Ghempa Chhe and we chose the one who we think will be good for us."

The *Ghempa Chhe* in Ghiling does not get any honorarium for his service. However, he is well respected and whenever he comes to the village, he is welcomed with a jug of *Chhyang*, eggs, and fenugreek leaves, and his horse is well taken care of. All the expenses incurred during his visit are paid from the community fund. The new Ghempa Chhe, together with local people had already introduced some changes in the institutional arrangement of water management in the village, which illustrates how institutions are remade through "resistance and reinterpretation by individual agents in daily struggles for property rights" (Robbins 1998). The following section demonstrates how institutional change is not always unidirectional and such changes may revert to the old arrangement also.

Efficiency versus equity in institutional arrangement

Communities often grappled with a situation where they have to decide whether the principle of efficiency or the equity should hold the primacy. And choices a community makes on such issues reflect the underlying norms and values of the community. In this section I discuss two cases where people are confronted with a situation of making such choices. The first case, that of Tsaile, demonstrates the dilemma of a community whereas the second case, that of Ghiling describes how the principles of efficiency and equity were played out differently at different time.

In Tsaile, any family that lives in the house of a Dhongba and cultivates his land becomes a Dhongba household. More precisely, this incoming family has to discharge all the duties of a Dhongba household required in the village, such as serving as Ghempa. There are three such families who have come from other villages who cultivate the Dhongba's land. Two of these 'immigrant' families came from other villages in upper Mustang and hence are familiar with the Ghempa institution, which is a

common feature of all the villages in the region. One family came to this village from a distant village from another district where the flaring Maoist insurgency had displaced many people.

Although the post of Ghempa in Tsaile is not as highly authoritative as the one in Lo Monthang, effective execution of the duties of the Ghempa requires commanding the respect of the whole community. A Ghempa with leadership qualities and ability could effectively enforce and monitor the rules, and keep the community system vibrant. However, when these three families serve as Ghempa they cannot command such respects of the community for a variety of reasons such as their diminished status by having to work on other's land, unfamiliarity with the village norms. Since the village has the system of having two Ghempa in any year, the weakness of one Ghempa to a large extent is offset by the effectiveness of another Ghempa. An elderly Dhongba worried of maintaining a strong community system states:

> "We are in a difficult situation now. Some Dhongba households have left the village leasing their land to other families. While we cannot let those outgoing households to abdicate their Dhongba, the family cultivating their land now cannot do a good job of Ghempa. It is possible that some people may not abide by what these Ghempa say. It is more than that, when these households become Ghempa they cannot even ask the people to do certain things. And you do not become a good Ghempa when you cannot do that. Fortunately, we have not yet faced a situation where both the Ghempa in a year are from these new families. The dice has been good and every year at least one of the Ghempa is from original families of the village. It is becoming difficult to maintain the community system. We teach these new households how to do the job of Ghempa, but they have to do it."

Such concerns of the people who are originally from this village are also shared by those people who have come to this village recently. They also feel that it is difficult for them to effectively discharge the duties of a Ghempa especially when they cannot command the respect of the community. A man who served as a Ghempa for a year tells his experience as:

> "I do not know even the basic things like crying out for a meeting. I feel shy to do that. Another Ghempa always does that. In fact, he does most of the job. I support him whenever he needs any. Of course, villagers here are helpful, but still it is very difficult for me to be a Ghempa. But there are also not a lot of work for Ghempa, people are happy that I am supporting another Ghempa. "

This situation of inability of new households to effectively discharge the duties of Ghempa however is not considered an issue of conflict between two groups of households. Even though, limiting the post of the Ghempa only to the people who are originally from the village would have helped them to avoid a situation of having a Ghempa with lessened ability, they strongly believe that all the Dhongba households should share this responsibility. Moreover, since the post of the Ghempa is held by a household and not by a person, whichever family lives in the Dhongba household should take its responsibility. However, the conflicting situation faced by the people --of maintaining equity in holding the post of the Ghempa at the cost of efficiency-- reflects people's concern for maintaining an effective community system when wider socio-economic forces like emigration of people for trade in city, foreign employment are affecting the demographic structure of the village (Baker 1997, 2005).

Unlike in Tsaile, where people, although faced with the problem of maintaining the effectiveness of the Ghempa system, have not changed the rules for participation in the institutional arrangement, Ghiling villagers have changed the institutional arrangements more than once in recent past when faced with such a situation. Change in institutional arrangements in Ghiling, described here in detail, illustrates that people experiment with different institutional set-up at different times, and such changes sometime revert back to the system which they have discarded in the past.

Before the formulation of the current institutional arrangement for water management in Ghiling in 2004, the previous arrangement lasted for 14 years. How and why the institutional arrangements were changed at these two different times show the dynamics of functioning of an institution and the process of its change. Although different groups of people within the village had their own interests in enforcing or resisting such changes, the Ghempa Chhe is also involved in bringing about such changes who tries to negotiate the conflicting interests of different groups. Such changes are legitimatized only after the consent of the Ghempa Chhe. The previous institutional arrangement was devised in 1990 with the support of the Raja, then the Ghempa Chhe of the village, out of a dissatisfaction of both the local people and the authorities of that time. Until then, only two households, called the Ghyawa Dhongba, could hold

the posts of the *Ghempa* and the *Dhungi* (also refer to chapter 5). Each of them would hold a post for five years and then swap with the other household after its tenure is over. No other households in the village could hold these posts, and they would think it was an undemocratic practice to let only two households hold these posts year after year. And since these posts would not entitle the post-holders to any direct material benefits, these two households were also resenting the public discontent. Out of this popular dissatisfaction of the local people, a new system was designed so that other households also could hold the post of the *Ghempa* and the *Dhungi*. While changing this system of authority, rules for allocation of water were also changed. Prior to this, anyone who reaches the reservoir first in the morning would get the water. In such a first- come- first- serve water allocation disputes were commonplace, as also reported in the Andean Highlands (Mitchell 1976; Bolins 1990). A system of fixed rotation among households within different irrigation groups was devised.

In the changed system, four *Ghempa*s were selected, one from each of *Chhyo* (irrigation group, also please refer to chapter 5) for a year. The turn of a household within a *Chhyo* to serve as *Ghempa* would be fixed in the same order as the one for irrigation. This system of rotation would ensure that each *Dhongba* household would get an opportunity to become a *Ghempa* instead of a hereditary *Ghempa,* as previously practiced. If a household does not have a male member in the village, a female member could also work as a *Ghempa*. In the event of a household holding two *Dhongbas,* it had to hold the post twice in a rotation. The post of the Dhungi was abolished and these four *Ghempa*s would themselves keep the record of village accounts. Other posts of the council such as *Dhurappa*, *Rongya,* and *Kawa takye* were same as what they are today. Similar to the current institutional arrangement, this arrangement also excluded Farang Marang households from holding any of the council's post.

Although the changed institutional arrangement was more egalitarian, at least for *Dhongba* households, the initial fervor of the changed system soon lost the momentum, and over the years, the system started degenerating. The arrangement became so ineffective that after 14 years of following this apparently more equitable form of authority selection, villagers again devised another institutional

arrangement for managing agriculture and irrigation activities. The reasons cited for non-functioning of this arrangement are:

(i) In the new arrangement, all the Ghempas taking up the responsibility would not have any experience of or the hands- on skill of the post. Compared to their previous counterparts, who were hereditary Ghempa and thus had rich experience and knowledge, these new Ghempas' lack of experience of and knowledge about the post greatly limited their ability to discharge the responsibilities effectively. Moreover, since the tenure of these Ghempa was only for one year, any skill they learn in the first year could not be carried to the next year. Viewed against the backdrop of the performance of the hereditary Ghempa, which people often do, these new Ghempas' performance would not appear satisfactory. In addition to managing agricultural and irrigation activities in the village, these *Ghempa*s are also responsible for management of common resources like forest, pasture, and community land about which they know little, mostly due to their far distance from the village. Some of these Ghempas had little knowledge about the boundaries of the forest the village shares with Chhuksang village located to the south, and other pasture lands, which would put these Ghempa in a disadvantageous position for management of these common resources and in negotiating with other villages.

(ii) For complex reasons, some *Ghempa*s were unable to command the necessary respect from the community, thereby affecting not only their performance but also directly impacting on the confidence people had in the *Ghempa* institution. Traditionally, the post was held by males but with the new system, sometimes females could also serve as *Ghempa*, especially when male members were absent from the village. Many people today claim that some women *Ghempa* were unable to command the confidence of the community, which had been accustomed to male Ghempa. Lack of confidence in an individual's ability to serve as *Ghempa* diminished their ability to make decisions and implement. Laxity in implementation

of community rules led to encroachment of community lands. For instance, some houses were built on the community owned lands signaling the diminishing authorities of *Ghempa*.

(iii) Holding the Ghempa post is a community obligation for a household, which is widely perceived as not rewarding as the Ghempa do not get any direct remuneration from the community fund. As four Ghempas were collectively working at any given time, some of them would eschew the responsibility hoping that another Ghempa would do the job. There was not any clear division of work among them. Not only was there lack of incentive for doing a good job, but there were no any punitive measures if they failed to execute their duties.

(iv) Over the years, villagers started suspecting that some *Ghempa*s were not working honestly. Some *Ghempa*s were said to have favored their relatives and being lenient towards relatives while charging fines. Some were even suspected of misappropriating community resources like felled trees along the irrigation canals. While all the households contribute labor for felling large trunks and carrying them to the village from the fields, the *Ghempa*s were suspected of disposing them off. The *Ghempa*s manage the grains collected as *Phutok* (crop share) from the community-owned land, and use it for meeting community expenses and preparing chhyang (local beer) for rituals and village functions. The expenses incurred by *Ghempa*s during the village functions are also met from the community funds. These *Ghempa*s were also alleged to have indulged themselves inappropriately with the community funds, especially by preparing large amount of Chhyang for their personal consumption.

Although the combined reasons mentioned above were eroding the effectiveness of the *Ghempa*s, the dispute with Ghemi village (discussed earlier), whose outcome was beyond the control of any *Ghempa*, or of the whole village for that matter, gave an important impetus for changing this institutional arrangement. The dispute with the Ghemi village, and the subsequent resolution of the dispute by the

DAO helped bringing in the change of the Ghempa Chhe. And the new Ghempa Chhe ushered in a new arrangement, ending the arrangement that lasted for 14 years.

Already dissatisfied with the existing institutional arrangement, when the incumbent *Ghempa Chhe* accepted the post two years ago, the community wanted to make changes. The *Ghempa Chhe* consulted with the people to design a new system in place of the existing one. People, especially the youth, also resented the fact that the two *Ghyawa Dhongba* households, who used to hold the posts of the *Ghempa* and the *Dhungi* earlier, kept on availing themselves of the privileges bestowed earlier without having to contribute anything to the community. Although the privileges accorded to these two Ghyawa Dhongba households had been in practice since generations and was not the compensation for their current service to the community, people felt that these households should contribute to the community in some way for the privileges they were enjoying. Taking into consideration the conflicting interests of different groups of people, the new *Ghempa Chhe* helped them form an institutional arrangement which is similar to the one that was there 14 years earlier, except for some minor changes. In the past, each Ghyawa Dhongba household would hold the post of either the *Ghempa* or the *Dhungi* for five years and then swap, but now they hold the post only for two years and then swap. In addition to these two posts, now two *Ngiwas* are selected from among *Dhongba* households to serve as Assistant *Ghempa*. Although they are responsible to discharge their own duties, the new *Ghempa Chhe* required them to work collectively (including two *Ngiwa*s) in making any decisions. As proof of the successful functioning of this new arrangement, they have already generated within two years over one hundred thousand Rupees in the community fund. While the whole constitutional mechanism of village council was changed the arrangement for water allocation remained the same since it had guaranteed all the households would get water in an orderly manner.

Changing class system

The traditionally practiced impartible primogeniture inheritance system in the region creates two categories of people, which plays a major role in shaping an individual's access to irrigation water and its management. Although impartible inheritance system exists in other social systems around the world (Netting1981, Cole and Wolf 1974, Knight 1992), it is closely tied with the fraternal polyandry system of marriage practiced until recent past in the region. Although this marriage system has almost died by now, the impartible inheritance system tied with it is still extant. This inheritance system divides the people in two major classes: the one called Dhongba who inherit the ancestral property, and the other called Farang Marang who do not inheriting the ancestral property. This classification not only shapes a person's economic status but also social status as demonstrated in previous chapters (detail in chapter 5 and 6).

The six studied villages vary greatly in the degree of embeddedness of rules for accessing and management of irrigation water in the social institution of impartible inheritance. The studied villages form a continuum in relation to the rights accorded to the *Farang Marang* in water access and management. At one end of the continuum lies the Dhee village where they are excluded from both water schedules and participation in the village council. Water schedules are formed only for the *Dhongba* households, and the *Farang Marang* households can get access to irrigation water only through *Dhongba* who have given them land. Although the Farang Marang households get water only through the Dhongba households and not on their own right in Dhee, they have to contribute labor for canal repair and maintenance according to the number of adult persons (between 14 and 60 years) a household has. Not only those present in the village but also those who are away are required to contribute labor for canal repairs. Since many households have their family members away from the village either working in the city or engaged in foreign employment, a household is left with two choices either to find a labor for its absent family member or pay a fine, which depends on the level or urgency of the repair. The cost sharing for maintenance of the canal is asymmetrical as Farang Marangs who, because of smaller landholding size, hardly benefit from the irrigation canal yet contribute the labor in the same manner as the Dhongba

who draw sizable gains from the canals. Such asymmetric nature of labor contribution is however not unique to this village. For instance, Ilahiane (2001) found that a group of people had to participate in operation and maintenance of the canal although they did not own any land in the irrigation system of the Ziz valley near High Atlas Mountains in Morocco. Discussing about the unequal labor contribution in the village a Dhongba man said:

> "Yes the Farang Marang complain of having to contribute labor in the same manner as the Dhongba households have to. It is understandable, that they have only a few plots of land yet work on the canal like we do. But we have been doing like this since our forefather's time. When they complain of labor contribution for canal repair, we tell them that they get equal share with other resources like pastureland and community forest. When they get equal benefit from other village resources they have to contribute labor for the irrigation canal as well. We do not have many people in the village and the canals need frequent repair so we all have to work on it. But the Dhongba households provide the food for all the people working on the canal. And the fine the Farang Marang pay for being absent from such work is half of what we Dhongba pay".

In contrast to how a Dhongba partially justifies this form of asymmetrical labor contribution for canal repair, a Farang Marang member said:

> You see I have only a few pieces of land which can be irrigated within four hours while these Dhongba irrigate for 2- 3 days. But I have to work on the canal in the same way they do. I have to pay a fine for my brother also who is not here in the village. If the fine is increased, I go to Surkhang or Yara village to find someone to fill in. We cannot do anything about labor contribution, they are rich and powerful and we have to obey them. Yes we can also keep our animals in pastureland like the Dhongba but we cannot afford to keep many animals. We have to pay more for this canal than what we get from this canal.

Although the inequality among Dhongba households caused by temporality of water allocation spurred the change in water allocation rules as discussed earlier, the inequality between Dhongba and Farang Marangs has persisted and remained unchanged. The inequality reflects in differential access to water, labor contribution with reference to landholding size, and eligibility to participate in participate in decision making.

Along the continuum of villages in terms of rights of the Farang Marang people, next to Dhee are the villages of Ghiling and Tsaile, where *Farang Marang* are included in the water schedule but excluded from participating in the village council and many rituals that have symbolic capital. At the other end of the continuum lies Namgyal where *Farang Marang* are not only included in the irrigation schedule but

also they can hold positions in the village council. However, this seemingly egalitarian system in Namgyal has come through people's resistance in everyday encounters (Scott 1985) to get access to water sources. Similar changes are taking place in other villages as well.

One such major change took place in Lo Monthang around 35 years ago[46]. Until then, both the caste hierarchy and inheritance classification would cross cut in defining an individual's eligibility to participate in the village council. Only the Bistas from among *Dhongba* households, called *Dhongba Ghye*, could hold the post of *Ghempa*, and the *Chhumae* were selected from only 53 households called *Ngipchu Ngipchu Ngachung*. All the *Farang Marang* and Ghenchang were excluded from holding any of these posts. At a time when the government institutions like Village Panchayat [47] were not yet established, the *Ghempa*, *Mithui* and *Chhumae* were the sole officials managing the community system and thus must have enjoyed a strong social and political power. Other entitlements would also come through the nexus of power exercised by these posts. It is then normal to expect that those who were prevented from holding these posts resented and envied those who could hold the posts. As a form of resistance, they (all the individuals living inside the wall and not eligible for holding such posts) went to the Raja's palace in Thingar to demand that the discrimination for holding the position in the village council based on inheritance-class should be abolished and all the households be allowed to hold the posts in the council. This incident must be also seen against the background of political current of the time. It had not been long since young Thakalis (as described in the history section) from the southern parts of the district encouraged the local people to revolt against the king's authority. Against this background of democratic fervor, people who were prevented from taking any posts in the council yet contributing equally to maintain the community system demanded to make changes in the system. The Raja acquiesced to their

[46] It could not be determined exactly which year the previous system changed. But based on the fact that the system changed when the father of the present Raja was ruling from the Thingar palace, it must have been between 1961 and 1967. Based on other indications like the age of the informants, it appears that the system changed somewhere between 1964 and 1967.

[47] Village Panchayats were the basic political-administrative unit at the village level similar to the Village Development Committees of today.

demand and the rules were changed. Since then, the post of *Ghempa* is rotated among all the Bista households, and the post of *Chhumae* is rotated among all the Gurung households, irrespective of whether one is a Dhongba or a Farang Marang household. Although the post of Mithui is also usually held by a Gurung, the post is assigned to someone based on his individual merit rather than being a member of a particular caste. These days, only the caste system defines an individual's eligibility to hold a post in the village council. No *Ghara* people are allowed to hold any of these posts till today.

It can be safely assumed that the differential treatment of these two classes of people in those days is similar to what is found in the villages today where such changes were not enforced. For instance, in Ghiling although *Farang Marang* have access rights to irrigation water, they are restricted holding council posts and from participating in rituals, a symbolic capital. In Ghiling, community norms still have their foundation on the inheritance-based classification. However, the inheritance-based classification does not form the basis for any differential access to or control of resources in Lo Monthang today, and such differentiation are based on the caste system. Then it is no surprise that no previous studies conducted in Lo Monthang, including otherwise a detailed ethnographic study by Tulachan (2003) mention of such inheritance-based classification. However, the differentiation caused by this classification had a large impact on an individual's role in the society in the past.

A similar case of abolishing the role of the inheritance- based classification in differential access to water is found in Namgyal village as well where the change took place only five years ago. Unlike the in Lo Monthang, where the deprived group were the active agent of such changes, in Namgyal the *Dhongba* class were forced to change the institutional arrangement because of what Scott (1985) calls 'everyday resistance of the weak'. Until five years ago, the *Farang Marang* were excluded from both the water schedules and participation in the village council. The *Farang Marang* hold a very small size of land compared to that of the *Dhongba* and they would not get any turn for irrigating their crops. As they would not get water on their own rights, they had to request *Dhongba* to give water from their turn, or

sometimes steal. They were, however, required to contribute labor for maintenance of the canal, although not as much as *Dhongba*.

This system changed suddenly when the canal was severely damaged and required a large labor pool for repairs. As the *Farang Marang* were not included in water schedules, they could not be held accountable for any damage in the canal that might occur during the time they irrigate their fields. Or sometimes, the damage may occur when they steal the water. In order to generate a larger labor force and hold every water user responsible for damage of the canal, the *Dhongba*s proposed that the *Farang Marang* should also be given fixed amount of water and included in the water schedules. Then the whole village adopted the system of water allocation based on water share called *Chhyukim*, and each household was given a certain number of *Chhyukim* in proportion to the land they held. Prior to this, water was allocated among the *Dhongba* households based on the landholding size. The allotment of *Chhyukim* involved a series of negotiations but finally all the households got water share if they had a land to cultivate. Every household claimed in the village meeting that they be given a larger share. The basis for such claim was not only the landholding size. For example, a household which had to serve as *Dhungi*, a secretary, year after year as there are only a few people in the village who can read and write claimed that he be given more share for his service. After the development of the new system of water allocation, the *Farang Marang* not only have direct access to water but also can become *Ghempa* and *Chhumae***.**

Formal and informal institutions

Scholars on commons have broadly grouped institutions into formal and informal institutions, mostly on the basis of their formulation and recognition by state agencies (Ostrom 1990, Leach 1999). Traditionally formed institutions in local setting are viewed as informal institution whereas those formed formally at the initiation of the state agencies have been viewed as formal institutions. Commons scholars have been criticized for not recognizing the interaction between formal and informal institutions (Cleaver

2000, Mehta et al..1999). However, in local contexts, what have been promoted as formal institutions by the state agencies appear informal agencies as the discussion below illustrates.

One important formal institution is the Village Development Committee (VDC), formed by general election every five years under the political- administrative framework of Nepal. A VDC refers to both spatial unit and the group of people elected to govern the spatial unit. Normally, a VDC comprises of more than one smaller village. Through the Nepal's Local Governance Act of 1991, the state made these VDC bodies responsible for management of all the natural resources like forest and pasture as well as development activities. This gave the VDCs quasi-legal authority. Although the state law made them responsible for management of resources within its jurisdiction, the traditional Ghempa system continued managing these resources, without any serious conflicts between these two institutional setups. This can also be attributed to the fact that those who are elected in the VDC are also the members of the same community that has been used to the traditional system of management.

Since a VDC is usually comprised of many smaller villages which have independent management system of commons, bringing management of commons of all the villages under a single umbrella of a VDC is a very complicated issue. The traditional institutional arrangement of management of commons was left intact, and both the institutional set up co-existed. The VDC would be responsible mainly for implementing development activities supported by the government and other external funding agencies.

The crucial role the traditional institutions played in maintaining social harmony and stability was clearly felt in last several years when the VDC system throughout Nepal could not function because of the unrest caused by the Maoist insurgency. It was practically impossible to hold elections to elect VDC officials even after their tenure was over. The government could have extended the tenure of such bodies but chose not to do so for factional political rivalries. This created an institutional vacuum and many villages in most parts of Nepal were in disarray, at least in terms of managing development activities and general administration. However, villages in upper Mustang were little affected by the absence of VDC

bodies as the traditional institutions continued functioning and took over most of the responsibilities of VDC as well.

Since the VDC system does not bar any people on the basis of caste or any other social differentials from holding any positions, it provides an outlet for political aspiration of people who have been barred from being in the leadership position of the Ghempa system. For example, the caste system prevents a Gurung from holding the post of Ghempa in Lo Monthang; however, he can become the Chairman of a VDC.

The VDC system has become well institutionalized (Scott 1991) through the government's legal framework and operational modalities. However, some other institutional set up considered by the government as a formal institution might be considered an informal institution by the local perspective. For example, the government requires that a user's association has to be formed before launching any development activities like irrigation rehabilitation work, or drinking water system for the implementation and sustained use of such activities. The government also stipulates certain conditions the inclusion of women and people from disadvantageous groups in such associations to make them more representative and in turn more effective. However, in Mustang, these users' associations are formed only for the purpose of meeting the government requirement and to obtain the funds. Once the fund is disbursed, the management of such fund and implementation of the proposed activity are carried out by the traditional Ghempa system[48]. The user's association exists only on paper as far as local people are concerned. For them, the Ghempa system is the formal institution and the user's association is merely a paper work for securing the funding. What is formal for the government is informal for local people and vice versa.

[48] Generally the government sponsored activities are implemented by VDC officials. But because of the absence of VDC system in past several years the Ghempa oversees implementation of such work.

Discussion

The above overlayed cases of institutional change integral to irrigation management fall broadly in two categories one that were initiated by all the people of the village like changed gender roles in Ghyakar in relation to serving as *Ghempa* and the second wherein one group of people's interest clashed with that of another group of people like in the case of abolishing eligibility criteria for holding village council posts in Lo Monthang. These changes are not necessarily linked with increased level of disputes or non-compliance of the rules. In fact, the existing rules in all the villages are tightly implemented and thoroughly monitored. The changes were initiated against those rules not by rejecting the rules itself or disobeying them but by maneuvering the relationship that are shaped by micro-politics and power (Agrawal 2003).

Although institutional change may be forced by a certain group of actors, this may not always be the case. Agrawal (2003: 257) states "….now commons theorists have come to emphasize the fact that institutions change mainly as a result of attempts by specific social actors, and institutional change is likely to occur only when relevant political actors perceive gains from institutional change. The emergence of new institutions thus is a highly political affair".

Changing the structure of the village council in Ghiling demonstrates how people play an active role in forming and reforming institutions. This case clearly highlights how a society places a different value on the issues of effectiveness and equity at different times. In one instance, the issue of equity became a priority and the villagers changed the institutional arrangement so that all the *Dhongba* households could hold the post of Ghempa. At another time, when the system that relied heavily in the principle of equity could not meet their expectation they had to revert back to the old system that emphasized more on the effectiveness of the system than on equity. The failure of the system described above also shows how institutional memory might affect the functioning of an institution.

Although not mentioned above in the cases of institutional change, such issues of dilemma in prioritizing effectiveness or equity are found in other villages also. For example, in Tsaile, any household

that cultivates the land and lives in the house of a *Dhongba* has to serve as *Ghempa* in its turn. But their role as Ghempa is often marred with inability to effectively discharge duties and command the respect of the community. Some village elites are in dilemma when the rotational system of leadership in the village brings in people who are not perceived as capable of maintaining the community system. Thus the role of institutions as reinforcing the status quo becomes an issue of debate.

Some of the changes like changing the rule governing the involvement of people based on inheritance class has wider social and economic impact crossing the boundary of irrigation management. Change of such system although took place in a particular moment it had a deeper root in the process of domination and resistance. The very social differential that shaped an individual's ability to participate in irrigation management and community system was abolished. Conditions favored by power, politics, and local necessities helped bring about such changes in a particular moment. "Issues of agency, the mutually productive relationship between domination and resistance, and the creation of institutional arrangements can be understood only with greater attention to micro-politics" (Agrawal 2003).

Another important issue to be discussed here is that many of these changes were not preceded by major conflicts within the village in relation to water management. In fact, most of the serious disputes related with water management, as described in the previous chapter, were for control of water sources between two or more villages. Outcome of such inter-village disputes helped reinforced the sense of unity within the village. Such unity is facilitated when the heterogeneity within the village caused by inequality is reduced. Baland et al. (2007:5) argue that "..heterogeneity leads to the development of different identities, and to the mentalities of "us" versus them" which reduce the levels of cooperation ad the overall performance of the society". Thus both intra-village and inter-village relationship in relation to water management weaves to bring about institutional changes.

CHAPTER 8: SUMMARY AND CONCLUSION

Overview

This ethnographic study of water management in six villages in the upper Mustang region aimed at understanding the relationship between society and irrigation by integrating comparative and historical approaches. As water is the most limiting resource of production in this cold desert- like, mountain environment, social arrangements developed to manage water form the backbone of community norms. Comparison of current water management practices and its history in different villages helped to understand the deeper process of how social institutions change over the time. Focusing on water management practices in only one community or on only the current management practices without looking into its history would not have yielded the insights required to answer my main thesis on water and social dynamics. This study used 'water rights' as a thread to study water management, differential access to water, issues of cooperation and conflicts, people's struggle for accessing and control of water sources and the overall process of change in social institutions in relation to these struggles. The struggles for access and control of water sources are sometime overt while silent at other times. Such struggles are integral to a community's identity and thus develop a sense of cohesion within a village. Water management in this arid environment is more than a collective management of a common pool resource, but a historically rooted phenomenon that holds a community together and gives meaning to its identity.

Summary of research finding

The first major question of this research was how water rights are defined at the field level. I investigated this question at three levels: (i) definition of water rights at the operational level (e.g., that is water allocation and use); (ii) rights to participate in the rule making and the decision making process; and (iii) control of water sources. At the operational level, factors like society's crop preference, crop

physiology, level of water flow, layout of the field, and social stratification or landholding size intricately weave together in defining water rights. At this level, water rights are defined mainly as who can use how much water for what crops, and when.

Crop preference and field layout

The elaborate rules for watering different crops reflect the value placed on a particular crop by the people of Mustang. In the six villages, cereal crops (e.g., wheat, naked barley, and buckwheat) are the major staple crops and thus get most of the water. In Tsaile and Ghyakar villages where two crops are grown in a year, naked barley in winter and buckwheat in summer are the preferred crops for which rules of water allocation are strictly followed and monitored. In the northern villages of Ghiling, Lo Monthang, and Namgyal, wheat is the major crop followed by buckwheat and naked barley. In all villages water is allocated according to crops. If the turn is for one crop, other crops cannot be watered. However, in Dhee, a household can irrigate any crop in its turn. Separate rules are set for minor crops like pea, corn, and rapeseed. In many villages, until few years ago, watering vegetables from irrigation canals was penalized.

Not only is crop type but also crop physiology is important in deciding water allocation. For example, the first three irrigations on wheat, considered to be critical growth stages, is strictly regulated and monitored. Similarly in Tsaile and Ghyakar villages separate rules govern the third irrigation in naked barley and planting period of buckwheat. Some of these rules are set that way because these critical crop growth stages are linked with low water flow in the canal.

In villages like Lo Monthang, Tsaile, and Ghiling, the location of fields is also a major basis for allocating water. Some crops are contiguously irrigated while water allocation for other crops is done on a household basis. In short, both local ecological and social factors influence water allocation. Water is allocated based on land-holding size or in proportion to water shares held by a household. In Lo Monthang and Ghiling, the two most populous of studied villages, water is allocated in proportion to the

land held by an individual family. In Lo Monthang, the principle of contiguity is followed and fields are irrigated contiguously starting from the top. In that sense, water is allocated directly to the land and not to the household owning the land. Water schedules are set to decide the order of irrigating the crop and fields. However, in Ghiling water is allocated to individual households and not to the land. A household gets water as long as it takes to water all the fields in that particular section. In the smaller three villages of Tsaile, Ghyakar, and Namgyal, water is allocated according to water-share. In Tsaile and Ghyakar, these shares have been followed traditionally and cannot be transferred. These shares are not in proportion to the landholding size of an individual household. In the village of Namgyal this system of water share was introduced five years ago in place of a previously practiced land-based water allocation. Although land buying and selling are not common, this fixed water share is an important deterrent preventing people from amassing land even if someone could afford to. This is similar to what Guillet (1992) found it Peruvian highland. One day of water is allocated to a fixed number of shares. Households holding fractional shares are grouped together into several smaller share-groups in such a way that the total number of shares held by a smaller group is equivalent to day of water turn. Membership to these share-groups is permanent, and a household cannot shift from one group to another from one year to another. Households within a group devise their own mechanism to distribute water among them. In the village of Dhee, water is allocated to all eligible households for an equal period (three days per rotation) irrespective of landholding. The eligibility of a household to get water is based on property-inheritance class.

Access to water and social stratification

One of the major findings of this research is that an individual's access to water and/or in participation in management is defined by a class system created by the system of property inheritance, practiced in the region. Various studies on differential access to water have identified main differential axes as caste and gender (Beckmann et al. 2000, Mehta 2005, Roth et al. 2005, Koppen 2000) but inheritance- based differential axis was not reported before. The impartible primogeniture inheritance

system of property inheritance followed in Mustang had its root in the fraternal polyandry system of marriage, traditionally followed in the region. Although there are only a few remaining polyandrous households and this system of marriage is not practiced in the region, the accompanying inheritance system of parental property is still followed. This system of property inheritance creates two classes of people: *Dhongba* who inherit the parental property; and *Farang Marang* those who do not. As these classes find their legitimacy in the inheritance of property, an individual's landholding size is very much determined by the group into which one falls, although there are a few cases where *Farang Marang* households have larger landholding size. The effect of this classification in access to water and management varies in different villages. For example, in Dhee, no *Farang Marang* households are included in water rotation. They can get access to water for their available land only through a *Dhongba* household. Neither are they allowed to hold the post of Ghempa responsible for management of agricultural activities in the village. In the villages of Ghiling and Tsaile, although *Farang Marang* are included in water schedules, they cannot hold any post in the village council. At the other end of this continuum of differential rights of *Farang Marang* people are the villages of Lo Monthang and Namgyal. In these two villages, no differentiation exists between these classes in terms of access to water and in participation in the management bodies.

However, these two villages also had similar differential access to water in the past based on the property inheritance system. In Lo Monthang, such a differential right to become a member of the village council was abolished about 35 years ago at the initiation of those who were deprived from such privilege enjoyed by few others. In Namgyal also, the previous system prevented *Farang Marang* from being included in the water schedule and participating in the village council. This system of inequity was changed five years ago. Although this differential access based on inheritance was abolished in Lo Monthang some thirty five years ago, the differentiation based on the caste system is very much in existence. Only the noble classes can hold the post of Ghempa, and commoners can hold the post of Chhumae and Mithui. The outcast *Ghara* are not allowed to hold any of these posts until today.

In those villages where such inheritance- based differentiation is still followed, the *Farang Marang*s are also not allowed to participate in many rituals, worshiping related to agriculture and water management, thus depriving them of what Bourdieu (1977) calls 'symbolic capital'. Although *Dhongba* are obligated to contribute more to maintain the community system by additional labor contribution, these obligations also bring rights and privileges. These rights and duties inherent to the two classes of people diminish both the material and symbolic resources of the Farang Marang. However, access to drinking water, and water- mills is not differentiated along any of the axes. Being a member of a community entitles all to have equal rights and obligations in relation to drinking water.

Through the investigation of such changes in differential access to water and participation in managerial bodies, this study found that this differential treatment of people in relation to the irrigation system forced them to abolish the whole classification system itself in some of the villages. In Lo Monthang, such a property inheritance based classification and differentiation is not found today. This is one clear example of how irrigation systems trigger change in social institutions.

Institutional arrangement

All villages have their own system of managing irrigation. A Ghempa is selected each year to serve as village chief for managing agriculture and irrigation activities, except in Ghiling where the post of Ghempa is held by either of two households for three years. A Ghempa is supported by other officials, the number and types of which vary from village to village. The designation of other posts also differs in different villages. The number of officials seems to be roughly proportional to the number of households in a village. In Lo Monthang, the largest village, the village council, in addition to the Ghempa, consists of two Mithui and six Chhumae. In the next largest village of Ghiling, in addition to the Ghempa, there are posts like Dhungi (a secretary), two Dhurappa, three Kyawa Takye, and a Rongya. Smaller villages like Dhee and Tsaile have only two officials in the council. Except in Tsaile, Ghyakar, and Lo Monthang, all other villages have an external higher official called Ghempa Chhe (chief Ghempa), either the Raja or

his nephews. Tsaile and Ghyakar villages also had external higher authority, a member of a powerful Thakali clan from southern Mustang in the past, but this system has ceased to exist. In the case of Lo Monthang, the Raja himself is the highest authority in the village so it does not have a Ghempa Chhe. The Ghempa Chhe is involved only in major issues of a village and helps to resolve cases beyond the capacity of a Ghempa. Mostly these Ghempa and Ghempa Chhe are paid some honorarium. In many villages fines collected throughout the year by penalizing the violation of community rules on water and agricultural activities (like preventing stray animals from grazing the fields) is the main source of remuneration for these officials. In some cases like Ghyakar village, they are paid from the community fund.

In Lo Monthang, a person's eligibility to hold the post is defined by the caste system. Earlier, as discussed in chapter 5 and 7, inheritance class would also crosscut the caste system in defining such eligibility. Other villages are not well differentiated along caste line and the only criteria for holding such a post is whether one is from a *Dhongba* or a *Farang Marang* class. The authority of the Ghempa varies from village to village. In villages like Lo Monthang, he holds a strong discretionary power to decide on disputes and community activities, and he is highly respected. Whereas in other villages like Ghyakar and Tsaile, their main duties are limited only to monitoring village activities to see that already set rules are adhered to. A general trend can be noticed that the larger the village the more powerful the Ghempa is. In smaller villages the whole village is involved in making any decision on community activities. However, in the case of Lo Monthang, the power of the Ghempa also derives from his being from the *Bista* families. The Ghempa of Ghiling also exercises more power compared to that exercised by the Ghempa of other smaller villages.

Elaborate sets of rules have been developed in each village to manage agricultural and irrigation calendars, for repair and maintenance of irrigation canals along with other community infrastructures. In all villages where 'water- share' is followed for allocation, households contribute labor in proportion to the number of shares held for normal repair and maintenance of irrigation canals. In the case of major repair or emergency work all the adults present in the village, irrespective of water share or landholding

size, have to contribute labor. In villages like Ghiling, labor contribution is decided by inheritance-based class and the numbers of *Dhongba* held by a household. In Lo Monthang, normally labor contribution for repair and maintenance of a canal is in proportion to landholding size. However, since water from irrigation canals is also used for domestic purposes like washing clothes, utensils; cleaning grains; bathing etc. sometimes all the households irrespective of landholding are required to contribute labor for maintenance of the canals. In Dhee, irrespective of landholding all the adult people in the village whether *Farang Marang* or *Dhongba* have to contribute labor for canal repair. Although *Farang Marang*s who possess little land resent having to make so much labor contribution for repair of irrigation system, *Dhongba* claim that their (*Farang Marang*'s) presence in the community requires them to make such contribution as they can access the facility like anybody else from other community resources like pasture land. As the canal in Dhee passes through a very fragile terrain and breaches frequently, its maintenance without a large labor pool would be almost impossible.

Intra-village disputes over water access and use are not common and any that arise are immediately solved. The elaborate rules which clearly articulate the expected behavior of all the members in relation to water management are complied with and closely monitored. An individual's right to use water in its turn is also dictated by community decision. An individual can exercise his rights only within the limit set by the community. For example, an individual can water only a particular crop or a particular field in its turn and not where he or she thinks it is most important to use the water. The smaller group size in four cases (less than 20) makes it easier for all the members, and not only the officials to observe that everybody else complies with the rules. These institutions were responsive to any change brought about by technological intervention or social changes, and rules were adapted accordingly.

'Fatalistic' equity

The degree of inequity in defining and actualizing water rights is dynamic and it varies from village to village reflecting underlying factors like social relations and the value system of the society on

the issues like equity, efficiency, and justice. Except Lo Monthang, other villages where almost all the people are Gurungs, do not bear any features of the caste-based hierarchy. As already mentioned the major social classification system has been on the basis of property inheritance. One common feature found in all the villages is the sense of equity that is decided by fate, which I call 'fatalistic equity' practiced through casting a pair of dices called *Para.* In many villages, turns for irrigation, selection of Ghempa, or other important selection decision are made by casting dices so that everyone in question has equal chances of getting the favorable outcome, dependent only on fate. This system of equity also has another implication that any decisions made by casting dices are acceptable to all the community members as it is perfectly impartial. This tradition of casting dices seems to have deeper cultural roots in Tibet. Even the decisions of high political import seem to be made by casting dices in Tibet. Heinrich Harrer (1954) in *Seven Years in Tibet* describes an event where the Dalai Lama's leaving of Lhasa and setting up a provisional administration in Yatung in 1950 was decided by casting dice.

Generally, irrigations systems are viewed as unequal system (Netting 1997), and farmers managed irrigation systems in Nepal, although considered very efficient compared to the government managed irrigation systems, are notoriously iniquitous in water distribution (Pradhan and Pradhan 1996). Although efficiency and equity are not exclusively opposing concepts, people in Mustang were found to put more emphasis on one or the other at different time. When a more equitable system of participation in forming a village council was introduced they found it to be losing efficiency and then reverted back to the old system which was much more unequal yet more efficient.

Inter-village conflicts

Rights to access or control of water source are collectively held by a community. Although few serious intra-village disputes over water use and access to water occur, disputes over control or ownership of the water sources are common, when more than one village share the same water source. The whole community unitedly strives to defend its collective rights to water setting its own strategy that will validate its claims. Such strategies range from validating claims through diverging rights like customary

usage, riparian rights, land-based rights, or resorting to sabotage, and violence as well. The nature of such conflicts also depends on the political power wielded by one village vis- a- vis another village. It was also found that such conflicts once in motion are not only limited to water sources but also get embroiled with other resources.

The field setting provided a scenario for comparing two types of contestation in terms of villages wielding unequal power. In the first scenario, the dispute between Tsaile and Ghyakar villages prolonged for more than two decades as neither could they tilt the situation in its favor nor could they reach an agreement as to how to share the water. The conflict at different times ranged from conflict for usufructual rights to conflicts for control of the sources. The dispute was an interplay of various factors such as local understanding of hydrology and rights, party politics, and technological intervention without taking into consideration social factors. Traditionally, the downstream villages consider leakage of water from diversion headwork of upstream villages as their water rights and when a permanent headwork constructed upstream prevents water leakage the downstream village vehemently contests such construction. Development agencies' technological intervention without taking into account the local understanding of hydrology played a role in this dispute. However, as the technological intervention improved the water flow and availability of water, the dispute became latent. This suggests that conflicts become rife when the people realize the scarcity of the resource. The dispute was finally settled when the issue of land for building a bridge and sharing water was tied.

People shop around for customary laws or state laws depending on which suits their purpose. Claims for access to and control of water sources are validated not only through the legal means, whether customary or state law, but also through rituals practiced over the years and stories told generation after generation. As shown in a claim of ownership right over water in Lo Monthang these cultural practices were used as a means to establish their right over water. The disputes between Lo Monthang and its northern neighbors provide a case where the disputant parties wielded widely differing political power. This wide gap in power between the villages helped resolve the dispute in short time, although apparently

not in a way that is considered just by one party of the dispute. There was a reciprocal relationship between power structure and control of water sources. Collective power wielded by a village helped in securing the control over water sources and such control in turn further reinforced the power of the village. Rituals and legends not only played a role in firmly establishing the rights of Lo Monthang over water sources but also in shaping unity within the village and forming the identity of the community as a whole.

In all of these cases, whether sharing the water source or independently owning the source, increased water flow as a result of technological intervention has helped minimize the tension between different parties accessing water. With the increased availability of water, the frequency of disputes has decreased.

To sum up, water rights at the level of allocation and use are clearly defined. The rules articulating the water rights at this level have evolved through years of practice and are responsive to local hydrology, crop preference and physiology, and changes brought about by technological intervention. At the level of getting access to decision making for management of irrigation activities, such rights are shaped by social factors like caste, property inheritance, and gender. These social differentials play an important role in shaping an individual's access to such a 'rights defining' process. Contestations at this level are governed by customary laws and no state laws are resorted to. No serious and overt contestations surface at this level as the institutional mechanisms in all the villages are capable of mediating such issues. However, there are not any effective institutional mechanisms to address inter-village contestations for claiming rights over the source. Rights over the water source could be both rights to own and rights to use water. The role of the Raja in mediating such contestations has been undermined over the years by political factors at all levels, local, national, and international. As there is enough space for maneuvering for all the disputant parties in claiming their rights over water, they shop around different legal frameworks to validate their claims. This is in this grey area of maneuvering where power and politics play a role in deciding water rights. Outcomes of such disputes have further reinforced the

power of a stronger village. As has been shown, rituals and legends are a powerful means for validating claims. Contestations for accessing rights to make decisions on agriculture and irrigation activities have triggered a change in the institution of property inheritance that will have far reaching implications in the whole society. Contestations for water sources control between the villages not only reinforced the authority and power of a village but also constituted a sense of cohesion and identity of a village.

Significance and implications of the research

I conducted this ethnographic study on the struggle for water rights, drawing ideas from several disciplines like political ecology; theories of practices, structuration, common pool resources, new institutional economics; and legal pluralism and water rights. This study found that the dynamics of the irrigation system, particularly the struggle for participating in decision making process, helped triggered a change in a social institution. Although this research did not aim at exploring at theories of wider implication like theories on relationship between evolution of centralized bureaucracy and irrigation system, findings from this research suggest that struggle for water in fact leads to egalitarianism similar to a case in Peruvian highland (Guillet 1992). This study also showed how irrigation management changes the political relations within a society (Hunt 1974). The approach of 'struggle' for water rights provided a lens to study the role of multiple actors with differentiated means for accessing and controlling the resources in bringing about changes in a society. In addition, it also contributes to narrow the paucity of understanding of societies and irrigation in high altitude arid climates, especially in the Himalayan region. Methodologically, integration of comparative and historical approaches, following Trawick (2003), proved very helpful in explaining the reciprocal relationship between the societies and irrigation.

Its contribution on theories on commons relates mainly on restating that what others (Agrawal 2001, 2003, Leach et al. 1999, Cleaver 2000) have already stated that communities are not monolithic but are comprised of multiple actors with diverging interests and means to shape and reshape the community. The findings of the study also showed that what an outsider would consider a formal institution maybe an

informal institution for the people and vice versa. It also contributes to studies on mountain societies and environment by adding cases from the field showing that mountain communities through years of practice, have developed a system that helps in conscious use and conservation of resources in mountains that helps to protect not only the mountain environment but also the downstream environment (Rhoades 1997, Ives 2004).

This empirical research provides several cases from the field which will help in several policy formulations. It practically showed that the management of irrigation activities does not exist in isolation from management of other community resources. A case of change in institutional arrangement for irrigation management in one village was tied up with an inter-village dispute for pasture land. Similarly, another case showed how a long-lasting dispute over water sharing was resolved by tying up with community owned land. This research reiterates the need for studying a common pool resource in relation with other common pool resources (Agrawal 2001).

This research will also contribute in the formulation of local development policies, particularly in the issues of people's participation in irrigation activities. Any additional investment in irrigation activities will further accentuate the effects of existing of social differentiation, especially if such social differentiation has a bearing on an individual's right to access the water. Considering the whole community as a monolithic unit for participation will gloss over the existing inequality, social differentiation, and micro-politics within the village. Ignoring such wider diversity within a community will further aggravate the social inequity instead of alleviating it. This research also helped in restating the need for understanding cultural aspects of water management.

The findings of the research will help in stating the need for reshaping national water policies in Nepal. Through enactment of a legislation in1991, the state asserted its ownership rights over all water sources, both large and small, surface and under-ground, available in the country. This legislation is reminiscent of nationalization of forests in 1957. Effects of nationalization of water sources have already started surfacing at the local level as well. As the state is now the owner of all the water sources, the

government has issued licenses for many of these water sources to individuals and private companies for commercial exploitation, without communities even knowing of such decisions. And now when many local communities want to generate small hydropower from the local streams they become surprised to find that their local stream has been already registered in the name of somebody else (Kantipur Daily June 28, 2007). As shown in this study, water sources are not only a physical source for exploitation but a social and cultural resource that binds a community and gives meaning and identity to the whole community, such practice of government of registering these resources secretly in the name of a few individuals will have serious implications. All these findings show that water is not only a bone of contention, but a means for unity.

APPEDIX 1: GLOSSARY

Ain (N)	Act
Chhokya (T)	An important irrigation ritual performed in Ghiling
Chhu (T)	Water
Chhumae (T)	A post in the village council in Lo Monthang and Namgyal, responsible for monitoring water use and detaining stray animals from the field.
Chhyang (T)	Local beer made of naked barley or wheat
Chhyo (T)	Irrigation group in Ghiling
Chhyure (T)	Water shares
Dhongba (T)	Inheritor of parental property in impartible primogeniture inheritance system.
Dhungi (T)	A post in the village council in Ghiling and Namgyal responsible for record keeping
Dhurappa (T)	A post in the village council in Ghiling responsible for crying
Dzos	Cross breed of yak and cattle, used for plowing and carrying loads
Farang (T)	Male non-inheritor of property in impartible primogeniture inheritance system.
Ghara (T)	The outcast class. They use the surname Bishwokarma.
Ghempa (T)	The village chief. However, in some villages it is more a post of enforcer, monitor than a village chief.
Ghempa Chhe (T)	The Chief Ghempa, the external higher authority most of the villages in upper Mustang have. Usually, the Raja or his close relatives are the Ghempa Chhe.
Ghenchang (T)	Dhongba parents who have already transferred the ancestral property to the offspring and living separately
Hyura (T)	Irrigation canal
Jhuin, Ching (T)	Water reservoir
Jimbu (N)	A chive like herb for seasoning lentil soup. *Allium* spp

Khata (T)	A long white or yellowish scarf offered to someone to plead or to wish auspiciousness.
Khola (N)	Stream
Kutak (T)	The noble class in upper Mustang. These days they use the surname Bista.
Lhapsang (T)	A ritual worship, also performed for appeasing irrigation deities
Mana (N)	Volumetric measure of grain. One eighth of a pathi
Marang (T)	Female non-inheritor of property in impartible primogeniture inheritance system.
Marang (T)	Female non-inheritor of the ancestral property
Mhe sala Tangje	All households within a community, literally meaning households who burn fire.
Mithui (T)	A post in the village council in Lo Monthang for negotiating disputes
Muluki Ain (N)	Civil code of Nepal
Nang (T)	Small sub plots constructed within a terrace for irrigation
Ngiwa	A post in the village council. Monks responsible for management of irrigation system in Lo Monthang are also called Ngiwa
Para (T)	A pair of dice cast for many of the decision making. It is also a name of game played locally using a pair of dice.
Pathi (N)	Volumetric measure of grain roughly equivalent to one gallon. 1 pathi of naked barley is roughly equivalent to 4 kilogram.
Phakting	Volumetric measure of grain. 1 phakting is equivalent to 2 mana
Phalwa (T)	The commoner class in Mustang. These days they use the surname Gurung.
Phutok (T)	Crop share paid by the cultivator to the land owner. Usually, communities and monasteries lease out their land to individual cultivators who have to pay the seed amount as Phutok.
Pyang (T)	Volumetric measure of grain, 1 pyang is roughly equivalent to 3 mana
Raja (N)	The King of Mustang.

Shakaluka (T)	A ritual ceremony marking the beginning of the agricultural season, and change over of the authorities in Lo Monthang.
Vikas (N)	Although Vikas is a Nepali word meaning ‘development’, in Mustang it means a fenced area for growing fruits and vegetables, and trees.

N: Nepali, T: Tibetan

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