
CHAPTER 6

Conclusion

This study applies a political ecology approach to view three main concepts: livelihood, property rights, and local or traditional knowledge to critically examine the impacts of rangeland degradation and conservation on herders' live in the Tibetan Plateau. Specifically, this research investigated how herders' livelihoods have been impacted by the Sanjiangyuan Ecological Resettlement Project in Xinghai County of Qinghai Province, and examines how rangeland degradation is perceived by State and herders in the Rna Thang and Gser Thang communities in accordance of their life observations, experiences and local wisdom. Finally, it analyzes the interrelationship between herders' local knowledge and environmental conservation and explored how herders' limited ability to exercise their cultural rights have affected the plateau environment.

By examining the herders' livelihood under the Eco-resettlement project in Xinghai County, this thesis challenges the mainstream view of rangeland degradation as being caused by herders' overstocking of their livestock beyond the rangeland's carrying capacity. Influenced by Hardin's (1968) 'tragedy of the commons' theory, the Chinese Government have applied single scientific knowledge and quantitative methodology to examine and conclude that overgrazing of increasing numbers of livestock to be the principal cause of land degradation on the Tibetan Plateau. This has led to a number of State implemented conservation projects including an eco-resettlement project in the Sangjiangyuan region.

This thesis draws on a cultural perspective to present the views of the Tibetan herders' traditional culture and livelihood practices relating to rangeland protection. It critically reviews the Sangjiangyuan eco-resettlement project's impacts on resettled herders' lives and culture and presents their alternate viewpoints on the reasons for land degradation on the Tibetan Plateau.

This concluding chapter of thesis sums up significant findings of the study. It is divided into four parts. Firstly, the major findings are highlighted. Secondly, these findings are discussed with the theoretical and conceptual frameworks that guided this research. The thesis concludes with policy implications and recommendations for further research.

6.1 The Major Findings of This Research

This research encompassed two extended field visits in both in the Sanjiangyuan eco-resettlement site and pastoral areas of Rna Thang and Gser Thang, Xinghai County. The first field visit from March to May 2014 in the spring season and the second was from September to October 2014 in the fall season. I chose the two seasons to observe the different activities of herding and resettled communities at different times of the year. The research revealed both interesting and unexpected findings which are now summarily discussed under four categories; implications of the Sanjiangyuan Eco-resettlement project, issues relating to current land management systems, mining implications in the Gser Thang valley and its surrounds and the interrelationship of religious belief and practice and environment.

Implications of the Sanjiangyuan Eco-resettlement project:

As an environmental conservation project, the Sangiangyuan eco-settlement was aimed to improve local herders' livelihood and protect rangeland. In my fieldwork, I

observed two different types of herders are involved in this Eco-resettlement project – traditional herders and semi-herders – and found that the majority of herders who are a part of this project continue to maintain their traditional way of life in varying ways on the rangeland. Though receiving government eco-compensation to move from the rangeland to the eco-resettlement area, many are not revealing their ‘double identity’ to local officials. Many are renting or selling their resettlement houses and returning to their nomadic life on the rangelands with their livestock. These herders are not accepting of the sedentary life of the eco-resettlement town.

However, there are a number of semi-herders who remain in this project due to reasons of their children’s education, family labor shortage, religious belief and/or health issues. Firstly, in conjunction with this project, village schools on the rangelands were closed, so children need to move to the nearby towns to access their education and their parents decide to move also so they can maintain the family unit. Secondly, as more children access secondary and tertiary education in towns and cities far from the rangeland, there is less labor for their parents to maintain their traditional lifestyle on the rangelands, causing them to move to the towns in search of alternative work. Thirdly, religion plays an important role in Tibetans’ daily life. Many lamas (religious teachers) today promote the ‘non-killing of animals’ dharma which has resulted in some Tibetan herders to abandon their traditional livelihood based on animal husbandry and move to the towns in search of alternative work. Fourthly, due to geographical location of the rangelands, traditional herders live and work above 3000-4000 meters elevation which results in many herders having health related problems as they get older. In turn, these herders and their families often choose to move to the lower level resettlement areas to access health care services.

However, the resettled herders in the resettlement area are facing various challenges in terms of their livelihood and cultural adaptation. Small numbers of

herders operate a small shop to making their livelihood, others have entered construction work, while others dig the caterpillar fungus when it is in season. But such income is just enough for covering basic living expenses causing many to despair for their future.

The research found a high level of discrimination existing in the Sanjiangyuan resettlement town based on the interviews. Particularly, the middle and low-class herders are generally considered to be illiterate and backward in the majority group's view. Most of the herders do not speak Chinese or have skills and experience in urban employment areas, making it difficult for them to adapt and find employment in the resettled town. In the resettled areas, they lack the power to establish meaningful livelihoods, relegating them to low wage occupations and loss of their cultural identity.

Issues relating to current land management systems

When land in China moved from a collective to individual managed system in the 1990s, herders on the Tibetan rangelands were required to erect iron fences to mark their land boundaries between relatives, neighbors, tribes and villages. Herders in my Rna thang and Gser thang field sites explained how in the former system, common land management contributed to a high mobility of livestock, equal access to natural resources, good relationship among the herders and a sense of freedom. However, private rangeland has resulted in the low mobility of livestock, increased conflict between kin, clans and neighbors, weakened the sense of solidarity between individuals and communities and made herders' life more reliant on the market, transforming their lifestyle into a more commercialized one. In this way, this privatization of rangeland has actually worsened the land quality and quality of life year by year.

Mining implications in the Gser Thang valley and its surrounds.

Contrary to mainstream view on causes of rangeland degradation, this research supports the viewpoints of herders in the Gser Thang valley that state that mining rather than overstocking to be the principal cause of the degradation of land in this area. Herders are adamant that overstocking has never existed in their rangeland. Rather, they state the privatized land has created various opportunities for a detrimental mining development project's access in the rangeland area. The mining project has not only negatively impacted local livelihood and herders' religious beliefs, but also severely damaged the rangeland ecosystem. For example, the rapid increase in the pika population above ground has resulted from the mining operation digging enormous number of tunnels in the rangeland using explosives. Tunnels are also causing surrounding hills and mountains to collapse leaving huge sinkholes that endanger the lives of both herders and livestock. Water sources have been polluted, crops and rangeland grass quality and quantity are significantly reduced by chemical substances used in the ore extraction process and then being negligently released into the environment further endangering lives of rangeland populations.

Interrelationship of religious belief and environment

Tibetan herders have a strong spiritual belief to protect their environment through the worship of local mountain and water deities. In Gser Thang, local herders believe that if they dig, cut and pollute the mountains, trees and sources of water they will receive punishment from the local deities. Therefore, they pay their respect by building altars, practicing pilgrimages and protect holy livestock and vultures to express their most honest hearts to the deities.

However, the denied access of Gser Thang herding community to their mountains to practice religious rituals to their mountain deities is seen by many herders as the

reason for increasing environmental problems. Local herders believe that the pikas destroying rangeland grasses as a punishment imposed by the local deities since they have failed to properly respect their environment and protect it from the mining company's activities. Further, the research found that local herders believe that without minerals on the earth, the rangelands and mountains will be empty and unable to survive since Tibetan herders depend on the rangeland and the rangeland depends on minerals; thus, these minerals need to be protected by the herders and religious leaders.

6.2 Theoretical Discussion of the Findings

This research does not aim to make any generalization on state environmental conservation projects and rangeland degradation issues in China. However, this study does provide some interesting findings, which relate to current theoretical debates on environmental conservation projects through its application of the three concepts of livelihood, property rights and local knowledge under political ecology approach.

Hardin's (1968) 'tragedy of commons' suggests that each herdsman will try to keep as many cattle as possible in the common land, because common land has created 'the tragedy of freedom in common' and 'open access'. Therefore, a regime of private property was deemed as a means to solve the population problem and environmental issues. On this account, the majority of Chinese scholars applied the theory of 'tragedy of commons' to state that land degradation is has occurred because of overstocking on the Tibetan plateau, resulting from a lack a scientific livestock management under 'open access' of common land.

However, when discussing the 'overstocking' issue in the rangeland of Rna Thang and Gser Thang in Xinghai County, this research found that 'overstocking' has never existed. On the contrary, herders are reducing their livestock population due to

lack of water in Rna Thang rangeland and mining's impacts on local livelihoods in the Gser Thang rangeland. Privatization of rangeland has created less collective power and rights to prevent outside interventions into their lives. For example, Xinghai Gser Thang Copper Company has obtained more power than individual herders enabling them to increasingly encroach on herders' community rangeland. This situation resonates with Barth's (1964) argument about how market intervention and land property rights changes local political organization and livelihood management.

The granting of private land title and taxation concessions by State has challenged every aspect of Gser Thang herders' lifestyle. Rose's (1990) application concerning 'bundles of power' has applied here. Her contextual application of 'bundles of power' relates to people's ability to access natural resources within their property rights. For the Gser Thang herders, their social status is determined by the size of their livestock herd and other resources such as caterpillar fungus growing on their rangelands. This is now being greatly challenged by the expansion of mining.

Banks (2001) argued that there was no 'tragedy of the commons' existing under common rangeland management system in the Northern Xinjiang of China. He highlighted the point that Hardin's (1968) 'tragedy of commons' failed to distinguish the differences between 'open access' and 'common property'. The 'open access' is actually perceived as having no formal or informal regulations for rangeland management. In fact, open access doesn't exist under the common land in the case of Rna Thang and Gser Thang rangelands in Xinghai County.

Several scholars (for example, Harris 2010, Li and Duo 1995 and Miller 2005) further support Banks' (2001) challenge to the 'tragedy of the commons' theory stating that quantitative based single scientific measures ignore cultural knowledge, and resultant policies actually increase rather than improve land degradation on the

Tibetan Plateau. For example, in the Gser Thang rangeland, before the change of land management system in the 1990s, herders' seasonal movements were five times annually. However, now there are only three time seasonal movements as land is divided to be summer, winter and fall rangelands.

Yeh's (2003) research into the 'Tsowa' clan system as an effective way to control and manage rangeland resources on the Tibetan Plateau highlights the roles of herders in the decision making process of collective management of rangeland. This process is evident in both rangeland field sites – Rna Thang and Gser Thang – whereby their summer rangelands are community managed enabling all herders to access the land's resources.

Yos Santasombat (2003), states that knowledge is based on someone's belief. The belief that nature is alive and has a soul like human beings is central to Tibetan religious belief. Without constant loving care, nurture and support, it will die. Tibetan local (traditional) knowledge is intimately bound to their religious belief. For example, worship of deities and paying respect for holy birds and animals are some examples of how Tibetans use their religious beliefs to protect their environment.

Current land tenure systems and local government conservation projects are excluding local knowledge in exchange for the inclusion of state knowledge in terms of rangeland protection and livelihood improvement. This exchange of knowledge has forever changed traditional land tenure practices on the Tibetan rangeland areas, requiring local people to adjust to new ways of defining their culture and livelihoods.

Lastly, the modernization under the state knowledge system has further contributed to various conflicts among the different groups and unexpected consequences on herders' livelihood. Since the concept of modernism was introduced across China, people who were living in the rural areas are considered to be the

backward and uncivilized. Therefore, the Tibetan herders have also become a marginalized group on the highlands of China where the relevant actors, focused on modernity, neglect local voices. In this way, state actors focus on eco-resettlement projects as a way to modernize herders' livelihoods, but neglect to examine the long-term consequences of this environmental conservation and reduction of poverty approach.

6.3 Policy Implications and Recommendations

The findings of this research indicate that the Sanjiangyuan Eco-resettlement project in Xinghai County has been poorly implemented and not achieved its desired objectives. Further, rangeland degradation is increasing rather than improving on many rangelands including this research sites of Rna Thang and Gser Thang.

This eco-resettlement site remains characterized by high unemployment and inability of semi-herders to maintain sustainable livelihoods, forcing them to rely heavily on government eco-compensation. A recommendation of this research is for the Xinghai County government to implement employment and language trainings as are provided in other eco-resettlement sites in Qinghai Province, but in a culturally competent context to ensure genuine participation of the trainees.

Perspectives on rangeland degradation vary among government officials, researchers and local herders. Projects implemented so far have largely failed to realize the importance of the local herders' role in the rangeland management process and their valuable knowledge about environmental protection. This research found that the culture and identity of Tibetan herders is based on their traditional livelihood, so in order to preserve the identity of the Tibetan herders and find solutions for better grassland management, conservation efforts would be more effective if the government at its different levels consulted with local herding communities as an

essential step in formulating projects for environmental protection of this important Three Rivers Source area.

Importantly, Government at all levels should reconsider both the premise and the methodology that has driven its environmental protection policies in recent decades may not be relevant in all degraded areas in China and especially on the Tibetan Plateau. A qualitative research methodology that encompassed scientific knowledge with ancient local knowledge has a greater potential to bring about desired outcomes for restoring degraded rangelands. Further, an environmental impact study that investigates the impact of mining and other commercial ventures on the rangelands in this Three Rivers Source area is essential for gaining an accurate assessment of causes of rangeland degradation and in turn, developing effective programs for its improvement.

6.4 Further Research Recommendations

The changing of Tibetan herders' roles will affect to wildlife on the Tibetan plateau in the future. In the time I stayed on the rangelands for my field research, I became aware of an emerging problem resulting from the reduction of livestock numbers; that of the balance of the 'food chain' and survival of the many wild animals who also have inhabited these rangelands for millennia. For example, wolves are the natural enemy of sheep. As wolves' food source of sheep is reduced, herders are noticing that they are turning to already endangered wild animals such as the Tibetan antelope and blue sheep for their food. Another example is noted to be the result of State fencing projects on the rangeland. In the past, brown bears would avoid human contact of townships and villages, making their homes on the open rangelands. As fences are reducing their access to their natural habitat, they are now more commonly seen in human resident areas posing risk to human lives as the bears forage for food in these settled areas.

These examples highlight an ecological imbalance on these Tibetan Rangelands threatening lives of both wild animals and humans that warrants further research to prevent an escalation of this emerging problem.

6.5 Research Limitation

This study was conducted in April to May of 2014 and September to October in 2014. Normally, the summer is a good season to observe how herders practice their traditional herding life in their summer rangeland. However, I did not have this chance to visit in summer to personally experience and observe the traditional nomadic pastoralism on the ground level. Therefore, this research was not able to provide data regarding the rangeland activities and herders' lifestyle in summer. Further, this research did not have enough official data on common rangeland management system due to accessibility and lack of information issues from the local agencies. In addition, this research is mainly focused on qualitative methodology so there is limited quantitative data on herders' lifestyle, rangeland ecosystem, livestock population, resettled herders' population and mining project.

6.6 Epilogue

There are many urban people who describe the Tibetan plateau as a harsh place and the Tibetan herders who inhabit it as wild, backward and uncivilized. However, my description of the Tibetan herders who participated in this research and shared their knowledge and insights is very different. I found these people to be very kind-hearted, generous, optimistic, honest, responsible and passionate about their environment. Most of them are happiest to be caretakers of the blue sky, limpid water, lovely livestock, their vacuous rangeland and natural resources. Repeatedly, they shared with me that this is the best way to live their lives; to leave their land is to lose a meaningful life.