Journal of Integrated Studies, Vol 5, No 2 (2014)

The Herder’s Life in 21st-Century Mongolia

Annet Hon Shu Chu

At a young age, Annet Chu was exposed to history and culture through bedtime stories told by her father. When she had a rare opportunity to study business and management, she gave up and dived into cultural anthropology instead. Through anthropology, Annet discovered the rhythm of cultures, harmony in diversity and beauty of humanity. Some of her research interests include intercultural competence, ethnobiology, and yoga philosophy. To find out more about Annet’s work, visit her website at http://annetchu.wordpress.com.

Introduction

Nomadic livelihood is a combination of culture and nature complementing each other to ensure nomads’ and livestock’s survival (Zhang, Borjigin, & Zhang, 2007, p. 22). Nomadic herders take advantage of available grassland to live sustainably, which is the best method to manage the land and to facilitate the grassland’s lifecycle. Resources are maintainable when used and managed using traditional nomadic knowledge.

Mongolia, the seventh-largest country in the world by size, is landlocked between Russia and China. Its weather varies in a day and throughout a year, and it generally lacks rainfall (Zhiming et al., 2005). Mongolian nomadic livelihoods have resulted from the landscape and environment, which includes steppe, desert, and semi-desert landscapes (Zhiming et al., 2005). The variety in landscape accommodates a rich diversity of living beings, as an abundance of resources are available to all parties (including humans) that populate the land (Ojima & Chuluun, 2008). To properly enjoy such a gift, herders must make seasonal movements.

Mongolian nomadic industry includes herding animals, such as horses, sheep, and goats (Zhiming et al., 2005). Livestock account for approximately 34% and 30% of Mongolia’s annual gross production and total exports, respectively (Borgford-Parnell, 2009). Mongolia has the18th-largest population in the world (Ministry of Environment, Nature and Tourism, Mongolia, 2009), and, as of 2011, about a quarter of the 2.8 million people in the country are nomadic herders (World Bank, 2012).

This article discusses Mongolian nomads’ migration patterns and the effect of imposed political systems, examines the spiritual beliefs embedded in the nomadic culture, explores the environmental concerns affected by history, and analyzes conservation movements that involve traditional nomadic knowledge. This article argues that Mongolian nomads’ traditional ecological knowledge supports not only sustainable resource usage but also the revival of nomadic culture, thereby allowing a continuous adaptation to the environment since the 12th century.

Political Changes

Traditional Nomadic Tribes

Chinese historians recorded that Mongolian pastoralism has been employed since at least the 12th century as nomads and herds moved to available pastures from seasons to seasons for survival (Fletcher, 1986). Indeterminate changes in the Gobi desert required more movements than a standard four-season pattern (Ojima & Chuluun, 2008). Nomadism was a necessary adaptation to

Mongolia's ecology.

The social fabric of traditional nomadic tribes was supported by familial ties. A hierarchy of networks was formed by households within a particular region, herders from a particular river location, and nomads from a single living space. This social structure regulated the sharing and usage of land, as grazing and encampment locations were regulated within the networks (Ojima & Chuluun, 2008).

Animals have always had an important role in nomadic culture. In fact, herds are part of nomads' social fabric and treated as family, and non-domesticated animals are considered extended relatives (Fijn, 2011). Herds and people mutually support each other, as domestication (of goats and sheep, in particular) is a lifelong partnership (Fijn, 2011). Mongolian nomads, rather than control the animals, live and work with their animals to maximize resource usage.

In the 13th century, based on his prior nomadic experience, Mongol ruler Genghis Khan introduced animal protection laws to his empire; any animal theft was a capital offence (Weatherford, 2004). Under a lost-and-found system, lost animals had to be returned to the proper herding family. Keepers of unreturned lost animals were punished for theft. Further, hunting laws were introduced to protect wild animals (Weatherford, 2004). The laws implemented by Genghis reinforced the invaluable impact that animals had on historic Mongolian society.

Manchurian Governance

The Manchurian government ruled Mongolia from the 1600s to the 1800s (Ojima & Chuluun, 2008). During this time, land and diversified-species herds were owned by "nobles and Buddhist monasteries …[while] pastoralist households herded single-species livestock herds" (Ojima & Chuluun, 2008, p. 180). Nomadic migration and resource usage were regulated through negotiations between tribes, ensuring resources amid tough environmental conditions (Ojima & Chuluun, 2008). Although existing literature does not address the impact of Manchurian governance on Mongolian nomads, families who owned more species of livestock may have been better-off than the single-species livestock herders because the former had diversified resources.

Soviet Governance

During the Soviet regime, herders were grouped "into collectives (negdel) to manage state-owned livestock" (Fijn, 2011, p. 30). Negdel allowed the state to control the herders and herds while providing them with resources (Journeyman Pictures, 1996). Under this system, the state had two major administrative centres—*bag* (municipal level) and *sum* (country level) —to confine nomadic movements to particular territories (Ojima & Chuluun, 2008). Such restrictions distorted the traditional nomadic lifestyle, because nomads and herds were dependent on seasonal migrations to occupy suitable pastures, movements that aided in managing the fragile ecosystem (Ykhanbai, Bulgan, Beket, Vernooy, & Graham, 2004). Winter and spring movements are the most important in finding available grassland. Since nomads were not allowed to move freely as they had prior to Soviet governance, their productivity decreased. (Upton, 2010).

Although the restrictions on movement were negative, some Soviet-introduced herding strategies were positive. The Soviets implemented methods to facilitate nomads' and herds' survival in extreme drought and winter weather (Ojima & Chuluun, 2008). Furthermore, the Soviet regime also introduced machine-operated transportation. As a result, the Soviet regime influenced the herders significantly, particularly in terms of replacing human power with machine power.

Soviet herding knowledge began to spread beginning in 1921 (Fijn, 2011). Nomads interacted with Russian-trained veterinarians who occupied the bags and sums and advised herders to breed Russian livestock to enhance productivity (Fijn, 2011). During Soviet governance, "Mongolia relied heavily on Moscow for aid and government policies" (Fijn, 2011, p. 30), and after 1921, herders began to depend on the government for herding knowledge. The Soviet government brought new ideas and technology into the nomads' lives. Some were helpful, but evidence shows that the Mongolian nomads were better-off relying on their own nomadic knowledge (Fijn, 2011). The confined territories, in particular, were counterproductive to the herders and herds.

The collapse of the Soviet Union in 1990 allowed the nomads to revisit their traditional knowledge. Herders began reverting to their traditional methods of raising herds, and privatization of herds began in 1990. Native Mongolian livestock proved more suitable to the climate, and the animals' own breeding habits were effective. The herders returned to being self-sustaining, as they handmade their dairy goods instead of relying on the factory-produced ones introduced during the Soviet era (Fijn, 2011). Ultimately, Soviet technology had proven inferior to traditional nomadic knowledge.

Democratic Governance

Since the Soviet's retreat, Mongolia is once again governed by Mongolians through a democratic government system. The land that nomads live on is owned by the state, and herders do not necessarily use fences to mark their encampment (Ykhanbai et al., 2004). Pasture is treated as a communal area (Upton, 2010). Conservation projects that emphasized land privileges were implemented in1994 and 2002, thus allowing the herders exclusive grazing rights (Upton, 2010).

The nomads' summer and winter encampments tend to be in the same location every year and in different areas for spring and autumn; when shorter encampments occur, they are about one month long (Fijn, 2011). Herders divide the family in order to accommodate different herds' needs (e.g., the cows might stay in the winter camp, and the sheep and goats might move to the spring camp). Furthermore, to avoid wolf attacks, the family groups separate and move with different herds (Fijn, 2011).

Animal insurance is available to herders to compensate for animal loss caused by natural disasters. Generally, herders barter and exchange their animals for goods (Fijn, 2011), and Mongolia's Law on Livestock Insurance allows herders to exchange animals for animal insurance. However, insurance companies do not see such a practice as pragmatic and prefer money over animals (Open Society Forum, 2004). Hence, although the law protects herders, modern institutions such as insurance companies are in conflict with the herders' way of life.

In summary, nomadic livelihoods in Mongolia have been continuously influenced by political changes. In particular, the Soviet era caused a downward spiral in productivity. Since the Soviet collapse, nomads have begun to readopt traditional nomadic methods. However, although nomads are willing to use traditional knowledge again, a gap exists between exercising traditional knowledge (as occurred prior to Soviet governance) and revisiting traditional knowledge (as has occurred since Soviet governance).

Respect for Natural Resources

Ecofriendly Life

Respect for nature, characterized by protection of all life forms, is the essence of the nomads' ecological knowledge (Zhang et al., 2007). Mongolian nomadic culture allows humans and nature to coexist; it is an "ecological culture because [it] obeys the principles of revering nature, cherishing nature, and promoting [a] harmonious coexistence between humans and all other creatures" (Zhang et al., 2007, p. 22). Hence, nomadic livelihoods should not interfere with the natural sustainability of the environment.

Nomads use resources sustainably in their daily lives. Illustrations of their habit of using everything to the fullest are bountiful. To generate energy, they gather their cattle's dung in the fall, dry the dung in the spring, and use the dung as fuel in the winter (Zhang et al., 2007). In addition, nomads continue to live in *gers*, a type of moveable home (Fijn, 2010a). Genghis was proud of the *ger* because it allowed flexibility in coping with nature (Zhang et al., 2007). It is portable and requires a limited amount of lumber for construction (Zhang et al., 2007; Weatherford, 2004), and is durable. Fijn (2011) explains that "plaited horsehair is used to tie the wooden lattice inside a *ger* together …[and] sheep wool is beaten and pressed into felt for the lining of a *ger*" (p. 227–228). Nomads strive to live in an ecofriendly home by using the parts of deceased animals in every possible way.

Human and Animal Relationships

Nomads have a relationship with their animals that helps them monitor consumption. For example, while an informant was nurturing young animals, Fijn (2011) spoke about how in Western culture people consume lambs. The informant, with tears in her eyes, replied, "We love our young animals, so we couldn't eat them" (Fijn, 2011, p. 227). In fact, since a herd comprises two generations, most Mongolian herders do not kill animals until they are over one year old and have had a chance to reproduce and live a full life (Fijn, 2011; Fijn, 2010b). Herders are aware of when to consume animals and how to respect their cycle of life.

Herders protect the environment by respecting the land and other life forms (Zhang et al., 2007). The animals become part of the herders' family from the moment they are born; each animal is named (Fijn, 2011). Herders are conscious of protecting the animals, even at the time of an animal's death. The killing of animals is done in a way that minimizes suffering; for example, "an incision in the stomach result[s] in a quicker death" (Fijn, 2011, p. 226).

Mongolian language indicates the significant relationship that people have with animals. In Mongolia, ***am***'tan means animal, ***am*** means mouth, and ***am***'d means alive (Fijn, 2011). The word for people, *khun**am***, is related to the words for mouth, alive, and animal (Fijn, 2011). According to the Sapir-Whorf hypothesis, language influences individual perspectives (Thompson, 2000); clearly, Mongolian vocabulary suggests the interconnectedness of people and animals.

Herders value and practise reciprocity when establishing and maintaining relationships with their herds. Herders do not necessarily control the animals; each party works with the other. Moreover, herders believe that after death they may be reborn as animals (Fijn, 2011). Reasonably, herders should treat others (including their animals) the way they would like to be treated: with respect.

Spiritual Ecological Practices

In the traditional Mongolian animistic worldview, "the blue sky was the father of the Mongolians while the earth was their mother" (Chimedsengee et al. 2009, p. 14). Coexistence with other beings was essential, and practices that went against ecological conservation, such as destroying the roots of grasses and casually killing animals, were taboos believed to bring bad luck to families (Chimedsengee et al., 2009). Speaking about animal deaths is still a taboo, as it is seen as causing distrust between animals and herders (Fijn, 2011). This practice is not mere superstition and may be viewed as based in respect for the animals. Similarly, in many societies, people do not casually speak about the deaths of others. Such a practice parallels how Mongolian herders handle conversations surrounding animal deaths. They see their animal counterparts as emotional beings and care about their animals' feelings.

Mongolian animist beliefs involve sacred geography that guides believers as to which natural resources to consume. Sacred places are not to be interfered with because they house deities that prevent natural disasters or punish those who violate taboos (Chimedsengee et al., 2009). The protection of sacred sites is in line with taking care of the environment, as these sites support an "abundance of wildlife and fresh-water sources" (Chimedsengee et al., 2009, p. 17). One may speculate that the initial establishment of these sacred sites originated from the Mongolian respect for natural resources and was intended to prevent contamination and inappropriate usage of resources. Nature reciprocates respect by providing a wealth of resources to the people, and sacred geography acts to regulate which resources may be consumed.

Mongolian herders had sought out shamans for assistance in their daily lives since at least the 12th century. The shamanic role was significant, as shamans would choose battle dates and perform healing practices on those who were physically and emotionally ill (Fletcher, 1986). Shamans facilitated communication with spirits and worshippers who generally asked the shamans to bring good fortune to their families and herds (Hesse, 1987). Mongolians continued to seek medical assistance from shamans until the Soviet domination (Fijn, 2011). In sum, Mongolian shamanism revolves around the well-being of the environment.

Buddhism has been practised in Mongolia since the 13th century. Since Genghis allowed freedom of religious practice, Mongolians have a tradition of performing rituals that combine animism, Buddhism, and shamanism (Weatherford, 2004). For example, Mongolian Buddhist ceremonial scarves are blue instead of the Tibetan yellow and white; Chimedsengee et al. (2009) proposed that "this refers back to the ancient shamanic worship of the Eternal Heaven, which was traditionally honoured by making offerings of blue strings" (p. 11). The amalgamation of animism, shamanism, Mahayana Buddhism, and Tibetan Buddhism shapes Mongolian Buddhism (Chimedsengee et al., 2009).

The Mongolian calendar, produced by a Mongolian Buddhist monk (Fijn, 2011), provides guidance for killing animals. Failure to comply with the calendar is believed to bring bad luck (Fijn, 2011). The calendar dictates which day and time animals can be slaughtered and regulates the number of animals that can be killed at one time, as only certain days and certain times are available for certain animals. This calendar reminds the herders that a slaughter cannot be performed casually.

One of the fundamental principles of Mongolian Buddhism is the practice of compassion: "an altruistic desire for other beings to be free of suffering" (Chimedsengee et al., 2009, p. 11). Hence, it is logical for herders who practise Buddhism to be respectful to other beings. Some might question why Mongolian Buddhists eat meat and slaughter their beloved animals if compassion is important. Mongolian winters reach between −30°C and −40°C (Zhiming et al., 2005), and herders need to have a proper diet to survive; most herders do not eat meat during the summer. In fact, the 14th Dalai Lama (2009) has admitted that he has non-vegetarian lunch for health reasons. Such a practice is also practical in the nomads' lives since meat and dairy are the primary foods in their culture (Chimedsengee et al., 2009). Although Mongolian Buddhists eat meat, they eat only what they need and will refrain from overkilling in accordance with their understanding that "greed is unlimited [and should be controlled]…but the environment is limited [and should be protected]" (Chimedsengee et al., 2009, p. 13).

In summary, contemporary Mongolian herders generally do not follow a single religion; instead, they incorporate animist, shamanic, and Buddhist traditions into their daily lives. Their culture is one that balances a practical approach to life and coexistence with other beings on the land. This includes from the slaughtering of animals to the consumption of natural resources; in essence, nomads act consciously to ensure the suitability of resources.

Environmental Concerns

Resources Misused

Environmental degradation resulted from political modifications, starting with the formation of Soviet *negdel*, which caused nomads to move less frequently than before. In the early 1990s, when privatization was implemented, the number of nomadic families increased and animals were distributed among them (Ojima & Chuluun, 2008). However, the nomads cannot remain in the same area of land year-round as this would cause overgrazing, leading to an inability for pastures to regrow.

After 1993, herders no longer received state support and had to increase their herd sizes to take advantage of the global market (Altanbagana, Chuluun, Ojima, & Sarantuya, 2010). For instance, the breeding of goats increased to target the cashmere market in neighbouring China (Ojima & Chuluun, 2008; World Bank, 2003). From 1990 to 1999 in Mongolia, the number of "livestock increased from 25.8 million …to 33.6 million" (Ojima & Chuluun, 2008, p. 184). Such a drastic increase in herd sizes has been another cause of damage to the environment as now more animals require proper grazing pastures.

Desertification is largely anthropogenic as well (United Nations Environment Program, 2002). Even though the herders realized they needed to increase their herd sizes, they remained in their bounded territories, resulting in overgrazing that induced more desert-like conditions (Ojima & Chuluun, 2008). The mining industry in the country consists of legal and illegal operations, which both damage the environment. Land is contaminated and water sources are dried up because of illegal mining; hence, fewer resources are available for herders and areas become unsuitable for grazing (World Wildlife Fund [WWF], 2010b). Herds will overgraze other areas because they do not move as often. Legal mining also disrupts protected areas because law enforcement in protected areas is weak; rangers do not possess weapons, radios, or phones (Farrington, 2005). Legal or illegal, mining strips away the nomadic lifeway.

For nomads, water is as important a resource as the grassland, and the lack of water sources in Mongolia affects migration. Since 1995, "683 rivers (out of 5,565 rivers), 1,484 springs (out of 9,600 springs), and 760 lakes and ponds (out of 4,196 water bodies) [have] disappeared" (Ojima & Chuluun, 2008, p. 186). The Mongolian government monitors water resources through inspections, and according to the United Nations Development Programme (2010), 122 mining sites, of which 94 were gold mining sites, were inspected in 2008.

Water, land, herders, and animals are interconnected. In 1994, the Mongolian government implemented a policy whereby land, including water sources, is state owned and for common use. Such a policy ensures herders have access to water (Fernandez-Gimenez & Batbuyan, 2004). Specifically, "land possessed or used by others may be crossed unless fenced or specially posted with warning signs" (Fernandez-Gimenez & Batbuyan, 2004, p. 6). Unfortunately, water points continue to decrease each year and shortages in certain areas can result in overgrazing in other areas where water is available, as herders will stay near water sources longer than they are supposed to (Altanbagana et al., 2010).

Weather Change

Global warming has been evident in Mongolia since the 20th century, increasing pressure on overgrazed land and leading to the development of desert-like areas (Ojima & Chuluun, 2008). The increase in temperature also affects animal reproduction. To illustrate, in the summer the grass intake of sheep declines, which affects their fertility (Ministry of Environment, Nature and Tourism, Mongolia, 2009). If animals cannot cope with climate change, reproduction may become a problem.

In summary, all events and activities that prevent herders from moving and obtaining natural resources are problematic. The *negdel* established during Soviet governance, the damage caused by privatization, the destruction caused by mining activities, and the disappearance of water sources all prevent migration. Such issues are not only related to the environment and the nomadic lifeway, but also the national economy, as nomads contribute to "Mongolia's biggest industry, providing Mongolians with food, clothing, housing materials, and fuel" (Zhiming et al., 2005, pp. 154–155).

Environmental Conservation

Since the retreat of the Soviet Union from Mongolia in 1990, Mongolians have initiated several environmental groups—including the revival of Buddhism—to maintain and restore their environment. Mongolian Buddhism could aid the restoration of the environment; some schools in Mongolia have included in their curriculum a section on conservation from a Buddhist perspective to educate students on preserving the land in sustainable ways. Furthermore, since 1992, designated protected sites have grown and gained state recognition (Chimedsengee et al., 2009). Many of these protected areas are in accordance with what Mongolian Buddhists traditionally classified as sacred areas.

Land Protection

Sacred sites as classified in Mongolian Buddhism are beginning to be recognized by environmental organizations such as the World Wildlife Fund (2005). Specifically, Khovsgol Lake or Mother Sea, a traditional scared site where water and land spirits are honoured, was officially declared as a protected area in 1992 by the United Nations Environment Programme. Further, organizations such as the Alliance of Religions and Conservation and the World Bank have funded publications on understanding Mongolia's sacred sites (WWF, 2005).

However, the protection of sacred sites is not as well-functioning as it sounds. Local communities are not all actively involved in the management of protected areas (Upton, 2010), Further, when people are not necessarily encouraged to worship at sacred sites, the role of conservation does not adhere to how the land was traditionally used. Essentially, the sacred sites have become sacred because of the people who use and interact with these areas. If the locals are no longer allowed to worship at the sites, the appropriateness of labelling these sites as sacred becomes questionable. As citizens of Mongolia, herders have a right to the land; however, that is different from having ownership of a piece of land. One of Upton's (2010) informants indicated that since herders have access to the land, they should be included in any environmental discussions of Mongolia. The informant believed that worshipping the landscape was necessary, but such a practice was banned during the Soviet regime. The nomads could very well be the "natural conservationists" (Upton, 2010, p. 315) who revitalize the environment. The problem surrounding the nomads' lack of participation in conservation could be seen as a result of Soviet governance in Mongolia, where a top-down approach was employed (Upton, 2010). Even though the Soviets retreated, the herders are still bounded by other forms of structure as they are still not allowed to worship at certain sacred sites because of environmental protectionism (WWF, 2005).

According to Mongolian Buddhism, the land should be allowed to restore itself after development. Hence, any company that mines in Mongolia should assist in recuperating the land, mountains, rivers, and other life forms (Chimedsengee et. al., 2009). Such a suggestion is ethical, logical, and reciprocal, which is aligned with traditional nomadic practice. However, corporate leaders may believe such a practice will not profit them; companies have a tendency to benefit themselves financially more than ethically, which obstructs conservation (Anderson, 2010).

Grassroots Movements

A recent collaboration between the World Wildlife Fund, Buddhist monasteries, and local schools is an example of how environmental devastation is leading to a revival of traditional knowledge. Environmental issues receive international attention because of organizations like the World Wildlife Fund. The United Nations (2011) published an assistance framework for Mongolia for 2012 to 2016; environmental sustainability is one of the listed priorities. An expected outcome of the framework is involvement of existing resource users (e.g., herders).

Cultural Tourism

In 2004, income generated from Mongolia's tourism industry accounted for 10% of Mongolia's GDP (Buckley, Ollenburg, & Zhong, 2008), which is a reason for Mongolia to upkeep its nomadic culture: Mongolia's tourism selling point is the cultural landscape, a locale where the people's lifeway and the land are combined (Buckley, Ollenburg, & Zhong, 2008). A typical cultural landscape tour includes staying at gers, eating local food, interacting with nomads, and attending the *Naadam* (which includes a horseracing activity for young herders). The nomadic livelihood represents tenacious survival in harsh weather and serves as an authentic cultural account of Mongolia. Mongolia's cultural landscape deserves recognition, as its contribution to understanding human culture is no less valuable than the Louvre's.

Conclusion

This article has shown how political changes have affected herders' livelihoods, cultural traditions, and environmental sustainability. Because nomadic people and their animals rely on their environment, nomads cannot survive in deteriorated environments. Moreover, the prohibition to worship at sacred sites is problematic, because worshipping is respect for the land, which is rooted in herders' culture.

Fijn's (2010a) ethnographic film recorded the traditional song "A Herder's Life." The song encapsulates the essence of the nomadic livelihood: living the right way, following the traditional lifeway, and respecting what is given by nature. Below are some of the lyrics from the song:

> In a blue valley the horses are alert.
>
> My wise father's words are jewels…
>
> If we live the right way our life will be easy
>
> The breeze in the vast, silver valley is always warm …
>
> My venerable mother's heart is pure milk…
>
> In life, even dreams can end happily, because if we live the right way…
>
> Our life will be easy…[1]

Perhaps the return to a traditional livelihood is nostalgic; however, the evolution of Mongolian nomads' lifeway exemplifies that respect for the environment is the best way for nomadic cultures to thrive in harsh lands. Naturally, the future nomadic culture will be different from the past because of political and economic changes. However, concern for the environment could lead to a revival of nomadic culture. After all, Mongolian nomadic culture has been known, since the 12th century, for its flexibility in coping with the ever-changing environment.

[1] Watch the film starting at minute 4:00.

References

Altanbagana, M., Chuluun, T., Ojima, D., & Sarantuya, G. (2010). Vulnerability assessment of the Mongolian social-ecological systems. *Proceedings from ICID: The Second International Conference on Climate, Sustainability and Development in Semiarid Regions*. Retrieved from http://www.icid18.org/files/articles/600/1277282617.pdf.

Anderson, E. (2010). *The pursuit of ecotopia: Lessons from indigenous and traditional societies for the human ecology of our modern world*. Santa Barbara, CA: Praeger.

Borgford-Parnell, N. (2009). Mongolia: A case for economic diversification in the face of a changing climate. *Sustainable Development Law and Policy 9*(2), 54–56.

Buckley, R., Ollenburg, C., & Zhong, L. (2008). Cultural landscape in Mongolian tourism. *Annals of Tourism Research, 35*(1), 47–61.

Chimedsengee, U., Cripps, A., Finlay, V., Verboom, G., Batchulun, V. M., & Khunkhur, V. (2009). *Mongolian Buddhists protecting nature*. Retrieved from http://www.arcworld .org/downloads /Mongolian%20Buddhist%20Environment%20Handbook.pdf.

Dalai Lama. (2009). *The Dalai Lama's little book of inner peace*. Charlottesville, VA: Hampton Roads.

Farrington, J. (2005). The impact of mining activities on Mongolia's protected areas: A status report with policy recommendations. *Integrated Environmental Assessment and Management, 1*(3), 283–289.

Fernandez-Gimenez, M., & Batbuyan, B. (2004). Law and disorder: Local implementation of Mongolia's land law. *Development and Change, 35*(1), 141–165.

Fijn, N. (2010a). *Khangai herds 1: Saikhanna the herder* [Video file]. Retrieved from http://vimeo.com/13795514.

Fijn, N. (2010b). *Khangai herds 2: Saikhanna and the calves* [Video file]. Retrieved from http://vimeo.com/13796152.

Fijn, N. (2011). *Living with herds: Human-animal coexistence in Mongolia*. New York, NY: Cambridge University Press.

Fletcher, J. (1986). The Mongols: Ecological and social perspectives. *Harvard Journal of Asiatic Studies, 46* (1), 11–50.

Hesse, K. (1987). On the history of Mongolian shamanism in anthropological perspective. *Anthropos Institute, 82*, 403–413.

Journeyman Pictures [journeymanpictures]. (1996, November). *Modern nomads — Mongolia* [Video file]. Retrieved from http://www.youtube.com/watch?v=Jw0Wt-M8xw4.

Ministry of Environment, Nature and Tourism, Mongolia. (2009). *Mongolia: Assessment report on climate change 2009*. Retrieved from http://www.preventionweb.net/files/ 12564_MARCC2009sm.pdf.

Ojima, D., & Chuluun, T. (2008). Policy changes in Mongolia: Implications for land use and landscapes. In K. A. Galvin, R. S. Reid, R. H. Behnke, and N. T. Hobbs (Eds.), *Fragmentation in semi-arid and arid landscapes: Consequences for human and natural systems* (pp. 179–193). Dordrecht, Netherlands: Springer.

Open Society Forum. (2004). *The future of nomadic pastoralism in Mongolia*. Retrieved from http://pdc.ceu.hu/archive/00002281/01/Book-english.pdf.

Thompson, D. (2000). The Sapir-Whorf hypothesis: Worlds shaped by words. In J. Spradley & D. McCurdy (Eds.), *Conformity and conflict: Readings in cultural anthropology* (10th ed.; pp. 79–91). Needham Heights, MA: Allyn and Bacon.

United Nations. (2011). *United Nations development assistance framework: Mongolia, 2012-2016*. Retrieved from http://www.wpro.who.int/countries/mng/UNDAF_ENGLISH_ 17March2011.pdf.

United Nations Development Programme. (2010). *Goal 7: Ensure environmental sustainability*. Retrieved from http://www.undp.mn/publications/goal7.pdf.

United Nations Environment Programme. (2002). *Mongolia: State of the environment 2002*. Retrieved from http://www.rrcap.unep.org/pub/soe/mongolia_part1.pdf.

Upton, C. (2010). Nomadism, identity and the politics of conservation. *Central Asian Survey, 29*(3), 205–319.

Weatherford, J. (2004). *Genghis Khan and the making of the modern world*. New York, NY: Three Rivers Press.

World Bank. (2003). *From goats to coats: Institutional reform in Mongolia's cashmere sector*. Retrieved from http://www-wds.worldbank.org/external/default/ WDSContentServer/ WDSP/IB /2006/05/02/000012009_20060502111130/Rendered /PDF/262400ENGLISH0rev0MG0Cashmere01PUBLIC1.pdf.

World Bank. (2012). *The world bank data: Mongolia*. Retrieved from http://data.worldbank.org/

country/mongolia.

World Wildlife Fund. (2005). Beyond beliefs: Linking faiths and protected areas to support biodiversity conservation. Retrieved from http://awsassets.panda.org/downloads /beyondbelief.pdf.

World Wildlife Fund Mongolia. (2010a). *Government to cancel 1,782 mining licenses near rivers, forests*. Retrieved from http://mongolia.panda.org/en/how_you_canhelp/ latest_ news/?197011 /Government-to-cancel-1782-mining-licenses-near-rivers-forests.

World Wildlife Fund Mongolia. (2010b). *Mining*. Retrieved from http://mongolia.panda.org/en/ our_solutions/threats/mining/.

World Wildlife Fund Mongolia. (2010c). *Two gold mining companies blamed for severely polluting Orkhon*. Retrieved from http://mongolia.panda.org/en/how_you_canhelp/ latest_news/?195112 /Two-gold-mining-companies-blamed-for-severely-polluting-Orkhon.

Ykhanbai, H., Bulgan, E., Beket, U., Vernooy, R., & Graham, J. (2004). Reversing grassland degradation and improving herders' livelihoods in the Altai Mountains of Mongolia. *Mountain Research and Development, 24*(2), 96–100.

Zhang, M., Borjigin, E., & Zhang, H. (2007). Mongolian nomadic culture and ecological culture: On the ecological reconstruction in the agro-pastoral mosaic zone in Northern China. *Journal of Ecological Economics, 62*, 19–26.

Zhiming, B., Norio I., Yoshiaki, K., Ariyoshi, K., Kunio, M., Tomokazu, O., & Kenji, O. (2005). Inner Asia: Balancing the environment with socioeconomic development. In A. Takehisa & T. Shun'ichi (Eds.), *The state of the environment in Asia* (pp. 151–170). Tokyo, Japan: Springer.