


Spring 2012

# The Effect of Climate Change on Mongolian Herding Communities: Investigating the Current Prevalence of Ecomigration and Community Perceptions of and Responses to Migration in the Countryside

Rachael Diniega  
*SIT Study Abroad*

Follow this and additional works at: [https://digitalcollections.sit.edu/isp\\_collection](https://digitalcollections.sit.edu/isp_collection)

 Part of the [Agricultural and Resource Economics Commons](#), [Agriculture Commons](#), [Environmental Indicators and Impact Assessment Commons](#), [Family, Life Course, and Society Commons](#), [Growth and Development Commons](#), [Inequality and Stratification Commons](#), [Labor Economics Commons](#), [Rural Sociology Commons](#), and the [Sustainability Commons](#)

---

## Recommended Citation

Diniega, Rachael, "The Effect of Climate Change on Mongolian Herding Communities: Investigating the Current Prevalence of Ecomigration and Community Perceptions of and Responses to Migration in the Countryside" (2012). *Independent Study Project (ISP) Collection*. 1291.

[https://digitalcollections.sit.edu/isp\\_collection/1291](https://digitalcollections.sit.edu/isp_collection/1291)

This Unpublished Paper is brought to you for free and open access by the SIT Study Abroad at SIT Digital Collections. It has been accepted for inclusion in Independent Study Project (ISP) Collection by an authorized administrator of SIT Digital Collections. For more information, please contact [digitalcollections@sit.edu](mailto:digitalcollections@sit.edu).

# **The Effect of Climate Change on Mongolian Herding Communities:**

Investigating the current prevalence of ecomigration and  
Community perceptions of and responses to migration  
in the countryside

By Rachael Diniega

6/2/2012

S. Ulziijargal

SIT Mongolia: Nomadic Culture and Globalization, Spring 2012

**Abstract**

The livelihoods of Mongolian herders depend on rangeland conditions, which are being threatened by land degradation and climate change. These changes may cause some Mongolian herders to move to a different land. Thus, the prevalence of ecomigration today and the perceptions and responses of herding communities to migrants were examined to understand ways government could form adaptation policy to climate change in the future. Interviews were conducted with both migrant and host herders as well as government officials in Mungunmorit, Tov and Delgerkhan, Khentii, including the state reserve Herlen Bayan-Olaang. A survey was used to evaluate the prevalence of ecomigration to the *soum* centers and Ulaanbaatar.

Ecomigration was present in all areas. Environmentally-induced economic reasons were often overlooked, cited usually only as job-related movement. Mungunmorit has had many new migrants arrive in recent years, so there has been some conflict over rangeland between the migrants and host herders. Delgerkhaan does not have many new migrants, but herders there blamed herders passing through their land on the way to the state reserve of Herlen Bayan-Olaang for land degradation. One *bag* also made the protectionist policy of allowing no herders to move to their land.

In the future as land degradation and the number of extreme weather events increase, the number of ecomigrants, including ones influenced by environmentally-induced economic reasons, will also increase. Based on the results, it is likely that ecomigrants in the future will face similar difficulties being accepted by host communities already witnessing environmental degradation themselves unless the right policies are implemented. The combination of more education about the environment and long-term options for families as well as better infrastructure and services would provide true freedom of choice to herders who need to move due to environmental reasons brought about by climate change

## Table of Contents

Abstract .....	2
Acknowledgements.....	4
Lists of Terms .....	5
<b>List of Tables and Figures</b> .....	6
Introduction.....	7
Climate Change and Movement in a Global Context .....	8
Climate Change and Environment in Mongolia .....	10
Herding in Mongolia.....	12
Migration in Mongolia.....	13
Methodology .....	14
Data and Results .....	18
Background Information from Interviews: .....	18
Mungunmorit .....	18
Delgerkhaan .....	19
Surveys.....	20
Mungunmorit: .....	20
Delgerkhaan .....	23
Ulaanbaatar: .....	25
A Comparison of Migration to Mungunmorit, Delgerkhaan, and Ulaanbaatar .....	27
Interviews: .....	29
Mungunmorit .....	29
Delgerkhaan .....	34
Discussion.....	41
Surveys: Is ecomigration already an issue? .....	41
Interviews: Is migration to a new herding community a viable adaptation method to land degradation in the home pasturelands? .....	46
Conclusions.....	51
References.....	54
Appendix.....	56

### **Acknowledgements**

First, thanks to our academic director Sanjaasuren Ulzijiargal, for always reassuring me things were going to work out (and they did!). Your advice is always the best. Thank you, Yarinpil Ariunbaatar, for all your help in ISP logistics, suggestions, and stories about the places I was visiting.

Thank you, Chuluunbaatar Ulziikhishig, for giving advice and information about logistics, checking in with us, and caring about us so much. I will forever watch my pockets.

Thank you so much, Tsedenbal Baigal, for your ever delightful company, your calming words, and our wonderful talks. Thank you, thank you for doing all of the consent form, interview question, and survey translations. Thanks also for helping me pass out and translate my surveys in UB. And doing it all with a smile. You are amazing.

Thank you to Surma and Tugsuu for always warmly welcoming back to SIT after my trips to the countryside.

Thank you to my translator and host for Mungunmorit Mandakh and her family Jargal, Nergwee, and Sovd for telling me more information about the town. Thanks also to my translator for Delgerkhaan and Ulaanbaatar, Chuluuntsetseg, for her advice and other interesting information she told me. Thank you to my host family of Delgerkhaan, Thagva, Chuluuntsetseg, and Tolga, for taking care of Chuka and me, helping with surveys, driving us everywhere, and selecting good families for me to interview. Thank you to Dom, my wonderful translator of previous interviews I conducted.

Thank you to my advisor, Professor Undarmaa of the Agriculture University of Mongolia, for her advice and help with getting this paper organized.

Thanks to all the people who took time out of their days to take my survey or allow me to interview them. I learned so much fascinating information from all of you, and I thank all who were so open with me. I hope I can share your stories and raise awareness about the issues you brought up with me in a way that does you all justice.

Thank you to all the random people who were willing to help a perfect stranger who looked lost and made my journey all the more enjoyable. Thanks especially to the kind store clerks who either passed out surveys to customers or allowed me to station myself in their stores for a few hours. Thanks to all the Mongolians who looked out for me on my journey, especially when I was traveling alone. Thanks to Mandakh's pupils who were a delight to teach English to. Thank you to all the people I cannot mention, but were so important during the project time.

Finally, a huge thank you to my wonderful friends on the program--Aleah, Andi, Brenda, John, Liz, Lucas, Mishell, Sandy, Tommy, and Will, for always helping to keep my spirits up.

### Lists of Terms

1. *Aimag*—province of Mongolia, similar to a state in the United States. There are 21 *aimags* in Mongolia.
2. *Bag*—administrative unit of a *soum*. The *soum* center and surrounding communities of herders each make up a *bag*. There are generally three to four *bags* in each *soum*.
3. *Delgerkhaan*—a *soum* of eastern Khentii *aimag*, famous for its historical significance related to Chinggis Khan.
4. *Dzud*—Mongolian term for a bad winter that kills off many animals. The *dzud* could be preceded by a bad summer with drought that decreases the amount of available pastureland, meaning animals are weaker going into the fall and winter. Winter is colder and has more snow than usual, so that animals cannot graze easily or are frozen to death. In the past, *dzuds* have killed up to 20% of all herding animals in the nation.
5. *Herlen Bayan-Olaang*—the state pastureland reserve for the *aimags* of Khentii, Dornogobi, Dondgobi, and Tov, for when herders are affected by *dzuds*.
6. *Host herder*—a herder who is considered a native of the *soum*.
7. *Khentii aimag*—an *aimag* considered part of eastern Mongolia.
8. *Migrant herder*—a herder who is non-native in his current residence.
9. *Mungunmorit*—a *soum* in eastern Tov *aimag* north of the mining town of Baganuur. The *soum* borders Khentii *aimag* and is south of the Khan Khentii Strictly Protected Area.
10. *Soum*—administrative districts of *aimags*, similar to counties in some states of the US; Mungunmorit and Delgerkhan were *soums* of Tov and Khentii, respectively.
11. *Temporary migrant herder*—a herder who moves to another administrative unit for a few weeks or for a season, with some avoiding or recovering from an extreme natural disaster like *dzud* in their homelands.
12. *Tov aimag*—a central *aimag* of Mongolia that surrounds the capital of Ulaanbaatar.
13. *Ulaanbaatar*—capital city of Mongolia, often referred to as the “center” in terms of business, health, and education services. As such, its population has doubled in the past 20 years to be 1.15 million today, or just under one-half of Mongolia’s population. It is located within the borders of *Tov aimag* though it is not under its administration.

### List of Tables and Figures

1. Table 1: Reasons for moving to Mungunmorit <i>soum</i> listed by the 33 Mungunmorit survey respondents who had moved. ....	21
2. Table 2: Reasons for moving to Delgerkhaan <i>soum</i> listed by the 7 Delgerkhaan survey respondents who had moved. ....	24
3. Table 3: Reasons for moving to Ulaanbaatar listed by the 19 UB survey respondents who had moved. ....	25
4. Table 4: Comparing the numbers of survey respondents who were migrants in Mungunmorit, Delgerkhaan, and Ulaanbaatar. ....	27
5. Table 5: Comparing the proportions of survey respondents who were migrants or native in Mungunmorit, Delgerkhaan, and Ulaanbaatar. ....	27
6. Table 6: Comparing the proportions of listed reasons for moving as a percentage of respondents in Mungunmorit, Delgerkhaan, and Ulaanbaatar. ....	28
1. Figure 1: Percentages of reasons listed by Mungunmorit survey respondents for moving. ....	22
2. Figure 2: Percentages of Mungunmorit survey respondents who listed the stated reasons for moving. ....	23
3. Figure 3: Percentages of reasons listed by the 7 migrant Delgerkhaan <i>soum</i> survey respondents for moving. ....	24
4. Figure 4: Percentages of Delgerkhaan <i>soum</i> survey respondents who listed the stated reasons for moving. ....	25
5. Figure 5: Percentages of reasons listed by the 19 migrant UB survey respondents for moving. ....	26
6. Figure 6: Percentages of UB survey respondents who listed the stated reasons for moving. ....	27
7. Figure 7: Charts comparing the proportions of migrants and natives in Mungunmorit, Delgerkhaan, and Ulaanbaatar. ....	28
8. Figure 8: Graph comparing the proportions of listed reasons for moving as a percentage of respondents in Mungunmorit, Delgerkhaan, and Ulaanbaatar. ....	29

## **Introduction**

Climate change effects have already been experienced by millions across the globe, especially those in the developing world whose livelihoods depend on the environment. One kind of adaptation mechanism to environmental changes is migration, referred to as “ecomigration” or “environmental migration” (Sramkova 2009). While the environment may not be cited as the primary cause of movement, even economic reasons cited could be a result of changes in the environment: hence, “environmentally-induced, economic migration” (Afifi 2011). If mitigation techniques are not used to prevent conditions from worsening, permanent relocation may be required (McAdam 2011). The movement of new people into a community may exacerbate preexisting tensions over resources, like water and land, and the newcomers may receive the brunt of the blame. Today, international debate remains over how to classify, protect, and support people moving due to environmental reasons caused by climate change.

As one of the last countries with a significant nomadic herding population, Mongolia has not been left out from feeling the effects of climate change. With 42% of the population working in rural areas or herding, the consequences of changing precipitation patterns, temperature, and land quality may significantly affect their lifestyles (Swiss Agency for Development and Cooperation 2009). Thus, how will future climate change consequences affect herding communities? To answer this question, two sub-questions about current conditions will be examined. A total of 70% of Mongolia’s rangeland is already degraded (S. Oyun n.d.). Therefore, is ecomigration already an issue in Mongolia? If so, why and to where are they moving? A survey covering this latter question was distributed in



centers. Secondly, because so much land is already degraded and some resources like water and fertile land may be scarce in some areas, is migration to a new herding community a viable adaptation method to land degradation in the home pasturelands? To answer this question, the way host herding communities view and treat migrant herders, as well as how migrants feel about their new communities, were determined through interviews. Understanding how the Mongolian environment changing is affecting herders and how migration is affecting communities now will be important in developing policies to aid and counteract the impact on the more vulnerable Mongolians whose lives depend upon the environment.

Knowing areas around the research location of Delgerkhaan *soum* had experienced desertification and herders of Mungunmorit *soum* (the second research location) had complained about owners of large herds encroaching on their land (Y. Ariunbaatar, personal communication, April 16, 2012), the researcher expected that migrants do not find host communities very welcoming, and that host community herders may demonize newcomers, blaming them for rangeland degradation. With the combination of environmental changes and unwelcoming herding communities, survey results may reveal some recent ecomigration to the *soum* center or Ulaanbaatar (UB).

### **Climate Change and Movement in a Global Context**

Climate change has quickly become a worldwide concern addressed by the United Nations and individuals, though it remains a controversial topic. “Climate change” has been used interchangeably with “global warming,” ascribing most of the current change in weather patterns to anthropogenic causes (Boldgiv 2011).

Effects of climate change have been felt most especially by those in the developing world, where a greater population percentage dependent upon the land for their livelihoods, as adaptation is constrained by lack of resources.

Overall, climate change is expected to displace more than 200 million people by 2050 (Burlison 2010). There has been debate over what to call people who move for environmental reasons brought about by climate change and what their rights should be. “Environmental refugees” is a term often used, but it neglects the people who move in advance of conditions that would have forced them to move (McAdam 2011). These people who move for economic reasons because of decreasing incomes or lost animals are technically voluntary migrants, yet the root cause of environmental destruction is not within their power to change. Rights and compensation for internally voluntary migrants also is questionable, as responsibility for social care would fall in the jurisdiction of each nation. Migration to perceived better areas, like cities and fertile land, will strain the resources in those areas, further intensifying the cycle of migration and possible resource conflict (Burlison 2010).

In Niger, environmental degradation, from drought, deforestation, and shrinking of water resources, has affected much of the country. With 90% of Nigerians working in agriculture or other nature-based fields, these environmental changes would seem to force people to move on to different jobs. Yet Afifi (2011) found that most Nigerians cited decreasing income or unemployment as a reason to move. Tracing back to the root causes, the economic reasons cited were a result of environmental changes that negatively

affected standards of living (Afifi 2011). Thus, even if environmental reasons are not listed as a primary reason to move, it would be important to keep in mind digging deeper into job-related reasons for moving.

“Perceptions of ecological migration in Inner Mongolia, China: summary of fieldwork and implications for climate adaptation” by J. West (2009) describes how parts of Inner Mongolia have experienced such extreme land degradation that the government has encouraged migration of resident herders into migrant towns. Many of those interviewed were ambiguous as to whether life was better in the towns. Overall, West (2009) points to the lack of control the people felt over migration, and few knew how they personally could adapt long-term to the changes. The study emphasizes the influence public policy, education, and choice can have on quality of lives of migrants.

### **Climate Change and Environment in Mongolia**

Mongolia is a country whose ecosystem is characterized by steppe plains in the central and eastern regions, or *aimags*, mountainous ranges especially in the western and central *aimags*, and Gobi Desert in the southern *aimags*. Sandwiched between Russia and China, Mongolia has a continental climate, generally dry and cold, though precipitation varies greatly between ecosystems. While the world average temperature change since 1980 is about 0.8 degrees Celsius, in Mongolia, the temperature change since the 1940s is on average about 2.14 degrees Celsius (United Nations Development Programme (UNDP) 2011).

Today it is difficult to distinguish whether environmental changes are due to climate change or other sources, such as irresponsible mining or overgrazing by herders. Various sources have come to different conclusions about the main

causes of environmental degradation, including the extent to which climate change has affected Mongolia. Going a step further, ecosystems across Mongolian have faced different and sometimes opposite consequences because of climate change. Different regions across the country have generally observed warming in the winter time, and more hot days (with temperatures above 28 degrees) in the summer leading to desertification (Mongolia: Assessment Report on Climate Change (MARCC) 2009). While average precipitation countrywide has stayed the same, the intensity and timing have change. In the North, herders have said precipitation has come in short bursts, meaning more runoff and less moisture for the pastureland. There have thus been increased dust events (Grossman June 2011). Glaciers, snow, permafrost and ice cover have melted earlier throughout Mongolia (Ts. Munkhbayar, personal communication, March 22, 2012). It is estimated that the decline in water availability has contributed to the degradation of 20% to 40% of pastureland in Mongolia (MARCC 2009).

Overall, Mongolia is facing rapid desertification, increasing occurrences of natural disasters, including *dzud*-like winters and summers, and the disappearance of streams and rivers, all of which greatly affect herders' livelihoods. Hotter summers with more runoff worsen the severity of potential *dzuds*, as animals have less time to graze and increase winter reserves. The increase in thunderstorms, snowstorms, or other natural disasters also threatens herders' stability. Some herders have already been forced to find new homes due to the disappearance of water sources and *dzuds* (Ts. Munkhbayar, personal communication, March 22, 2012).

Climate change is only one factor contributing to environmental degradation, and it is one that cannot be stopped immediately or fixed right away. However, while 75% of Mongolians say they are knowledgeable about climate change and 54% agree it is because of human activity, only 30% deem it a serious threat to their livelihoods, a number even far below that of the United States (Purgliese & Ray 2009). Considering how dependent herders are on the environment, it is surprising few Mongolians say climate change is threatening, so the research also focused on herders' knowledge of the subject. Education about climate change could better prepare those whose lifestyles are at risk of changing.

### **Herding in Mongolia**

Prior to 1990, Mongolian herders were organized into *negdels*, or collectives, throughout the Socialist period. The number of animals allowed in each administrative unit and family as well as the rangeland rotation was controlled by the state. The transition to democracy and a market economy in 1990 drastically changed the way of herding again (Bruun 2006). Rangeland was considered free for anyone to use, and the Constitution guaranteed Mongolians' right to live where they wanted (Migrants and Refugee Rights n.d.). With an influx of new herders from the city and countryside onto the land in addition to a market-driven increase in animals, particularly goats, the carrying capacity of many rangelands was quickly exceeded.

In response to growing problems over rangeland due to privatization, the Mongolian Parliament passed several Land Laws attempting to bring order over rangeland. Fernandez-Gimenez & Khishigbayar (n.d.) concluded that giving more ownership over the land to individuals was not the best policy for a society

based on mobility with a longstanding common resource tradition. Rather than create land boundaries for herders, they suggest encouraging community decision-making among herders (Fernandez-Gimenez & Khishigbayar n.d.).

### **Migration in Mongolia**

After the transition to democracy, many people lost previously government-sponsored jobs in the city and the countryside. People returned to the countryside as herders, increasing the number of animals on the land. But ever after that point, migration has turned back towards the city (Fernandez-Gimenez & Khishigbayar n.d.). Extreme events like droughts and *dzuds* pushes even more herders to move to the city (National Statistical Office of Mongolia (NSO) 2011).

Today, about 35% of all adults in Mongolia are considered migrants (World Bank n.d.). S. Alгаа (2007) found that from the period between 1990 and 2005, Ulaanbaatar was the only *aimag* to have a positive inflow of migration, while the surrounding central *aimags* like Tov had the highest net outmigration even with higher numbers of in-migration, probably due to their proximity and reputation as the pit stop before the final destination of UB. Alгаа (2007) states that migrants may choose to move first to the central *aimags* surrounding UB because lower economic conditions or difficulties finding housing or jobs prevent them from moving directly to the city. Generally, western *aimags* are the source of many migrants to the central regions and UB (Alгаа 2007).

In recent years, the pressure of increased migration to Ulaanbaatar has emphasized the need for better infrastructure and development in other areas of Mongolia. Ulaanbaatar, often referred to as only “the center,” is quite literally the economic, social, and educational center of the country (Bruun 2006). In the past

ten years, migration has also increased to regions where mining development is occurring because of the services and infrastructure built up around such areas (NSO 2011). In order to solve the problem of overpopulation in UB, prominent Mongolians have called for more development and infrastructure in other regions.

### **Methodology**

The main methods of data gathering were surveys passed out in Mungunmorit, Tov, Delgerkhaan, Khentii, and Ulaanbaatar as well as primary interviews with both host community herders and migrants in the surrounding bags of Mungunmority and Delgerkhaan. The survey covered the family's permanence or migration to the *soum* center, reasons for migration, and environmental changes in the home or current *soum*. The survey was in Mongolian and answers translated to English. The causes and prevalence of migration within the countryside or to the *soum* center, particularly migration due to environmental reason, were determined from meetings with local officials and survey results (see Appendix 1.1 & 1.2).

During interviews, the host community participants were asked about personal ties to the land and community, environmental changes and awareness, and perceptions about migrants. The migrants were asked similar questions about personal ties to new and old lands and communities, environmental changes and awareness in relation to the originating location, and how they perceived the host community's acceptance. From these interviews, I evaluated perceptions of environmental change and its causes, reasons for moving, knowledge about the

moving process, community connections, knowledge about climate change, future movement plans, and host-migrant interactions.

During the researcher's one week in Mungunmorit *soum*, three host herders, three migrant herders, one meteorologist, and four government officials were interviewed, for a total of 11 interviews. The government officials included the *soum* center bag manager, the *soum* land manager, the environment manager, and the registrar. Interviews generally lasted between 15 and 40 minutes. Forty-six surveys were completed in Mungunmorit. About half of the surveys were passed out to customers at stores, a quarter given to neighbors of the homestay family, a quarter given to a government worker to take around to residents, and a quarter given out at the translator's school.

Between Mungunmorit and Delgerkhaan, one night was spent in Ulaanbaatar. In UB, the researcher changed the survey to make clearer which respondents actually lived in the *soum* center versus the countryside and reformatted some questions (see Appendix 2). After translating a few Mungunmorit surveys, the question about environmental changes was revised to be more open (from whether or not the respondent had felt changes, to what kind of changes they had seen) and another question asking why the respondents had chosen to live in Delgerkhaan was added rather than just asking why they had moved in the first place.

During the time in Delgerkhaan, five host herders, four migrant herders, two *soum* government officials (registrar and land ranger), one bag governor, and one meteorologist were interviewed, for a total of 13 interviews. A day was spent



in Herlen Bayan-Olaang *bag* interviewing the *bag* governor, registrar, a teacher, a storekeeper and longtime resident of the *bag*, and a state resource officer, for a total of three interview periods. Interviews generally lasted between 45 minutes and 1 hour 30 minutes.

Forty-two surveys were passed out in Delgerkhaan *soum* center at the Delgerkhaan *soum* celebration, on the street, and in stores to people who lived in the *soum* center. Ten extra surveys were passed out to herders but the data was not used in the analysis as they were not residents of the *soum* center. Some surveys were passed out in the *bag* center of Herlen Bayan-Olaang, but the researcher did not use them as they were also not *soum* center residents.

The researcher returned to Ulaanbaatar to pass out the survey to *ger* district residents. The survey was changed to apply to Ulaanbaatar residents, so wording of “*soum* center” was changed to “center.” The researcher’s translator for Delgerkhaan insisted that the survey be changed as some survey-takers had had difficulty with the wording, order, and length of the questions. The option of writing “head of household’s occupation” was removed. The question clarifying whether the respondent lived in the countryside or city was removed. Other questions’ wordings were changed, but the meanings were not significantly different from the original questions. Twenty-five surveys were passed out at a bus stop within the *ger* district.

The biggest limitation was time, as the three-week research period was not long enough to have as many interviews as desired. Short time periods in Ulaanbaatar and Herlen Bayan-Olaang limited the number of interviews in those

places. The research topic also brought up uncomfortable feelings for interviewees that may have prevented complete honesty, and the researcher was told that ecomigrants in Ulaanbaatar may feel ashamed of their conditions and would not want to be interviewed.

Other limitations included the use of translators, a translator belonging to the community in question, and using several different translators. First, connections with the interviewee are always lost when communication is disrupted by the need for a translator. Some of what is said may have been lost when the translators, though good, are not fluent in English. The translator in Mungunmorit was from the community, and so interviewees might have felt uncomfortable speaking truthfully. When the interviews that were recorded were retranslated by a third translator in UB, it turned out the Mungunmorit translator had not translated some important aspects of interviewee's responses at all, had asked wrong or leading questions, or had come up with her own answers. Thus, during the actual interview, the researcher either asked follow up questions based on an incorrect translation or did not ask any follow up questions on important information that had not been translated. Much of the information from this period is shallower than the researcher would have liked, and answers to leading questions were discarded. Finally, each different translator for the surveys and interviews used her own terminology, leading to some confusion over similarities between interviewee answers at some points.

Surveys not used were ones filled out by another member of the same family, residents not from the *soum* center, one without indication of living location (center/countryside), and one filled by a very drunk individual.

## **Data and Results**

### **Background Information from Interviews with Government Officials:**

#### **Mungunmorit**

Mungunmorit, a *soum* of eastern Tov province, is located in the Khentii range with forested mountains and broad valley plains surrounding the Herlen River. The *soum*'s area is 672, 076 hectares with about 5,000 hectares of seasonal reserve land set aside for this year. The *soum* has a total of 2240 people divided into three *bags*. The *soum* center has about 800 people registered and has a kindergarten, a school for Grades 1-9, and about eight stores. On average, about 40 people move from the *soum* each year, mostly from the center. According to the *soum* registrar, most who leave could not find work in the *soum* center. About 50 people per year move into the *soum*, sometimes mostly herders, sometimes people who found jobs in the *soum*. To register as a resident in the *soum* from another place, the person needs to have their identification card and transfer papers affirming the person was removed from the registration list of his previous home. Migrant herders must identify the land they want to live before moving and receive permission from the *bag* and *soum* administrations. Sometimes transfer papers come after the herders have already moved. Herders need permission from the *soum* administration to have the right to certain mountain-area winter and spring camps, which usually have permanent wood pens built for

the herds, while valley pastureland in summer is shared by all. There are no payments except by temporary or seasonal migrants using reserve land.

### Delgerkhaan

Delgerkhaan is a *soum* in southwestern Khentii *aimag*, located along the Herlen River in the Khentii range with forested mountains and steppe. It has an area of 380,000km<sup>2</sup> with a total of three *bags* and one township/*bag*: Herlen Bayan-Olaang, part of a state reserve land. There are 2,473 people (777 families) registered in the *soum*. In the past year, 17 people (nine were herders) moved to the *soum* (Herlen Bayan-Olaang migration is not included). A total of 46 people moved from the *soum*, with 19 moving to Ulaanbaatar. The population is decreasing. The *soum* center has a kindergarten, school for Grades 1-9, and about three main stores with a few small home-based stores around the town. Registration is the same process as in Mungunmorit.

While Herlen Bayan-Olaang is a *bag* of Delgerkhaan, it also has parts in three other *soums*. It began as a fodder-growing area in 1962 under the Soviets. In 1974 it switched to also being a reserve area for incidences of bad *dzuds* in four *aimags*: Khentii, Dorngobi, Dondgobi, and Tov. Govsumbir also used Herlen Bayan-Olaang in the past, but now it has its own resource place. Two years ago after complaints were filed about land degradation, Herlen Bayan-Olaang was released as a state resource place. However, the ban was not effective and it also meant that native Delgerkhaan herders living in the reserve area also had to move. Now the two-year moratorium is over. Parliament is instead trying to increase the number of state resource places, so that 10% of all rangeland is reserve land.

This land in Herlen Bayan-Olaang for temporary migrant-use is run by the state, while the township has administrative jurisdiction for all permanent residents. In autumn, *aimags* send estimates of how many people will be affected by a bad *dzud*, and those numbers are matched with the carrying capacity of the land. By law, these temporary migrants can stay only from November 1<sup>st</sup> to April 1<sup>st</sup>. While the migrants are supposed to pay a small fee, only 10-20% actually do. However, the Herlen Bayan-Olaang resource official interviewed emphasized that animals are important to the state and that the health of the animals (even though they are privatized) is the most important thing to keep in mind. Thus, even herders who are not approved for coming are allowed to stay if they arrive at the resource place. Some Tov *aimag* herders also move there in the winter if they do not have a proper winter place in their own *soum*. Health and veterinary services are provided to all who come.

## Surveys

### Mungunmorit:

In Mungunmorit, 46 surveys were completed. Thirteen described themselves as natives of the *soum*, while 33 had moved from elsewhere. Previous homes included from most cited to least: Ulaanbaatar (6), Baganuur (5), Dondgobi (4), Zavkhan (3), Bolan (3), Jargalkhaan (2), and one each from Dornod, Arkhangai, Bayan-Ulgii, Uvs, Gobi Altai, Gobisumber, Hovd, Tov, Bayankhongor, and Erdenet.

Of the migrants, many listed multiple reasons for moving under the questions “Why did you move?” as well as the question “Was the environment a consideration when deciding to move?” The majority of environmental reasons

for moving were listed as reasons under the first question, but the second question prompted some respondents to also list environmental phenomena. Each reason listed was tallied up under the categories of job, environment, followed family, education, profit/market, unanswered, health, and better life. The percentage of each reason out of the total number of reasons (more than the number of respondents due to multiple reasons for moving) was found. Pie charts were made of these results. However, while these numbers give an idea of how influential one particular reason is when deciding to move, it does not present an accurate picture of how many people are affected by each factor. Thus, though environmental reasons made up only 50% of the total reasons listed, a significant two-thirds of the migrants' decisions had been influenced by the environment (Figures 1 & 2). High differences between percentages of reasons listed and percentages of respondents means migrants listed multiple reasons for moving.

**Table 1: Reasons for moving to Mungunmorit *soum* listed by the 33 Mungunmorit survey respondents who had moved.**

Reason to Move	Number of Times Listed	Percentage of Reasons Listed*	Percentage of Respondents**
Job <sup>o</sup>	9	20.45	27.27
Environment	22	50.00	66.67
Followed family <sup>oo</sup>	7	15.91	21.21
Education <sup>ooo</sup>	2	4.55	6.06
Profit/Market <sup>oooo</sup>	2	4.55	6.06
Unanswered	2	4.55	6.06
Total	44	100.00	133.33***

<sup>o</sup>Job: responses were along the line of “for work,” “found job”

<sup>oo</sup>Followed family: responses mentioned another family member who lived there, no personal reason for moving listed

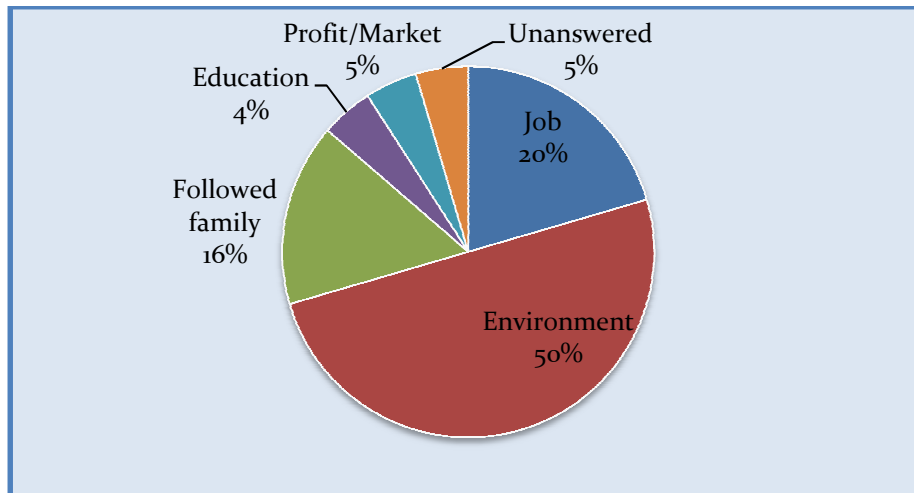
<sup>ooo</sup>Education: some responses mentioned children’s education, others were for the respondent’s own education.

<sup>oooo</sup>Profit/market: responses did not mention job or work, but rather to increase profit or be closer to the market

\*Number of times listed/total # of reasons listed (44)\*100%=Percentage of reasons listed

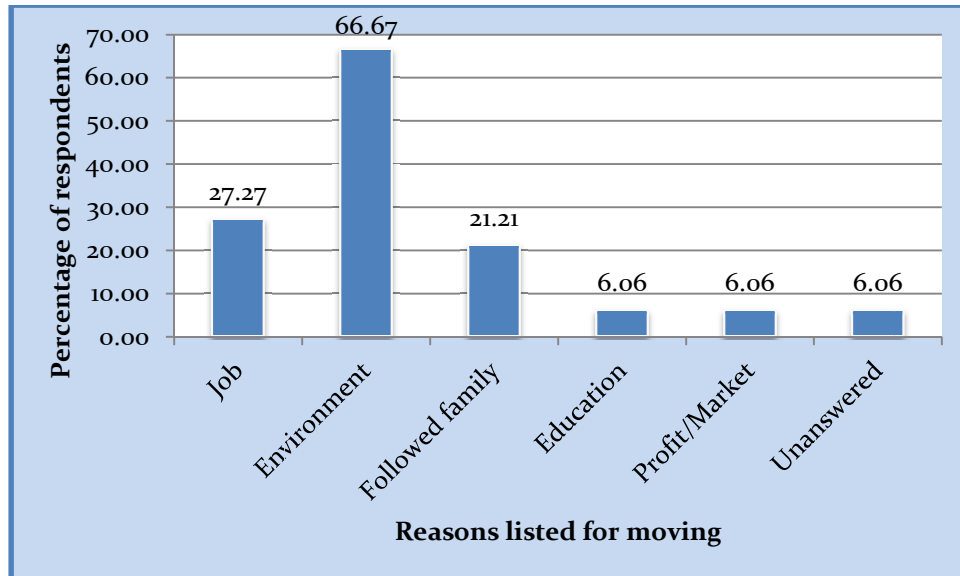
\*\*Number of times listed/total # of respondents who moved (33)\*100%=Percentage of Respondents

\*\*\*Totals greater than 100 because some respondents listed multiple reasons for moving.



**Figure 1: Percentages of reasons listed by Mungunmorit survey respondents for moving.**

Fifty percent of reasons listed for moving had to do with the environment. The most common environmental reasons were *dzud* and bad rangeland, while drought, desertification, and air pollution were also some that were listed. A number of people who listed environmental reasons were herders who lived in the *soum* center seasonally or year-round, mostly for children's education. The second most popular reason for moving was for a job (20%), and the third was following a family member (16%) (Figure 1).



**Figure 2: Percentages of Mungunmorit survey respondents who listed the stated reasons for moving.**

Though only 50% of reasons listed were environmental reasons, two-thirds of the Mungunmorit residents who had moved there listed environment as a reason for moving. Nevertheless, the difference in percentages of reasons listed and of respondents emphasizes the combination of factors involved in making the decision to move. From environment, there is a huge drop to the next highest number of respondents for a reason to move. About 27.27% of respondents listed change in work as a reason to move, and 21.21% listed following family. Two respondents each said education or profit/market was a reason, while two respondents did not answer (Figure 2).

### Delgerkhaan

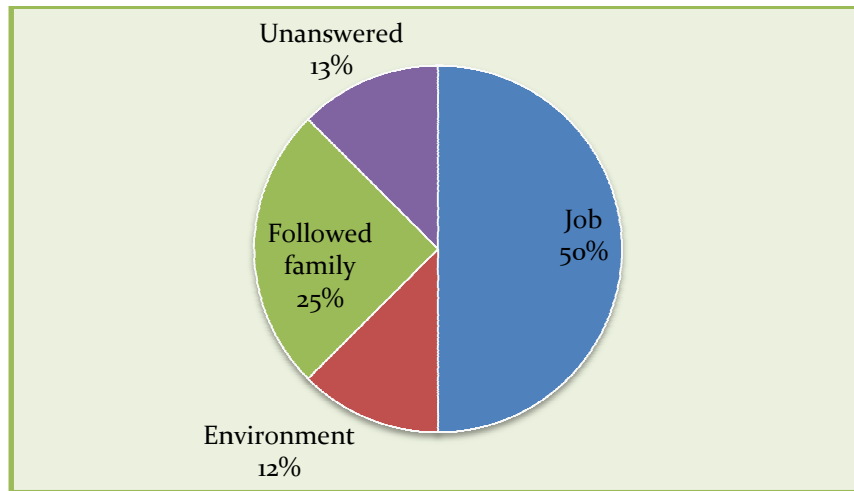
A total of 42 surveys were completed in the *soum* center. Three surveys did not indicate whether the respondents were native to the *soum* or had moved there. Thirty-two respondents were native, and seven had moved recently. Previous homes were Tsenkhermandel *soum* of Khentii (2), and one each from an



unknown place, Ulaanbaatar, Bayankhotag *soum* of Khentii, Dornod, and Bacheeret *soum* of Khentii.

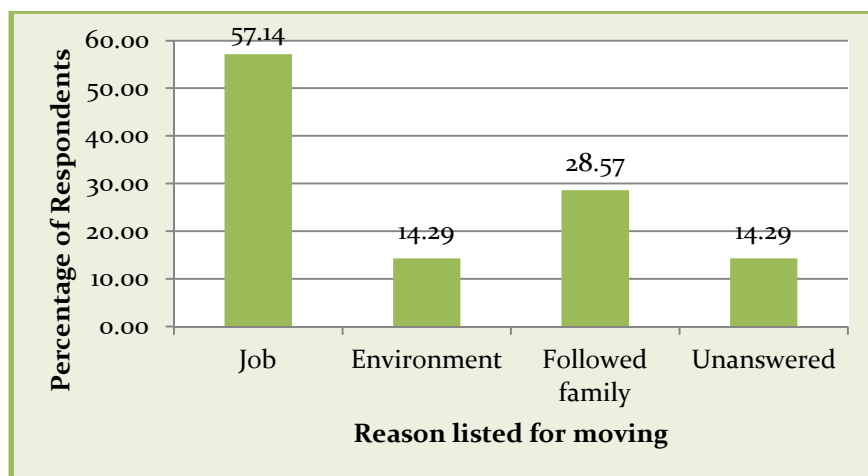
**Table 2: Reasons for moving to Delgerkhaan *soum* listed by the 7 Delgerkhaan survey respondents who had moved.**

Reason to Move	Number of Times Listed	Percentage of Reasons Listed	Percentage of Respondents
Job	4	50	57.14
Environment	1	12.5	14.29
Followed family	2	25	28.57
Unanswered	1	12.5	14.29
Total	8	100	114.29



**Figure 3: Percentages of reasons listed by the 7 migrant Delgerkhaan *soum* survey respondents for moving.**

Half of the reasons listed for moving was job-related, while one-quarter was following other family members. Environment was listed once, while one respondent did not answer why he had moved (Figure 3). Few survey respondents were migrants, limiting the applicability of these results to all migrants in the Delgerkhaan *soum* center.



**Figure 4: Percentages of Delgerkhaan *soum* survey respondents who listed the stated reasons for moving.**

More than half of the respondents (57.14%) wrote job-related reasons for moving (Figure 4). Because of the limited number of migrants and mostly singular reasons for moving, percentage of reasons listed was similar to the percentage of respondents for each reasons listed for moving.

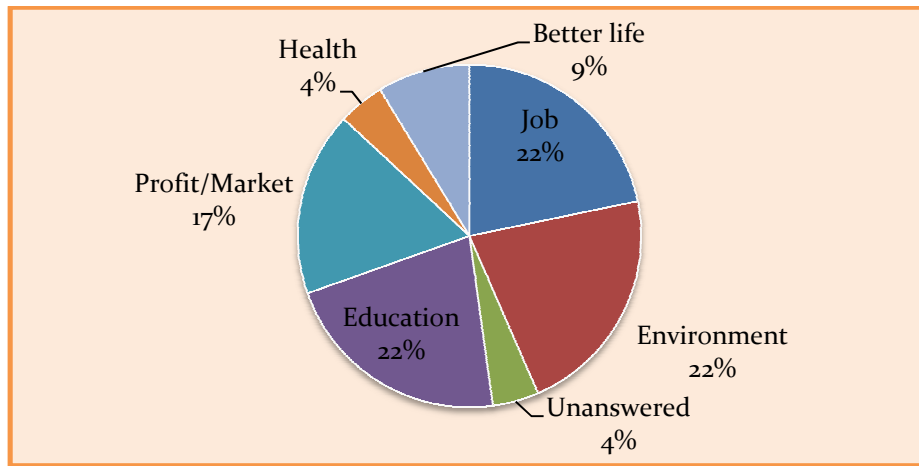
#### Ulaanbaatar:

A total of 25 surveys were completed, and three incomplete surveys were also received, but not considered for the study. Six respondents were native, while 19 had moved to the city. Six respondents were moved from Tov, three from Zavkhan, two from Omnogobi, and one each from Uvs, Bayankhongor, Dondgovi, Orkhan, Hovd, and Dornod, one from an unnamed *aimag* center, and one left the answer blank.

**Table 3: Reasons for moving to Ulaanbaatar listed by the 19 UB survey respondents who had moved.**

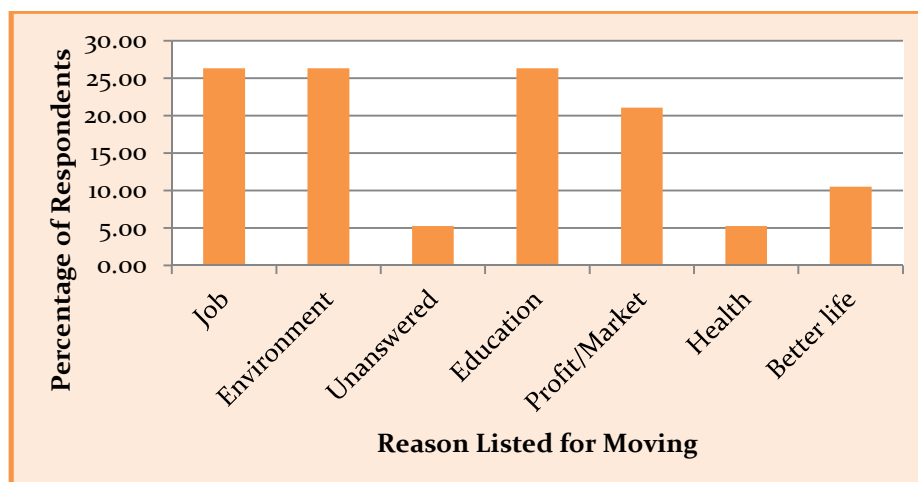
Reason Listed for Moving	Number of Times Listed	Percentage of Reasons Listed	Percentage of Respondents
Job	5	21.74	26.32
Environment	5	21.74	26.32

Unanswered	1	4.35	5.26
Education	5	21.74	26.32
Profit/Market	4	17.39	21.05
Health	1	4.35	5.26
Better life	2	8.70	10.53
Total	23	100	121.05



**Figure 5: Percentages of reasons listed by the 19 migrant UB survey respondents for moving.**

There was a broader array of reasons listed for moving in Ulaanbaatar. There was a more equal spread of frequency among the reasons. Job, environment, education, and profit/market each made up about one-fifth of the reasons listed, with health, better life, and unanswered surveys making up the rest (Figure 5). Those who answered better life did not specify which aspect of life (work, education, etc.) would be better by moving to UB.



**Figure 6: Percentages of UB survey respondents who listed the stated reasons for moving.**

Percentages of respondents did not differ very much from the percentages of reasons listed for each reason, thus many respondents did not list multiple reasons for moving (Figures 5 & 6).

#### A Comparison of Migration to Mungunmorit, Delgerkhaan, and Ulaanbaatar

**Table 4: Comparing the numbers of survey respondents who were migrants in Mungunmorit, Delgerkhaan, and Ulaanbaatar.**

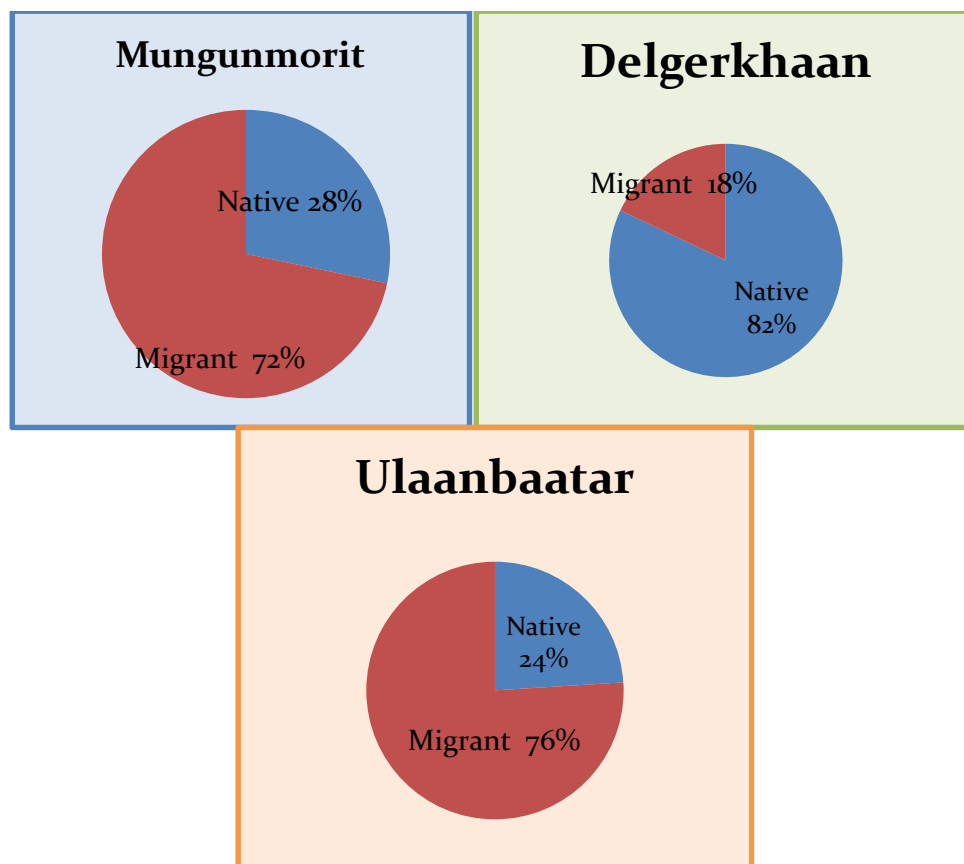
Respondent	Mungunmorit	Delgerkhaan	Ulaanbaatar
Native	13	32	6
Migrant	33	7	19
Total	46	39	25

**Table 5: Comparing the proportions of survey respondents who were migrants or native in Mungunmorit, Delgerkhaan, and Ulaanbaatar.**

Respondent	Mungunmorit (%)	Delgerkhaan (%)	Ulaanbaatar (%)
Native*	28.26	82.05	24.00
Migrant**	71.74	17.95	76.00

\* found by dividing Native (Table 4) by Total (Table 4) \*100%= % Native.

\*\*found by dividing Migrant (Table 4) by Total (Table 4)\*100%= %Migrant



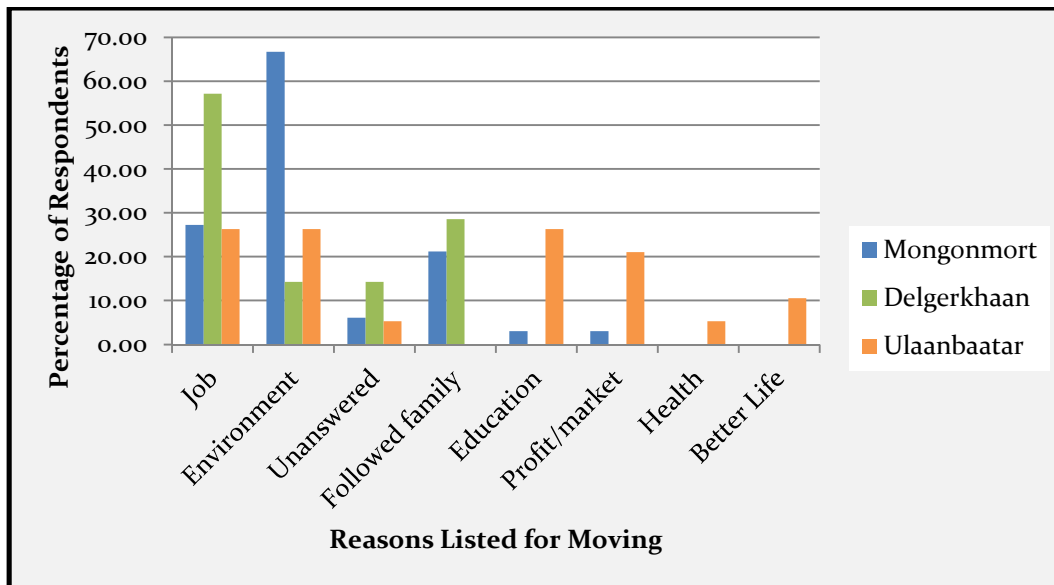
**Figure 7: Charts comparing the proportions of migrants and natives in Mungunmorit, Delgerkhaan, and Ulaanbaatar.**

Mungunmorit and Ulaanbaatar had very similar proportions of migrants within their populations with about 70-75% respondents migrants and about 25% native. Delgerkhaan was almost opposite, with 82% native and 18% migrant (Figure 7).

**Table 6: Comparing the proportions of listed reasons for moving as a percentage of respondents in Mungunmorit, Delgerkhaan, and Ulaanbaatar.**

Reasons Listed for Moving	Mungunmorit	Delgerkhaan	Ulaanbaatar
Job	27.27	57.14	26.32
Environment	63.64	14.29	26.32
Unanswered	6.06	14.29	5.26
Followed family	18.18	28.57	0.00
Education	3.03	0.00	26.32
Profit/market	3.03	0.00	21.05
Health	6.06	0.00	5.26

Better Life	6.06	0.00	10.53
Total	133.33	114.29	121.05



**Figure 8: Graph comparing the proportions of listed reasons for moving as a percentage of respondents in Mungunmorit, Delgerkhaan, and Ulaanbaatar.**

Ulaanbaatar had the widest spread of reasons listed and the lowest variability in percentage of respondents who listed such reasons. UB also had the highest percentages for education (children’s or the respondent’s own), profit/market, health, and better life, but no respondents said they followed family. Mungunmorit had the highest percentage of respondents who moved for environmental reasons, while Delgerkhaan had the highest percentage of respondents who moved for job-related reasons (Figure 8).

**Interviews:**

Mungunmorit

*Perceptions of Environmental Change and Its Causes*

All three migrants mentioned great environmental change in their homelands of Uvs and Zavkhan. Yet none of them saw Mungunmorit as having

limited resources or much environmental degradation, even though all host herders mentioned many changes in the environment. For example, Migrant 3 mentioned how in Zavkhan they used *argil*, or dung, for fuel, but in Mungunmorit they could use wood because of the plentiful forest. This was directly opposite of what many Mungunmorit natives mentioned: that there had been much forest degradation. All three host herders mentioned the scarcity of water, especially for winter and spring places, and problems with herders surrounding the remaining water sources. Drought, less rain, decreasing vegetation, deforestation, more intense storms, fewer wild animals, hotter summers were all mentioned as environmental changes. The land manager also stressed that the pastureland carrying capacity had been far exceeded. Thus migrants had opposite perceptions of the environment in Mungunmorit than the host herders.

When asked about the causes of environmental change, Migrant 1 attributed it to people's wrong activities and mining, Host 2 said it was because of natural factors, and Host 3 insisted it was not herders' faults. Host 2 also insisted land degradation was caused by newcomers and large herds.

### *Moving Process*

Migrants 1 and 2 received permission to use winter/spring places after making agreements with the previous "owners." They both paid for the fences and pens for the animals already built on the land. Migrant 3 received the land from a relative.

Hosts 1 and 2 did understand the technical details of the process of moving to their *soum*, from the transfer papers and government officials' final say

in the location of migrants' new homes. Host 3 said he did not know how new people came and registered in the *soum*. Host 1 emphasized that those who did not register were not welcome in the *soum* as without registering, the herder would not have a right to use the land. Of course, they cannot force anyone to move, as the Mongolian Constitution gives freedom of movement and residence to its citizens (Host 1). Temporary herders share specific areas of land set aside for them (Host 2), but in summer they could move anywhere (Host 1).

### *Reasons for Moving*

The three migrants had different reasons for moving. Migrant 1 wanted to cut costs traveling to the center and had ultimately to Mungunmorit for good pastureland. Migrant 2 moved because of environmental reasons: drought and lack of grass for the animals. Many of their animals had died, so their relative already in Mungunmorit helped them move there. Migrant 3 said there were two reasons to move: environmental changes that made weather difficult to handle, and they wanted to be closer to their relatives living in UB and Mungunmorit. Both Migrant 1 and 3 mentioned that their previous *soum*'s population is decreasing as many families move to cities and Tov *aimag*. Migrant 3 said this was a reason there was no conflict over the scarce resources of his previous *soum*.

Hosts 2 and 3 thought that new families moved to find better pastureland or after natural disasters like drought or *dzud*. Host 2 also said newcomers moved with relatives or friends to the same areas.

### *Community Connections*



Both migrants and herders had family connections in the *soum*. All of the migrants mentioned other family living in the area who had moved from the same place. Migrant 2 and 3 were relatives from Zavkhan. Hosts all said many relatives lived in the *soum*, and some were even neighbors.

Migrants generally did not guess at how many people were in their new bag. Migrant 3 had been in the area for 12 years and said he knew most people in the bag. Migrants 1 and 2 said they knew people in the range of 30 and 50. They knew almost all people in their previous *soums*. Host 3 did not know any newcomers, while Host 2 mentioned that many newcomers had come recently.

#### *Future Movement*

When asked if they would ever move, all herders typically answered with “Where could we move?” Even if land degradation increased, life would get difficult but they would probably not move. Migrant 2 said the land was good enough in Mungunmorit for the rest of their lives.

#### *Knowledge about Climate Change*

Of the four herders asked about climate change (with no leading question), three said they did not know much about it. Host 2 believed global warming was causing the hotter temperatures, melting ice, drying rivers, and drought.

#### *Host/Migrant Interactions*

\*Most of the herders seemed to be very dismissive of any sort of conflict, even if they had previously mentioned there had been some. “Nomadic tradition” meant that herders rarely got into conflicts with each other, according to almost every single herder interviewed. Overall, the topic was difficult to discuss, in addition

to translation problems. Some herders went back on what they said as the researcher asked more questions.\*

Migrant 2 and Host 1 said there were no conflicts between host and migrant herders, though Host 1 mentioned unregistered people (which he then said were never present) were unwelcome. Migrants 1 and 3 and Hosts 2 and 3 all mentioned problems between the two.

When Migrant 1 first moved to Mungunmorit, she had trouble with understanding how to communicate with other herders, leading to lots of problems and arguments with the locals over rangeland. She explained how rangeland was over-carrying capacity. At the time she arrived in Mungunmorit, lots of new families were moving as well. However, some families moved back (though it is unclear from the interview if it was a direct result of the conflicts). Once she got to know the locals and began coordinating movements with them, their relationship got better and she started to feel like part of the community. Her end explanation was simply: "We are Mongolian." When Migrant 3 first moved there, locals helped him choose land, and there were no really negative reactions from neighbors. Then again, when he arrived 12 years ago, there were not many other newcomers. Migrant 3 suggested that problems probably happen now with lots of newcomers arriving.

Host 2 claimed that the rangeland was overgrazed because of the many newcomers. She mentioned that many newcomers owned large herds with thousands of livestock, leading to desertification. But she said it was important to have good relations with the newcomers because they share the same resources of

water and land. If there are every problems with them, local authorities could be notified to settle the issue, but she did not have an example of such a time. Host 3 only mentioned that there were problems. The *soum*'s land manager described how she helped settle conflicts between herders, but did not give details.

### Delgerkhaan

Based on data from Mungunmorit and the fact that many migrant herders in Delgerkhaan had lived there for a long time, the researcher asked fewer questions about community connections and the moving process. Instead, the interviews switched focus to perceptions about Herlen Bayan-Olaang migrants, who pass through other Delgerkhaan *bags* on their way to the resource place.

### *Perceptions of Environmental Change*

Like in Mungunmorit, all four migrants emphasized how nice the environment was in Delgerkhaan, and that any environmental changes, even streams drying out, were minimal compared to other places or just part of natural cycles. Meanwhile, host herders listed a decrease in plant species richness, a change in plant community structure with weeds now dominating, an increase in moles, less rain, drought, more fires, desertification, patchy grass, rivers and streams drying up, and a decrease in herd quality. They did mention that the environment had gotten better the last two years.

Out of all herders, reasons listed for environmental changes were nature's own doing, natural cycles, solar panels gathering more sun, and people's wrong activities, especially mining. Host 1 was the only one to mention a climate change phenomena—ozone holes—as a possibility of increased desertification.

What some believed could help was holding an *ovoo* ceremony, which they did two years ago before the environment started getting better. Host 3 suggested more resting times for the land. Fewer herders or animals would help the rangeland recover, though the Best Herder prize encourages having 1000 animals (Host 3). However, new Best Herder guidelines include having the herder take care of the environment and help improve land in some way, as explained at the Delgerkhaan *soum* festival on Wednesday, May 16.

#### *Reasons for Moving*

Both Migrant 2 and 3 were appointed as army herders here. Migrant 1 said he came to be closer to the market, but it turns out he got a job as a hired herder here and just did not want to say. Many relatives of the three migrants had also moved to Delgerkhaan. All said their homelands were in very bad condition and that they would never more back there. Migrant 4 moved here because her husband found a job in the *soum* center. She mentioned how when she visited her old *soum*, there were many unemployed people who were planning on moving from the center. She believed they were unemployed because herding was no longer profitable based on the environmental change. Host 2 complained that many people were moving to Delgerkhaan from the West because of family here.

#### *Moving Process*

Hosts understood the registration process. Delgerkhaan migrants were different from Mungunmorit since they had to go to the *aimag* center to register.

#### *Community Connections*

Delgerkhaan differed from Mungunmorit in having more host herders who had not been herders their whole lives or whose grandparents were not from the *soum*. Nevertheless, hosts generally knew all in the *soum* except for young children. Most relatives lived in the *soum*. Some did not know Herlen Bayan-Olan residents well. All migrants felt like they had become natives of the area four to eight years after moving to Delgerkhaan. They mentioned the triggers for feeling like a native were family members being born or married in the area. Hosts and migrants seemed not to know many other new families in the *soum*.

#### *Knowledge about Climate Change*

Out of the nine herders, five admitted knowing nothing about it. One insisted the warming was part of a natural cycle. One knew about global warming and carbon dioxide, as she was a science teacher. Host 1 knew about the ozone holes expanding and letting more solar radiation enter the atmosphere. While Migrant 2 said he did not know the details of global warming, he declared that the timing of the seasons changed and wondered if it could affect the animals' breeding and growth cycles. Several herders were curious and asked questions about it after the researcher stopped asking questions.

#### *Future Movement*

The migrants did not want to move back to their homelands, even after visiting relatives there. All repeated that the environment in Delgerkhaan was better and the connections they had made were too strong to break now. Host herders again repeated the question, "Where else could I move?"

#### *Host/Migrant Interactions*

Again, there was difficulty in drawing out responses about conflict between herders who were residents of the *soum*. Host 5 and Migrant 1 said there were no conflicts or misunderstandings. If there were, they would simply and easily talk them out. When it came to conflict over resources, Host 2 and 4 and Migrants 2, 3, and 4 described how to work out problems when many herders were moving to the river as one of the remaining water sources. If there is competition over a particular area, herders could coordinate distances from each other (Migrant 3) or get there before the other person (Host 2). The husband of Migrant 4 was the *bag* governor, and he mentioned many different types of conflict that he helps to smooth over. They have seen more conflict as more herders are moving closer to the rivers. Migrant 2 described an interesting problem of *bag* and *soum* borders near water sources. If herders pass into another administrative unit accidentally when the move to a water source, they are liable to pay a penalty for the number of animals they have in the other place.

Several herders mentioned that Parliament was working on a law that could privatize land even more. All thought the law would create more conflict. Some were angry that the government would make a law against the nomadic tradition of sharing rangeland. The *bag* governor said he heard of herders already staking out and fighting over rangeland for themselves in preparation for this law.

Migrant 4 was the only migrant to say she did not feel welcome by the host community—but she was living in the *soum* center when she first moved there. While she said the countryside people were welcoming, the *soum* center people were unfriendly towards her, so that she and other newcomers to the *soum*

bonded over their shared experiences. She believed they did not trust her as an outsider and were afraid she would take over someone's job in town.

Host 2 said he did not know all new families and he does not try to be close friends with them; it was not necessary. Host 4 said that as land has gotten worse, there has been more anger and problems between herders, especially over the winter and autumn place. It is most important to protect rangeland there because herders stay in that area for a long time. He did not think newcomers were good for the land. The *bag* governor mentioned that even when people moved within the *soum* to a different *bag*, the herders in the new *bag* would try to force the herder to move back.

#### *Perceptions about Herlen Bayan-Olaang and Temporary Migrants*

Herlen Bayan-Olaang's temporary migrants made for a stimulating interview topic. All herders, hosts and migrants, seemed to be against the migrants. Many angrily asserted that as the temporary migrants traveled to Herlen Bayan-Olaang, they passed through the natives' *bag* and used up the grasses in the winter and spring places of native herders. Consequently, the natives would not have enough grass for their animals during the winter months. At times, the herders would give contradictory statements: on one hand, they sympathized with the temporary migrants. On the other hand, they blamed them for causing land degradation. Almost all herders emphasized that the carrying capacity of the land was exceeded, including in Herlen Bayan-Olaang. Thus, they sympathized with the host herders of Herlen Bayan-Olaang, who had to put up with sharing their land with outsiders.

Overall, even the herders who initially said they could not blame the migrants completely, all of the herders agreed with a rule their *bag* had made. The rule, made five to six years ago, stated that no outsider could move to the *bag*. Technically, according to the *bag* governor, they cannot actually bar anyone from moving to the *bag* permanently but the rule helps “encourage” temporary migrants to move on. It was made to protect the rangeland. Host 3 said people who wanted to move here needed to find a different place to move on their own; it was their own private business he did not care about. Otherwise, all herders believed the rule was appropriate to let rangeland recover. Two herders were so upset about the topic they repeatedly said how the residents’ rights were being trampled upon by not having the right to decide who could come and when (Hosts 1 & 2). On the other hand, Migrant 1 (who had supported the rule) said there was enough land for new people.

Several herders also mentioned that their *bag* had petitioned the government to release Herlen Bayan-Olaang as a resource place, believing that would be the best solution to combat land degradation and keep their animals healthy in their *soum*. The two-year halt on migration, in their eyes however, did not stem the tide of migrants. Host 5 stated that only herders with 1,000 animals wanted Herlen Bayan-Olaang to cease being a state resource place.

A few herders also mentioned that Herlen Bayan-Olaang was trying to stay a township, which is provided a budget. The minimum population must be 500, so host herders argued that the administration was registering temporary migrants as permanent residents, giving permission to herders from the West to



move there permanently, and other shady tactics to keep their budget coming (Host 1, Migrant 4).

*Herlen Bayan-Olaang Interviews: Perceptions on Temporary Migrant/Native Herder Conflict*

All Herlen Bayan-Olaang interviewees emphasized that their land has been known as a herder's winter paradise since the time of Chinggis Khaan. The governor said that during Socialist times, 1,000s of people lived in and used the resource place, so she did not believe the number of temporary herders and animals were the primary reason for land degradation. Instead, she thought the transition to a market economy caused many host herders to increase the number of their animals. They needed more land, so started to dislike the temporary herders. Now there are fights between fathers and son, not only temporary and host herders. While hosts complain about temporary herders leaving carcasses out in the open, the hosts themselves do it, too. She insisted that the hosts should be reminded of nomadic traditions and be educated about environmental change so that all Mongolians could unite.

The state resource official mentioned small conflicts between temporary and host herders over winter lands. While he sympathizes with host herders, he emphasized that Herlen Bayan-Olaang was on the state level, and issues dealing with it are not for locals to decide.

The storekeeper interviewed had worked for the resource place during Socialist times. She said that the process of migrants coming used to be much more organized, so now the migrants were leaving camps "messy" with animal

carcasses and other waste. She could understand why the host herders were upset, but also noted that it was herders with lots of animals who wanted the resource place to be released. She denied that there was any outright conflict, repeating the oft common reason of “nomadic tradition and customs.”

## **Discussion**

### **Surveys: Is ecomigration already an issue?**

#### **Migration in the Centers**

As the center of education, businesses, and markets, Ulaanbaatar attracts people from around the country. Its population has doubled in the past twenty years, so that many people, especially in the *ger* districts, are not natives of the city. In the 2010 Census, about one-half of UB residents were migrants, and the researcher’s UB survey found that 76% of the respondents were migrants. According to B. Gardi (personal communication, May 30, 2012), this percentage is low for the *ger* district, where most lower-income countryside people migrate to in the city. Since the survey was passed out around a bus stop, the area may have been home to summer Dutch area housing where more longterm residents live. The results may have been affected by a surveyor’s attempts to target people from the countryside, but the researcher is unsure as to how much this affected the respondent proportions. In addition, a surveyor found that even when approaching people confirmed by other people to be from the countryside, the targeted person would deny he was from there. The surveyor noted that some people can be ashamed from being from the countryside, so they say they are natives from UB instead.

Two types of migration patterns ending in UB are often discussed: one is moving from the countryside, to the *soum* center, to the *aimag* center, and finally to UB. On the UB surveys, more *aimag* centers were listed as previous homes than on the surveys for Mungunmorit and Delgerkhaan. Another pattern is the movement to an area closer to UB, like Tov, and finally to UB. Consequently, Mungunmorit, only about four hours from UB, receives many migrants who want to live in the countryside but nearer centers, and some have the end goal of living in the center. The 72% migrant population, between UB's and Delgerkhaan's percentages, fits Alгаа's findings (2007) that Tov province had the second highest migrant population proportion of all *aimags* after Ulaanbaatar. Nevertheless, according to the Census (2010), Tov has the second lowest percentage of natives after UB with 71.5% native, which is much higher than what the survey found (28%). The difference may be that Mungunmorit is near both UB and Baganuur, a well-known center with easy access to UB, compared to other places in Tov. Of course, this survey also only looks at *soum* center residents, where they may be more in and out migration than in the countryside with herders. Again, the researcher is unsure as to how much surveyor passer bias (knowing the project was about migration) affected results. Overall however, the data supports the idea that Tov serves as a stepping stone to better access to city center opportunities, thereby drawing many migrants to the surroundings of UB like Mungunmorit.

Delgerkhaan had the smallest migrant population with 82% natives. The Eastern *aimags* have the second highest percentages of natives with 92.8% after the West (Census 2010). One reason the survey results had a higher proportion of

migrants may be because Delgerkhaan is in the western area of the East *aimags* and thus nearer UB and again, results take into account *soum* center residents only. A majority of migrants were from other *soums* of Khentii and may have moved because of government appointments or chose a place to move not far from their homes. The Delgerkhaan *soum* government registrar had confirmed that fewer people were moving to the *soum* center than leaving so the *soum*'s population was decreasing. While it is not far from UB, Delgerkhaan still is off the main road going to and from UB and the East. Its *soum* center was smaller than Mungunmorit, with only three main stores. Just from appearance, fewer people had cars and infrastructure did not seem as maintained as Mungunmorit's. Mining is banned in one of the bags due to historical importance related Chinggis and Ogedei Khan, so the infrastructure and services the mining industry brings to other parts of Mongolia is not as present in Delgerkhaan. Thus, it may not be a choice for people considering moving.

#### Reasons for Moving

Overall, ecomigration was present in all places surveyed, especially in Mungunmorit. While environmental reasons may not have been listed first as a primary reason to move, many work-related reasons seemed connected with later answers of bad environmental conditions in the previous home, thus suggesting environmentally-induced economic migration. Some respondents seemed to make the connection between the environment and their migration only after taking the survey. Thus, this type of migration is also important to keep in mind and raise awareness about when trying to understand migration in Mongolia.

First, the reasons for migration varied across the three sites. Ulaanbaatar had the most variety of but the least variability in frequency for reasons listed. As the main center, UB has the most opportunities to offer, from health to jobs and education. People move from all over the country, with a plurality coming from Tov, confirming the idea that people use Tov as a stepping stone on the way to UB (Alгаа 2007). Meanwhile, Mungunmorit had environmental reasons as the dominant reason for moving. Respondents, especially herders living seasonally in the *soum* center, listed *dzud* or bad pastureland as the main reason for moving. Since many respondents from areas (Hovd and Zavkhan) known to experience bad *dzuds* or extreme land degradation (Dondgobi), the high proportion of environmental reasons is understandable (UNDP 2011). Jobs as a reason made up half of those listed for Delgerkhaan. There is little migration to Delgerkhaan, and with the population declining and its distance from UB, other opportunities and services like education would not be a draw like in Mungunmorit or UB.

As for ecomigration specifically, there have always been *dzuds* throughout Mongolian history, and herders have always dealt with such environmental disasters or other environmental changes by moving, a natural part of a nomadic culture. Respondents often listed multiple environmental changes, with *dzud* and bad pastureland the most often cited. Some respondents who listed *dzud* under the first question of 'Why did you move' also wrote that many animals had died, so that one extreme event could be the impetus that caused movement other than gradual processes like degrading pastureland, desertification, etc. Mungunmorit had the largest proportion of ecomigrants, who were often herders. Ulaanbaatar

also had a sizeable portion of ecomigrants who had been herders previously. In the future, research could be done examining what made herders experiencing *dzuds* choose moving to another part of the countryside versus Ulaanbaatar. After the 2000 *dzud*, many migrants moved to Ulaanbaatar, suggesting the extreme *dzud* had devastated these migrants' herds. Maybe the herders who experience less impact continue herding, while those who experience the worst effects must give up herding (because of lost animals and income) to live in the city. As more herders move to the city after *dzuds*, what factors play into their decision? Is there less state support for herders dealing with natural disasters now so that more give up herding completely or are the benefits of moving to UB vastly outweighing attempting to recover in the countryside?

Interestingly, while passing out surveys in Ulaanbaatar, three older women completed the survey and then discussed together the root causes of their migration. After the survey, one woman commented that she had written "to find work" as a reason to move to UB. She had moved from another center where there were no jobs, but the reason she had moved to that center in the first place was that the environmental changes had made it difficult to make a living as a herder. Thus, the actual reason for her migration could be described as environmentally-induced economic migration. On the surface, it appears that the work environment of UB drew her there. Yet actually environmental changes are the cause of her migration.

Several ideas were brought to mind after hearing this anecdote. One, it would have been good to distinguish the questions of "What prompted you to

move from your homeland in the first place?” and “Why did you choose your current residence to move to?” which the survey did not do. Two, it was valuable to include the leading question of “Were environmental reasons a cause of movement?” as it prompted respondents to make their own connection of environmental change with unfavorable working situations, though it was difficult to directly link environmental change and other responses as many respondents seemed to misunderstand some questions and answer previous questions in the next line answers. Finally, environmentally-induced, economic reasons are easily overlooked by respondents and researchers of migration themselves because of the lack of direct connection between gradual environmental change and moving. Thus, ecomigration, including environmentally-induced economic reasons, may be more present in Mongolia than even what the research currently suggests.

**Interviews: Is migration to a new herding community a viable adaptation method to land degradation in the home pasturelands?**

Overall, environmental degradation is a cause of conflict and problems among the herding communities of Mungunmorit and Delgerkhaan, though in different ways. In Mungunmorit, an influx of a large number of new herders and increased herd size over the past years has enflamed problems between host and migrant herders. In Delgerkhaan, host herders have come to blame the temporary migrants traveling to and from Herlen Bayan-Olaang for rangeland degradation and have taken protective measures against any outsiders for their land. Thus, migration into another herding community is not without its challenges, and

education and government policy could help regulate migration to minimize conflict between host herders and migrant herders.

*Perceptions of Environmental Change and Its Causes*

In both *soums*, migrant herders did not believe the environmental degradation in their new *soum* was serious, with the exception of Herlen Bayan-Olaang temporary migrants' abuse of land in Delgerkhaan. The migrants' perceptions were opposite of the host herders. While it is understandable since most of the migrants came from *aimags* with much worse environmental degradation, the migrants treated their new homes as a paradise, even though the *soums* were already facing resource scarcity, according to the hosts. Whether this attitude translates into irresponsible resource use remains a question, but migrant herders never really acknowledged that their new ecosystem may need a different prescription of use to ensure its future availability. Thus, the tragedy of the commons comes into play. Since the migrants have experienced worse environmental conditions, they are more likely to push the land further than it can handle.

Reasons for environmental change varied greatly, but mining and people's own actions were the two most cited reasons. Mining was the antithesis of herding in the eyes of some herders. Herding was natural, a long ago tradition, while mining cared naught for the land and represented greed. Yet neither *soum* had much mining around its areas. Since only a few herders mentioned increasing number of herding animals, it appears as if herders tend to look for outside rather



than internal influences. More education about how the herders themselves can care for the land would be beneficial for people and nature alike.

### *Moving Process*

Host and migrant herders in both places did not differ much in knowledge about registration and moving. Thus, host herders understand what migrants had to go through to move to their *soum*.

### *Reasons for Moving*

Among the migrant herders, there were some ecomigrants, while others moved for jobs or to be closer to the market or family. All mentioned horrific environmental degradation in their homelands. Even so, Delgerkhaan migrants stated that many relatives still lived in the homelands. Thus, even severe environmental degradation may not always cause migration. Host herders generally believed rangeland was the main cause of migration to their *soums*.

### *Community Connections*

Meeting and building relationships with newcomers never seemed urgent to host herders. Mongolian nomadic tradition and the sharing of common resources makes it important to get along well with other herders in the area. As such, one host herder in Delgerkhaan did not seem interested in getting to know newcomers, but rather just accepted them as being around. Newcomers said it took time to get to know the locals and learn how to coordinate movements, but Delgerkhaan's migrants felt "like natives" within ten years of moving there.

### *Future Movement*

The most common answer to the researcher's question whether the herders would ever move if land degradation increased was "Where could I move?" Even the migrants, who had already gone through the process of moving, said it. It highlights both the lack of herders' knowledge about their options or their attachment to their family and land. Most migrant herders moved to a place they knew someone else. Education about these areas would provide options to herders in the future. Infrastructure and services could also be improved in areas under carrying capacity for herds, thereby decreasing the pressure around UB and in *soums* like Mungunmorit.

#### *Knowledge about Climate Change*

Few herders had much knowledge about climate change, and the ones who knew some misinterpreted aspects of global warming. Host 5 had mentioned that many herders had chosen herding because they did not do well in school or were too uneducated to get good jobs in UB. The number of young herders was increasing because of such reasons. The fact that few knew about global warming fits the poll finding that only 30% of Mongolians thought of it as a serious threat (Purgliese & Ray 2009). Though environmental degradation has severely affected the lives of herders in both *soums*, and climate change will cause more degradation, many herders would not realize there is a serious threat of permanent environmental degradation that is out of their and other herders' control. This could lead to lack of longterm planning for future herders without more education about the subject. If there is education, perhaps herders would understand the

global factors involved in land degradation and be less likely to blame other herders, particularly newcomers, for the degradation.

#### *Host/Migrant Interactions*

In general, with resource scarcity come competition and conflict. Both *soums* had government officials saying that conflicts had increased between herders in recent years over disappearing water resources. When herders were willing to talk about conflict, they also confirmed an increase in angry incidents. Resource conflict is present now and will only get worse with further environmental degradation. Introducing new people into the community provides an easy scapegoat for problems, as seen in both Mungunmorit and Delgerkhaan. Non-herders, like the government officials, and just one or two herders ever put blame on the native herders for not paying attention to the land anymore and owning too many animals. The native herders rarely blamed each other, but rather attributed increased herding animals to newcomers, wealthy absentee herders, or temporary migrants.

#### *Perceptions about Herlen Bayan-Olaang and Temporary Migrants*

Claims that temporary migrants stayed in other herders' winter places were oft repeated and thus are probably true. Even the herders who would not talk about conflict within their own *bag* with other herders talked about the problems with the temporary migrants, easily done when they do not personally know them. Yet the rule Delgerkhaan *bag* made against all outsiders coming to their *bag* was extremely protectionist in nature and against Mongolian nomadic tradition of allowing people to move freely, not to mention the Mongolian

Constitution. If all *bags* facing land degradation created their own rules, there would be few places left for migrants to move to. As Fernandez-Gimenez & Khishigbayar (n.d.) noted, making land more individualist than communal, as through protectionist policies, could do more harm than good. Thus to deal with an influx of migrants in the face of land degradation, a place like Mungunmorit could probably use some sort policy that incorporates rangeland management with cooperation between hosts and migrants to prevent the tragedy of the commons.

With the intense opposition to the state reserve among surrounding herding communities in Khentii, the government may want to implement another kind of reserve policy. Some *soums* like Mungunmorit have their own reserve lands set aside, which some herders of Delgerkhaan suggested for their own *soum*. The government plan to have 10% of all land as reserve land is a noble goal, and if they plan locations well, problems between temporary herders already down on their luck and host herders could be diminished.

### **Conclusions**

Ecomigration, including environmentally-induced economic migration, is already present in the countryside, *soum* centers, and capital city of Mongolia. In some instances, environmental changes or factors appears to have affected working conditions for some respondents, prompting them to move to find work. For people from the city to the countryside, air pollution was the main environmental reason for moving, while people moving from the countryside mainly listed *dzud* and bad pastureland.

Migration within the countryside herding communities did not always end with entirely happy stories. A high rate of migration to Mungunmorit is quickening the pace of land degradation in the *soum* and increasing conflict over resources. In Delgerkhaan, degradation is blamed on passerbys already experiencing hard times. It is likely that ecomigrants in the future will face similar difficulties being accepted by host communities already witnessing environmental degradation themselves.

With climate change, the severity and number of extreme weather events or natural disasters are expected to increase. Based on survey results and other background research, *dzuds* are major push factors in migration, so the number of ecomigrants will only increase in the future. The severity of effects may play into decision to move to the city versus countryside, and state support helping those who lost all herds could decrease movement to the city, where many of the herders who lost animals live in shame and poverty. *Dzuds* will also increase the use of and need for reserve lands, so the government should follow through on plans to set aside 10% of land for such purposes. Higher numbers of reserve lands near migrant-source populations will reduce the host-temporary migrant conflict that was observed in Delgerkhaan.

Land degradation is also supposed to increase with climate change, and bad rangeland was also a main environmental reason for moving. With land degradation, herders face difficulties raising animals as well, with farther seasonal migration to resources, thus leading to decreasing incomes that prompts movement to find better work. Rangeland management like community-based

conservation program and restoration (especially after *ninja* mining) could lower the incidence rate of environmentally-induced economic migration. Considering the low education level of many herders, more information and classes designed specifically for herders could increase their understanding of the ecosystems in which they live and provide information about climate change. This in turn may incline them to blame other herders for degradation out of their control.

All effects of climate change cannot truly be stopped permanently, so all ecomigration can also not be prevented. Migration tends to be up the ladder, from countryside, *soum* center, *aimag* center, or a main city, particularly Ulaanbaatar. Because the Ulaanbaatar population is already over its carrying capacity, increasing infrastructure and services in places in the countryside could help stem mass movements into the city. It could also provide incentive for herders to move to lands that are currently under carrying capacity, particularly in the East.

In conclusion, adaptation policies for the future are as essential here as on an island threatened by sea levels rising. The dignity and self-respect of herders who have no control over the environmental factors they depend so much upon should be upheld as much as possible. The combination of more education about the environment and long-term options for families as well as better infrastructure and services would provide true freedom of choice to herders who need to move due to environmental reasons brought about by climate change.

## **References**

- Afifi, T. (2011). Economic or environmental migration? The push factors in Niger. *International Migration* 49 (S1), 95-124.
- Alгаа, S. (2007). Growth of internal and international migration in Mongolia. *Migration, Development, and Poverty Reduction: 8<sup>th</sup> International Conference of Asia Pacific Migration Research Network on May 25-29, 2007*.
- Boldgiv, B. (2011). From vulnerability to sustainability: Environment and human development. *Mongolian Human Development Report 2011*.
- Bruun, O. (2006). Precious steppe. New York: Lexington Books
- Burleson, E. (2010). Climate change displacement to refuge. *Journal of Environmental Law and Litigation* 25(19), 19-36.
- Fernandez-Gimenez, M. & J. Khishigbayar (n.d). Reflections on Mongolia's 2002 land law: Implications for herders and rangelands. Retrieved May 31, 2012 from <http://www.law.nagoya-u.ac.jp/cale2001/result/holding/050917/Mariapaperen.pdf>
- Grossman, D. (2011, June). Rains that don't wet. Pulitzer Center for Crisis Reporting. Retrieved from <http://pulitzercenter.org/articles/mongolia-hatgal-global-warming-herding-pastures-ulanbaator-adar-rain>.
- McAdam, J. (2011). Climate change displacement and international law: Complementary protection standards. *Legal and Protection Policy Research Series*, Division of International Protection, UNHCR.
- Migrants and Refugee Rights (n.d.) Mongolia—Stakeholders submission to OHCHR for UPR.
- Mongolia: Assessment Report on Climate Change (MARCC) (2009). Ministry of Environment, Nature, and Tourism: Ulaanbaatar.
- National Statistical Office of Mongolia (2011). 2010 Population and housing census of Mongolia: National report. Ulaanbaatar.
- Oyun, S. (2012). Mining reclamation in Mongolia. Powerpoint presentation.

- Purgliese, A. & J. Ray. (2009). Awareness of climate change and threat vary by region. *Gallup Poll*. Retrieved from <http://www.gallup.com/poll/124652/Awareness-Climate-Change-Threat-Vary-Region.aspx>.
- Sramkova, K. (2009). Involuntary environmental migrants' non-protection in the international milieu: The case study of climate-changed induced displacement. *Masaryk University, Master's Thesis*.
- Swiss Agency for Development and Cooperation (2009). "Green Gold" pasture ecosystem management project. Information sheet.
- United Nations Development Programme (2011). From vulnerability to sustainability: Environment and human development. Ulaanbaatar.
- West, J. (2009). Perceptions of ecological migration in Inner Mongolia, China: summary of fieldwork and implications for climate adaptation. *Center for International Climate and Environmental Research—Oslo*.
- World Bank (2011). Rural out-migration and family life in cities in Mongolia. *Working Paper, No. 65158*. Retrieved May 28, 2012 from <http://documents.worldbank.org/curated/en/2011/01/15423835/summary-rural-out-migration-family-life-cities-mongolia>.

### **Interviewees:**

#### Mungunmorit

Host Herder 1: F 41, M 49

Host Herder 2: F 72

Host Herder 3: M 39, F 39

Migrant Herder 1: Female (F), 41 years old, moved from Uvs in 2008

Migrant Herder 2: F, 41 years old, moved three years ago from Zavkhan

Migrant Herder 3: Male (M) 50, F 50 years old, moved in 2000 from Zavkhan

Meteorologist: F 48

Land Manager: F 30

Environment Manager: F 23

Registrar: F 48

Soum center governor: M, ~60

#### Delgerkhaan

Host Herder 1: M 60

Host Herder 2: M 61

Host Herder 3: M 60

Host Herder 4: M 41

Host Herder 5: M 49



Migrant Herder 1: M 29, from GobiAltai province, moved 15-16 years ago  
Migrant Herder 2: M 57, came from Bayankhongor in 1990  
Migrant Herders 3: M 68, from Orkhongai around 1990; F 26 from Bayankhongor  
and Orkhongai about 15 years ago  
Migrant Herder 4: F 47, from Omnogobi in 1999  
Ranger: M 37  
Registrar: F 27  
Meteorologist: F 54  
Bag governor: M 50

Herlen Bayan-Olaang

Bag governor: F 53  
Registrar: F 25  
State resource official: M 61  
Storekeeper: F 58

**Appendix**

Appendix 1.1: Survey Questions for Mungunmorit in English

Community Perceptions of and Responses to Migration in the Countryside:  
Survey  
Rachael Diniega

Age: \_\_\_\_\_ Gender: \_\_\_\_\_ Occupation (or head of household's occupation): \_\_\_\_\_

Number of people in household and ages: \_\_\_\_\_

1. How long has your family lived in the *soum* center? \_\_\_\_\_
2. When did your family move to the *soum* center? \_\_\_\_\_
3. From where did your family move? \_\_\_\_\_
4. What was your occupation (or head of household's occupation) before you moved? \_\_\_\_\_
5. Do you stay in the *soum* center seasonally or year-round? \_\_\_\_\_
6. Who in your family is a permanent resident ? \_\_\_\_\_
7. Why did you move? \_\_\_\_\_  
\_\_\_\_\_
8. If from the countryside, what kind of environmental changes did you witness while living there? \_\_\_\_\_
  - a. Were environmental changes a consideration when deciding to move? If so, why? \_\_\_\_\_
9. Did you consider moving to the countryside? \_\_\_\_\_
  - a. If yes, why did you not move there? \_\_\_\_\_  
\_\_\_\_\_

10. Did you consider moving other places? \_\_\_\_\_  
a. If yes, where and why did you not move there?  
\_\_\_\_\_
11. Are you planning to move in the future? \_\_\_\_\_  
a. If yes, where? \_\_\_\_\_  
b. If yes, why? \_\_\_\_\_  
c. If yes, what will your (or head of household's) occupation be? \_\_\_\_\_

## Appendix 1.2: Survey for Mungunmorit in Mongolian:

## ОРОН НУТГИЙН ИРГЭДИЙН ШИЛЖИН СУУРЬШИГЧДЫН ТАЛААРХ

## ҮЗЭЛ БОДОЛЫН СУДАЛГАА

## Ричэл Дайнига

Нас: \_\_\_\_\_ Хүйс: \_\_\_\_\_ ажил үүрэг (өрх гэр дэх үүрэг): \_\_\_\_\_

Ам бүлийн тоо, тэдний нас: \_\_\_\_\_

1. Танай гэр бүл энэ сумд хэдэн жил амьдарч байна вэ? \_\_\_\_\_
2. Сумын төвд хэзээ нүүж ирсэн бэ? \_\_\_\_\_
3. Хаанаас нүүж ирсэн бэ? \_\_\_\_\_
4. Урд нь юу хийдэг байсан бэ? (эсвэл гэрийн ажлаас юуг нь хийдэг байсан бэ?) \_\_\_\_\_
5. Танайх сумын төвд жилийн турш амьдардаг уу эсвэл улирлаас шалтгаалдаг уу? \_\_\_\_\_
6. Танай гэр бүлээс сумын төвд байнга оршин суудаг хүн байдаг уу?  
\_\_\_\_\_
7. Яагаад нүүх болсон бэ?  
\_\_\_\_\_  
\_\_\_\_\_
8. Хэрэв та хөдөөнөөс шилжиж ирсэн бол байгаль орчны өөрчлөлтийг мэдэрсэн үү?  
\_\_\_\_\_  
\_\_\_\_\_
  - a. Байгаль орчны ямар өөрчлөлт танайхыг нүүхэд хүргэсэн бэ?  
\_\_\_\_\_  
\_\_\_\_\_
  - b. Танайх сумын төврүү бус хөдөө нүүе гэж бодож байсан уу? Хэрэв тийм бол яагаад хөдөө нүүгээгүй вэ? \_\_\_\_\_  
\_\_\_\_\_
  - Өөр нутагруу нүүе гэж боож байсан уу? \_\_\_\_\_
  - c. Хэрэв тийм бол яагаад, хаашаа нүүе гэж бодож байсан бэ?  
\_\_\_\_\_  
\_\_\_\_\_
9. Ирээдүйд нүүхээр төлөвлөж байна уу? \_\_\_\_\_
  - a. Хэрэв тийм бол хаашаа? \_\_\_\_\_
  - b. Хэрэв тийм бол яагаад? \_\_\_\_\_
  - c. Хэрэв тийм бол та юу хийх вэ? (гэр бүл доторх ажил үүрэг тань юу байх вэ) \_\_\_\_\_

Дэлгэрэнгүй мэдээлэл авахыг хүсвэл, мөн судлаачтай дахин ярилцахыг хүсвэл  
94908368 утсаар холбогдоно уу?

## Appendix 2: Survey for Delgerkhaan in Mongolian

## ОРОН НУТГИЙН ИРГЭДИЙН ШИЛЖИН СУУРЬШИГЧДЫН ТАЛААРХ

## ҮЗЭЛ БОДОЛЫН СУДАЛГАА

## Ричэл Дайнига

Нас: \_\_\_\_\_ Хүйс: \_\_\_\_\_ ажил үүрэг (өрх гэр дэх үүрэг): \_\_\_\_\_

Ам бүлийн тоо, тэдний нас: \_\_\_\_\_

1. Танай гэр бүл энэ сумд хэдэн жил амьдарч байна вэ? \_\_\_\_\_
2. Та сумын төвд амьдардаг уу? Эсвэл хөдөө амдардаг уу? \_\_\_\_\_
3. Танайх энэ сумд нүүж ирсэн үү? Эсвэл угаас эндэхийн айл уу?  
\_\_\_\_\_
4. Хэзээ, хаанаас нүүж ирсэн бэ? \_\_\_\_\_
5. Урд нь юу хийдэг байсан бэ? (эсвэл гэрийн ажлаас юуг нь хийдэг байсан бэ?) \_\_\_\_\_
6. Танайх сумын төвд жилийн турш амьдардаг уу эсвэл улирлаас шалтгаалдаг уу? \_\_\_\_\_
7. Танай гэр бүлээс сумын төвд байнга оршин суудаг хүн байдаг уу?  
\_\_\_\_\_
8. Яагаад нүүх болсон бэ? Яагаад ийшээ?  
\_\_\_\_\_  
\_\_\_\_\_
9. Хэрэв та хөдөөнөөс шилжиж ирсэн бол ямар байгаль орчны өөрчлөлтийг мэдэрсэн вэ?  
\_\_\_\_\_
10. Байгаль орчны ямар өөрчлөлт танайхыг нүүхэд хүргэсэн бэ?  
\_\_\_\_\_
11. Танайх сумын төврүү бус хөдөө нүүе гэж бодож байсан уу? Хэрэв тийм бол яагаад хөдөө нүүгээгүй вэ? \_\_\_\_\_
12. Өөр нутагруу нүүе гэж бодож байсан уу? \_\_\_\_\_
  - a. Хэрэв тийм бол яагаад, хаашаа нүүе гэж бодож байсан бэ?  
\_\_\_\_\_
13. Ирээдүйд нүүхээр төлөвлөж байна уу? \_\_\_\_\_
  - a. Хэрэв тийм бол хаашаа? \_\_\_\_\_
  - b. Хэрэв тийм бол яагаад? \_\_\_\_\_
  - c. Хэрэв тийм бол та юу хийх вэ? (гэр бүл доторх ажил үүрэг тань юу байх вэ) \_\_\_\_\_

Дэлгэрэнгүй мэдээлэл авахыг хүсвэл, мөн судлаачтай дахин ярилцахыг хүсвэл  
94908368 утсаар холбогдоно уу?