



MOR2 Policy Brief No. 2

Community-based Rangeland Management in Mongolia: Outcomes and Keys to Success

Executive Summary

Rangelands cover 75% of Mongolia's land area, support livelihoods of 33% of Mongolia's human population, provide a home to major wildlife populations, contribute ~14% of GDP and most of Mongolia's meat supply via livestock production. Mongolia's rangelands also support a vibrant nomadic culture, whose future is challenged by a variable forage supply, declines in pasture quality due to climate change and livestock grazing, increasing competition with other land uses such as mining, extreme weather events, such as the dzud of 1999-2000 and 2009-2010, and an older and more urban human population. Concern about declining pasture conditions and livelihoods led to the formation of over 2000 formally organized herder groups, or community-based rangeland management (CBRM) organizations, supported by a variety of donors and NGOs. These



groups aimed to improve herder livelihoods, pastoral risk management and environmental conditions by organizing herders to manage their pastures collectively and improve income generation through value added processing, diversification and better marketing. The outcomes of CBRM groups have not been rigorously and independently evaluated across Mongolia, however, and past research based on small samples and case studies has provided mixed assessments of CBRM performance.

Our research on 142 communities in 10 aimags and 36 soums shows that across four ecological zones and four different donor programs, CBRM communities show consistently higher social outcomes than communities without formal CBRM organizations. These communities use more traditional and innovative rangeland and livestock management practices, are more pro-active in solving problems and communicating with local authorities, have larger social networks, and higher levels of trust and mutual assistance. Livelihood benefits of CBRM are not as clear. CBRM herders have greater income diversity and possess more productive assets than non-CBRM herders, but the two types of communities do not differ in net income or livestock holdings per capita. Ecological differences in the pastures of the two types of groups are slight, although there are some indications that the winter pastures of CBRM communities in the steppe are healthier than those of non-CBRM communities. CBRM member households are better prepared for dzud and lost a smaller proportion of their herds. Some CBRMs helped herders to learn from the 1999-2003 dzud so that they were better prepared for the dzud of 2009-2010, indicating that CBRM can help reduce vulnerability and increase adaptive capacity.

How did CBRM help communities to achieve greater social outcomes? CBRMs had greater access to diverse information sources, strong and trusted leadership, more opportunities for knowledge exchange, and more agreed-upon rules for resource use. Ecological outcomes are likely delayed and thus need more effort. Expanding access to CBRM benefits for more herders is an important next step. However, CBRMs face a number of obstacles including lack of formal recognition as legal entities, no means to secure pasture possession rights, and a weak voice in decisions about competing land uses such as mining. Further, current groups depend heavily on external donor support to provide the training and capacity building necessary to develop into self-sustaining and durable institutions. Herders who are not part of such donor-supported efforts have little access to information about the potential benefits of CBRM, how to organize, or how to access available technical or financial resources. Our results support serious consideration to expanding CBRM opportunities to additional soums and herders, with a strong emphasis on investments in information access and capacity-building for organizational management, and technical training related to rangeland and livestock management, monitoring, income generation and marketing. Capacity-building for local government to support and collaborate with such groups is needed, as well as measures to ensure equity and inclusion in group formation.

Policy Considerations

- 1) Expand support for CBRM formation and provide continuing technical assistance to existing CBRM groups. Most existing CBRMs are donor facilitated and donor investments in training and capacity building are important to successful outcomes. Currently CBRM is not a widespread civil society movement, but is determined mainly by where donors invest. Options for expanding CBRM are 1) government--led, 2) donor-led, or 3) community-led with donor or government support. Steps to expanding the reach of community-led CBRM might include:
 - a. Broad media outreach about benefits of CBRM to herders and how to self-organize
 - b. Measures to ensure equity and inclusiveness in CBRM groups
 - c. Training for soum and aimag governments on how to effectively support and collaborate with new CBRMs
 - d. Donors and local/aimag governments serve as resources to provide training and capacity-building
 - e. Future sites for donor investments driven by objective criteria including targeting areas of greatest risk and need
- 2) Build awareness of the importance of rangeland monitoring and how it can inform sustainable grassland management. Actively engage herders and CBRM groups in rangeland monitoring and co-management together with local government.
- 3) Clarify legal standing, rights and responsibilities of formally organized CBRM groups under existing laws and regulations. Consider whether a unified legal definition and status are needed for CBRM groups.
- 4) Provide CBRMs with pasture possession rights or priority use and conservation rights and strengthen coordination of pastoral movements within and between soums.
 - a. Possession or use rights should protect communities' ability to reserve pastures and manage the timing of grazing within their grazing territories (nutag), but should not unduly limit herder mobility and flexibility.
 - b. Movements between soums, especially during drought or dzud, should be well-coordinated to avoid harming pastures and herds in "host" communities, while allowing for necessary flexibility and mobility.
- 5) Training and capacity-building for CBRMs should:
 - a. Increase herders' access to diverse information sources
 - b. Provide training opportunities within and beyond the soum
 - c. Train herders in organization formation and management (NGO registration, financial

management, by-laws, record-keeping, meeting procedures)

- d. Train herders in pasture management and monitoring with a focus on developing knowledge and skills of young herders
- e. Train herders in income generation and marketing
- f. Create formal and informal opportunities for knowledge exchange
- g. Develop leadership capacity in women, men and youth.

Approach

The MOR2 project used multiple methods and data sources to assess the social, livelihood and ecological outcomes of CBRM compared to non-CBRM households and communities and to determine what factors explained the observed differences in the two types of pastoral communities. MOR2 also compared the facilitation strategies used by 4 different donors that support CBRM development in Mongolia: Swiss Agency for Development and Cooperation (Green Gold Ecosystem Management Program), UN Development Program (Sustainable Grassland Management and Sustainable Land Management Programs), New Zealand Nature Institute/GTZ and the Wildlife Conservation Society (Daurian Steppe Scapes Project).

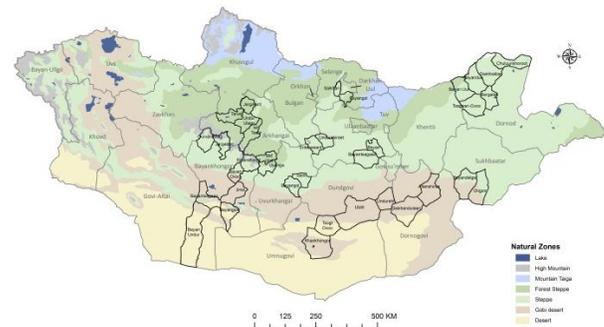


Figure 1. Locations of MOR2 study sites

Key Findings

CBRM Communities Have Greater Social Outcomes

- CBRM herders use more traditional and innovative rangeland and livestock management practices. CBRM herders are more likely to reserve winter and spring pastures; cull animals in the fall; sell animals to reduce herd size; prepare fodder and hay for winter; take action to protect key resources; and monitor rangelands, among other practices.
- CBRM herders have wider social networks, which helps them gain new knowledge and information. Wider networks mean more people and organizations to rely on for help in hard times.
- CBRM herders reported higher levels of trust and reciprocity within their communities compared to non-CBRM herders. Trust and mutual support help people work together effectively to achieve common goals.

CBRM communities also had higher levels of pro-active behavior—people working together to address local issues and reaching out to their local government to ask for assistance and collaboration.

- CBRM communities were more likely to have informal or formal rules about pasture management, mostly related to the timing of grazing.

CBRM Communities Have Slightly Higher Livelihood Outcomes

- CBRM communities had greater income diversity than non-CBRM communities. Although livestock and government payments account for most income, CBRM herders had slightly more non-livestock and non-government income sources. CBRM herders were more likely to have income from vegetable farming and handicrafts. Non-CBRM herders were more likely to have income from mining.
- CBRM herders had more productive assets, such as refrigerators or butter churns, than non-CBRM herders.
- CBRM and non-CBRM communities did not differ in total net income or livestock holdings per capita. This suggests that changes in management practices have not yet translated into higher incomes and improved livelihoods for CBRM herders.

CBRM Ecological Outcomes Limited So Far

- Remote sensing showed minor improvements in greenness of CBRM over non-CBRM pastures in the steppe and eastern steppe from 2000-2014.
- Field measurements in a single year showed only a few differences between CBRM and non-CBRM winter-grazed pastures, with CBRM pastures having more reserve forage than non-CBRM pastures, especially in the steppe and eastern steppe. In the mountain and forest steppe, CBRM pastures had more connected plant patches and less erosion than non-CBRM pastures.

CBRM Reduces Vulnerability and Increases Adaptive Capacity to Dzug

- In a study of 4 soums in the desert steppe and mountain and forest steppe, CBRM households were better prepared for the 2009-2010 dzud and in some areas lost a smaller fraction of their herd.
- CBRM herders had higher levels of adaptive capacity indicators, including use of traditional and innovative practices, larger social networks, greater access to information and opportunities for knowledge exchange.
- CBRMs in some soums helped herders to reflect on their experience in the 1999-2003 dzud and to translate their learning into action.

What Do CBRMs Do that Explains These Outcomes?

- CBRMs affect social outcomes first by providing herders with access to more diverse information sources. Greater access to information in turn affects leadership, opportunities for knowledge exchange and agreement on rules. Together, these key factors explain why CBRM communities used more traditional and innovative practices, had wider networks and more trust and reciprocity, and were more pro-active than non-CBRM communities.
- But, these social outcomes have yet to translate into significant ecological outcomes, which may take longer periods to become apparent.

Do Pastoral Women Benefit from CBRM?

- Women lead 21% of CBRMs and 10% of non-CBRM communities.
- Women leaders had similar levels of legitimacy and leadership quality as male leaders
- Groups led by women had higher levels of trust among members than ones led by men
- CBRM and non-CBRM communities had similar percentages of female-led households
- Across both community types, female-led households had fewer assets, less access to information and knowledge exchange, less participation in collective action, and spent more money on basic food provisions compared to male-led households.

Do CBRM Outcomes Differ By Ecological Zone?

- Several CBRM social outcomes varied among ecological zones. Formal organization of the desert steppe groups did not increase the level of rules and cooperation compared to the other zones.
- Desert steppe CBRMs showed greater proactive behavior than those in the steppe zone.
- The increase in social networking was the smallest in eastern steppe CBRMs.
- Ecological impacts of CBRMs, although modest, are greatest in the steppe and least in the mountain and forest steppe

What Difference Do Donors Make?

- Donor facilitation influences group attributes, institutional arrangements, and external context, which in turn affect social outcomes.
- CBRM group size varies by donor. Smaller groups have greater outcomes in terms of practices, social capital, and income diversity. Larger groups had more rules and higher levels of cooperation.
- The external context that donors create by providing training and fostering a supportive local government positively influenced social outcomes.
- We do not yet know how donors affect ecological outcomes.

Sources

- Angerer, J. P. 2015. Time series analysis of satellite greenness indices for assessing vegetation response to community-based rangeland management *in* M. E. Fernandez-Gimenez, B. Batkhishig, S. Fassnacht, and D. Wilson, editors. Building Resilience of Mongolian Rangelands: A Transdisciplinary Conference. Colorado State University and Nutag Partners, Ulaanbaatar, Mongolia.
- Batkhishig, B. and M. E. Fernandez-Gimenez. 2012. Meaningful learning for resilience-building among Mongolian pastoralists. *Nomadic Peoples* 16:53-77.
- Chantsalkham, J. 2015. Effects of grazing and community-based management on the rangelands of Mongolia. PhD Dissertation. Colorado State University, Fort Collins, CO.
- Dagvadorj, D., Z. Batjargal, and L. Natsagdorj, editors. 2014. Mongolia second assessment report on climate change 2014. Mongolian Ministry of Environment and Green Development, Ulaanbaatar, Mongolia.
- Fernandez-Gimenez, M. E., B. Batkhishig, and B. Batbuyan. 2012. Cross-boundary and cross-level dynamics increase vulnerability to severe winter disasters (dzud) in Mongolia. *Global Environmental Change* 22:836-851.
- Fernandez-Gimenez, M. E., B. Batkhishig, B. Batbuyan, and T. Ulambayar. 2015. Lessons from the Dzud: Community-Based Rangeland Management Increases the Adaptive Capacity of Mongolian Herders to Winter Disasters. *World Development* 68:48-65.
- Mongolian National Statistical Office. 2014. Mongolian National Statistical Office Website. Mongolian National Statistical Office, Ulaanbaatar, Mongolia. URL: <http://www.1212.mn/statHtml/statHtml.do#>
- Tungalag, U. 2015. Social outcomes of community-based rangeland management in post-socialist Mongolia: Influential factors and favorable institutional designs. PhD Dissertation. Colorado State University, Fort Collins, CO.
- Tungalag, U., and M. E. Fernandez-Gimenez. 2013. Following the footsteps of the Mongol queens: Why Mongolian pastoral women should be empowered. *Rangelands* 35:29-35.
- Reid, R. S., J. Chantsalkham, M. E. Fernández-Giménez, J. P. Angerer, T. Altanzul, Y. Baasandorj, J. Khishigbayar, and U. Tungalag. 2015. Do formal, community-based institutions improve rangeland vegetation and soils in Mongolia more than informal, traditional institutions? *in* M. E. Fernandez-Gimenez, B. Batkhishig, S. Fassnacht, and D. Wilson, editors. Building Resilience of Mongolian Rangelands: A Transdisciplinary Conference. Colorado State University and Nutag Partners, Ulaanbaatar, Mongolia.

The Mongolian Rangelands and Resilience (MOR2) Project is a collaborative, interdisciplinary research, education and outreach project that seeks to understand the impacts of climate and socio-economic change on Mongolian rangelands and pastoral people, and to identify the management practices and institutions that build rural community resilience and improve rangeland sustainability. This project grew out of a collaborative research planning meeting held in Ulaanbaatar in June 2008, in which herders, Mongolian and US scientists, donors and policy-makers met to identify critical questions facing Mongolia's rangeland systems and pastoral communities. At this meeting, participants collaboratively designed a country-wide research program to understand how livestock grazing and climate change are affecting the condition of Mongolia's rangelands across multiple ecoregions, and whether and how institutional innovations such as formally organized community-based rangeland management (CBRM) are affecting rangeland health and pastoral livelihoods and social conditions.

MOR2 Partners: Colorado State University, Texas A&M University, Institute of Geo-ecology, Institute of Meteorology and Hydrology, Research Institute of Animal Husbandry, Center for Ecosystem Studies at the Mongolian National Agricultural University, Nutag Partners, Center for Nomadic Pastoralism Studies, Mongolian Society for Range Management, Wildlife Conservation Society.

Funding for MOR2 is provided by: US National Science Foundation, The World Bank, USAID Livestock and Climate Change CRSP, American Center for Mongolian Studies, Colorado State University's Center for Collaborative Conservation

For Further Information

Dr. María E. Fernández-Giménez, Professor
Rangeland Social-ecological Systems Lab
Dept. of Forest and Rangeland Stewardship
Campus Mail 1472
Warner College of Natural Resources
Colorado State University
Tel: 970-491-0409
Maria.fernandez-gimenez@colostate.edu

Dr. Batkhishig Baival
Nutag Partners
Office #2005, Nomun Building
5th khoroolol
Ulaanbaatar-28, Nomun Box 670
tel: 70130135
batkhishig@nutagpartners.mn;
batkhishig.baival@yahoo.com