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COMMUNITY BASED CO-MANAGEMENT OF PASTURELAND RESOURCES
IN MONGOLIA

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Background

Natural resources based sectors account for more than two thirds of the Mongolian economy. Pasturelands make up approximately 82 percent of the land area and are currently home to 23.9 million head of livestock (83 % as *bog* - goat and sheep, 17 % as *bod* - horse, cattle and camel) and 176,000 herding families (National Statistical Yearbook, 2002). This represents the largest remaining contiguous area of common pastureland in the world. Nomadic livestock producers are the backbone of the Mongolian economy and livestock production accounted for 45 percent of employment and 21% of the GDP in 2002. More than these numbers can indicate, herding is a way of life for Mongolians rooted in the country's long history. Pasture use issues are also directly interlinked with other natural resources management.

During this transition period to a market economy, citizens and businesses and families are primarily interested in short-term private benefits, rather than common or social concerns. Individuals compete amongst themselves in order to gain as much from their natural resources gift - the environment - as they can. Herders are interested in increasing their animal numbers resulting in the overgrazing of pastures. Due to a lack of integrated and sound policies, common natural resources are being depleted.

It is therefore becoming increasingly necessary to establish new policies to ensure better natural resource management. One option is for stronger groups or associations or for neighborhood groups to work towards the creation of some co-management system or joint management policies for the use and management of natural resources. These

groups would exercise more permanent control over how decisions are made and implemented.

Any approach needs to consider all stakeholders and they need to be involved in order to discuss partnerships and to negotiate and implement co-management plans and arrangements. Without the involvement of all interested parties or actors and local governments, the sustainable management of natural resources will not be possible. Community based natural resources management is a method or process that can be specific to nomadic pastoralism.

The research agenda outlines the means to understanding these problems in greater depth, as well as helping to define and test improvements. The following are the research questions: Who are the principal stakeholders and what are their interests and conflicts? How are partnerships developed among the stakeholders, agreements on common agendas reached and the rules and procedures for co-management processes and plans set? What types of community facilitation may be necessary to implement SL opportunities? What kind of national level policy adjustments need to be considered? Do the traditional methods of herding and pasturelands management need to be re-instituted?

In this paper the major findings are presented according to three, interrelated research issues that the project is dealing with: pasture co-management, livelihoods improvement, and policy/legal changes.

To study the herder opinions and views, stratified random sampling methods were applied against the 461 members from 220 herding families of 9 communities. The following information gathering, summarizing and reporting tools were used: questionnaires, explanatory statistical and statistical comparison methods and SPSS. Qualitative data were collected by interview, group discussion, observation, and PRA using seasonal diagramming, mapping, oral history, reason and consequence diagramming.

Pastureland as a common resource

In Mongolian history and traditions, private ownership of pasturelands has never existed. Pasturelands have always been state property which has been used commonly by herders or customary groups according to their livelihood needs. Historically (until 1921), open range and pasturelands were under the control of feudal officials, clans and tribal groups. They were commonly used by herders with wide ranging seasonal migrations of herds and herder families. The Great Yassa (legal code), enacted in 1229, noted that specific groups of herders were explicitly linked with geographically defined territories and nomadic movements were coordinated by designated leaders.

The Khalka Djurim, in 1709, defined further codification of customary law in the steppe. It contained explicit references to pasture rights, distinguishing between secular and monastery herds, made provisions for sacred sites and reserved camp sites and formalized criteria for settling disputes over campsites (Whitten et al,2003). Late in the 18th Century,

neighborhood groups enacted formal regulations and some long distance movements across territorial boundaries were prohibited. Herder groups or family clans tended to use ranges in the vicinity of their seasonal camps and traditional rights were widely recognized and respected. Herders used traditional seasonal movement of herds for a long time, adjusting their pastoral system to nature's own behavior.

Historically, animal husbandry was linked with the socio- economic conditions of the time and the needs of society. For example in Chingis Khan time (XIII Century) the Ministry of Horses regulated nomadic pasture, due to the importance of horses for Imperial military purposes, in Manchu King time (XVIII Century) the camel was important for its use in caravans on the " Silk road " trade in Central Asia and now, goat populations are increasing because high price of cashmere wool in the international market.

During the Soviet-era (1921-1990), citizens had no rights to possess croplands or pasture lands or even livestock. They used state pasturelands to herd state animals for a salary. Accordingly, seasonal grazing movement schemes and pasture use regulations were developed, adopted and administered by collectives as state entities. During this collective period pastureland disputes between herders did not exist as the state made most decisions.

Following the move away from the centralized, Soviet-style management system toward a more market-oriented one, beginning in 1992, private ownership of animals was re-instituted. Between 1992 and 2000, herder family numbers increased by 2.5 times and livestock numbers by about 17.5 % according to official estimates. Real growth of animal numbers is probably much higher than this because herders do not fully report their animal numbers to avoid taxes and the mentality of people is such as not to divulge all their wealth openly to the census. With the transition, pasture management authority and responsibility were devolved to the local level governments and herders. However, because of the lack of capacity of local governments for management, confusion and conflicts between the stakeholders resulted. Pasturelands in Mongolia are currently defined as a common pool resource, and the new Land Law (2002) defines it as public property under the common use principle.

The pastureland ecosystem is closely interlinked with grassland, forest land, wildlife, medicinal and technical plants, water resources, landscape and mineral resources. Because of this, any degradation of the pastureland ecosystem has wide implications in other resource areas. Current estimates indicate that as much as 75% of the pasturelands are subject to overgrazing and desertification and that this is increasing year-by-year.

What are the reasons for this? Has there been inadequate institutional reform? Is it related to poor management or can it be attributed to the increase in herder family and animal numbers? There may be no clear answers.

With increases in herd size and in herder family numbers there also has been an uncontrolled concentration of animals around water sources, around settlement areas and haylands or around seasonal camps. Herder families also are moving less frequently for

fear that others will move herds in once they move theirs. To avoid possible conflicts herders tend to avoid sound pasture management practices. In addition, over the last few “hard” (*zhud*) winters there have been significant losses of animals (up to 30% of the national herd), and with an ongoing degradation of pasture lands, it seems that in the near future overgrazing will continue to be a serious environmental and economic problem. Another and very important reason is that of shorter term economic or livelihood gains. Herders would like to increase their herd sizes and livestock numbers, as a means of survival in competitive market conditions, because pastureland as a common resource and herding has low entry costs compared to other opportunities. Herders are overstocked in the shorter run hoping to make adjustment which balance with pastureland carrying capacity over a longer time.

In sum, the situation may provide evidence for a “Tragedy of the Commons” scenario. Can a better management system prevent this?

Adapting Traditional Practices to a Co-Management System

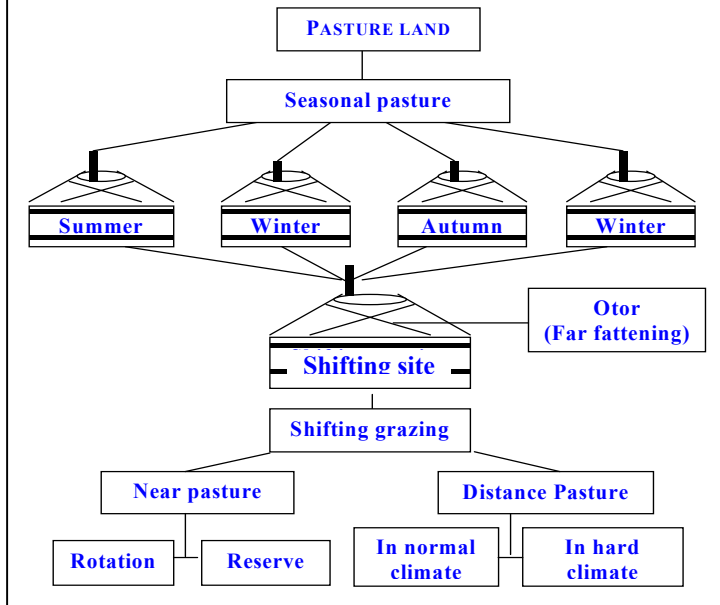
Traditionally, different areas are used for spring, summer, autumn and winter grazing. Within a season there is also a rotational system, which is agreed to by traditional groups of herders and local governments. This was the main reason why nomadic pastoralism existed for centuries in these arid and very fragile ecosystems.

Within the four seasons, pasturelands are shared between neighboring households since the patterns of livestock movement and management overlap and vary, between years and seasons, according to the conditions and forage availability (Figure 1.). Mobility of herding families in a nomadic livestock system has been accepted as the most effective way to use and manage pasturelands in dryland environments where ecological reproductivity is comparatively low. The drier and more fragile the environment, the larger area over which herders need to be able to move to ensure access to sufficient grazing for their animals through the year.

The maximum distance for a seasonal pasture move can exceed a 100 km but in most cases movement distances vary depending on the ecosystem type and its specifics and its pasture carrying capacity. Due to the availability of shifting pastures, herders in different ecosystems make movements up to 4-6 times in year but to reduce the risk of *zhud*, (bad winters) the best herders can shift pastures about 10-15 times per year.

Over the past several years of “*zhud*” conditions and for the survival of animals, there has been more frequent use of *otor* pasture, in all major ecosystems. Under this system, animals are moved large distances to pastures that are reserved for *otor* use and this allows animals to add weight before winter.

Figure1: Traditional Pasture Management System in Mongolia



Use of *otor* pasture by outside herders was regulated by agreements between local governors, herders' customary institutions and by herders themselves. If someone ignores these regulations it becomes a subject of conflict. The use of *otor* soon after privatization was minimal but now that is changing and it is important to clarify the roles and responsibilities of each stakeholder for the pasture use.

Most research notes that during this transitional period and in going back to traditional pastoral management systems, herders have developed not

only efficient pasture management system but also effective pastureland dispute settling mechanisms.

Why do we need co-management?

The unprecedented scale of recent *zhud* events has had a devastating impact on the livelihoods of most herders, particularly the new and inexperienced herders. These consecutive *zhuds* between 1999/2000 and 2001/2002 resulted in combined losses of over 10 million animals, or over 30 percent of the total livestock herd. Almost 11,000 herding households were left with no animals at all and a further 18,000 were left with fewer than 100 animals (Ministry for Nature and the Environment, Mongolia, 2003). Currently, about 50% of herder households own between 50 to 500 head but 70% of those own less than 100 animals. The latter group own only 25 % of the total herd and thus, 75% of the national herd is owned by only 30% of the herders. A herd of fewer than 100 animal units is considered not economically viable and their owners are considered poor (Human Development Report, Mongolia, 2003).

Co-management of pasture resources is needed because pasture as a common resource and private ownership of livestock is allowing herders to adopt a greater business orientation while pasture capacity is limited and the interests of neighboring herders must be recognized. The state ownership of pasturelands requires government regulation of use and the lack of capacity of herders and local government for sustainable management of

pasture resources necessitates the participation of all stakeholders at sectoral and national levels.

This is clear evidence for a need to re-establish traditional and co-management approaches to pasturelands and herd management. Under nomadic systems there cannot be proper management of herds and pasturelands without the involvement of herders' customary institutions and without herder groups and communities cooperating with both local and central governments. Local governments need to support and then also help formalize rights and responsibilities of herder groups.

The primary cultural and economic roles played by the herding sector in Mongolia, historically and in the present, provide a promising opportunity to foster viable, community-led approaches to rangeland co-management (Mearns, 2004).

Community-based natural resource management is one of the main forms of co-management. Co-management is the sharing of authority and responsibility among government and stakeholders. It is a de-centralized approach to decision-making that involves user groups as consultants, advisors, or co-equal decision-makers with government (Berkes 1991; Jentoft 1989; Pinkerton 1989). Co-management means participation of all stakeholders in the decision-making and conflict solving on related to pasture resources use. The key stakeholders include: individual herders, communities or groups of herders, local governments, central governments, civil society, NGOs, neighborhoods, economic units and religious and other groups. There is a need to formalize and support co-management groups, which are given and charged with the management of pasturelands and other resources. Such co-management groups must include all the stakeholders.

Policy Support for CBNRM and Co-Management

Several new national policies and laws impact on CBNRM and co-management of pastureland resources. As noted above, the new Land Law (2002) introduced long-term pasture use contracts for herder groups and communities if they, in cooperation with local governments, have jointly defined roles and responsibilities to ensure sound use and to restore and protect already degraded pasturelands. The new Land Law also permits the allocation of user rights by special agreement to individuals and economic entities for more settled farming and haymaking, if the land is fenced. Improving and expanding citizens' involvement in CBNRM is encouraged by the several national laws and regulations. Many of these laws and regulations support the devolution of decision-making on pasture use and the leasing of natural resources to the citizens or economic units or to herders groups.

Under an ongoing concern about land degradation and desertification, the government also is supporting co-operative movements with allowances and economic and regulatory incentives, such as credit and tax exemption for the herder groups, and institutional support in other forms. Currently, herders are exempted from a pastureland use tax.

In the Mongolian pasture or pastureland management system, important roles and responsibilities are given to local (and to central) government bodies, as stakeholders or co-management parties. For example, in the Land Law and in other legal documents, local *sum* (sub -district) and *aimak* (district) governors are responsible and given rights to resolve herders movements between neighboring *sums* and *aimaks*. If they cannot reach a decision, then a higher-level governor or central government body will decide and settle disputes. Also, the central government will define the reserve *otor* pasture in the case of *zhuds* among the *aimaks* and *sums*. *Otor* and is used traditionally for fattening of animals to carry them over the winter; mostly in autumn and early winter periods but in the case of *zhuds*, *otor* also is used for the wintering of animals in other areas. Land and pastureland and CBNRM policy, currently is in a “re-adaptation phase”. In the transition from a planned economy system to a market-oriented system, one must continuously review and adapt policies.

There is currently hot debate over the likely future of pastoralism as a source of livelihood and as a way of life. On the one hand are those, who identify mobile livestock production strategies themselves as a cause of vulnerability to natural hazards, and of the seeming poverty trap of subsistence-oriented livestock production. On the other hand are those, who argue for the continuing importance of mobile livestock production strategies as the primary foundation for sustainable economic growth in rural areas, and for secure and sustainable livelihoods at the household level (Mearns, 2004).

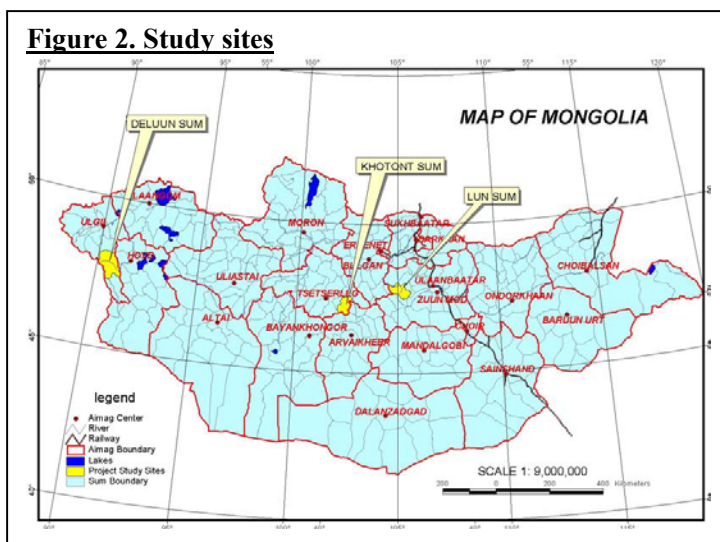
Given the cultural and traditional specifics of rural Mongolian society in most cases pastoral agriculture is way of life, but it provides also livelihood for herders, if they manage the common pasture resources on sustainable manner accordingly to the carrying capacity of ecosystem.

With CBNRM approaches new to Mongolian pastoralism in some ways, given the 70-year Soviet era, new co-management approaches are being tested with herder groups and changes are being made as needed. Our initial work suggests that co-management approaches are now being accepted by herder groups as it is seen that they may lead to a restoration of traditional pastures and better management systems. The Land Law and other laws and legal documents currently do not fully support CBNRM approaches and changes there also are needed. For instance, allocation of pasture to communities or groups of herders is not yet fully legal. The new Land law allows herder’s groups to contract with sum governors only for communal use of winter and spring pasture which can exclude outsiders in these two season only. For summer and autumn pastures informal contracts only exist.

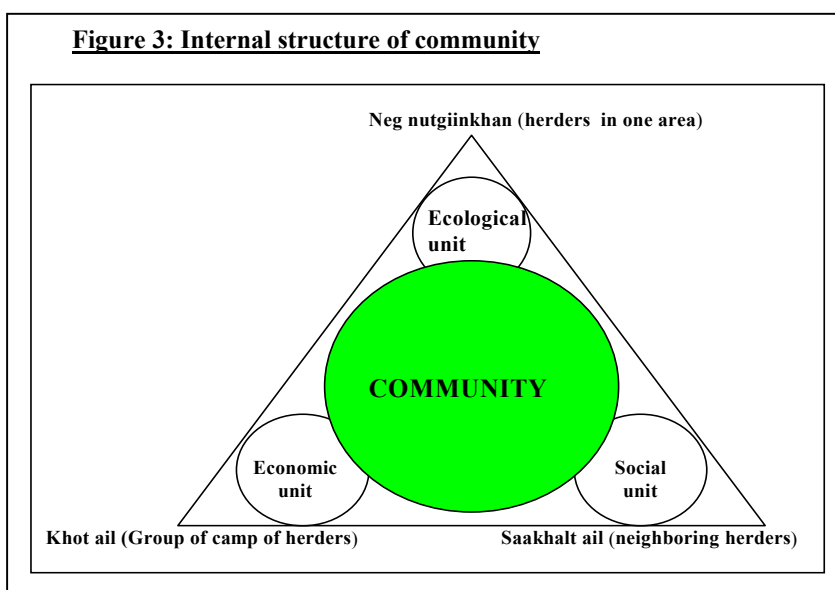
There is a urgent need for clear and special laws to support the sound use of all natural resources and pasturelands in the country. Also, current agricultural management approaches are not entirely appropriate or consistent with group or community activities for allowing more effective use and management of the common property resources. In addition, the current or transitional marketing system favors herder as individuals in terms of production, trade and commerce over traditional or group approaches.

Testing Co-Management Approaches

The “Sustainable Management of Common Natural Resources in Mongolia” project, which is supported by the International Development Research Centre (IDRC), Canada, and being implemented by Ministry of Nature and Environment in collaboration with other Ministries and agencies and NGO’s, aims to improve herd, pasturelands and natural resource management by implementing co-management approaches in selected study sites. The project aims to develop more community centered or participatory approaches to natural resource management based on co-management principles. This approach is based on modifications of traditional systems and backing those with supportive arrangements and with local and national policies that allow for more herder group rights and responsibilities. The project is addressing this challenge through a combination of participatory and action-oriented field research in three of Mongolia’s major ecosystems (Figure 2).

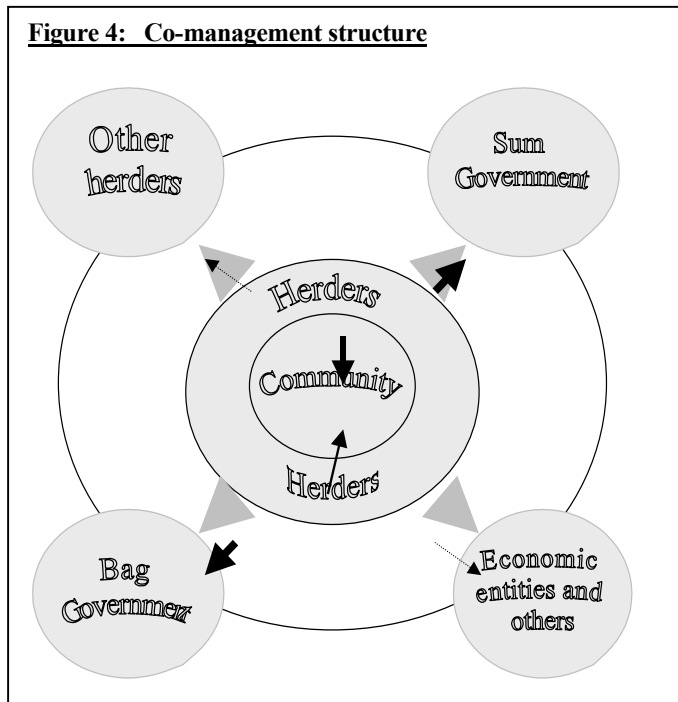


Currently, more than 15 communities or herder groups exist in our project areas, with 13 to 32 herding families in each group. In addition, new groups are being formed. Each group is considered a relatively homogeneous economic or social unit in terms of family, language, historical, ecosystem and other type characteristics. (Figure 3).



Community-Based Natural Resources Management is a combination of community-based and government-based management and, as such, is a governance arrangement between the pure state property and the pure communal property regimes. In our

interventions, co-management includes a major role for the community, as well as its social groups. The potential advantages of CM include efficiency and equity among all stakeholders, including women’s groups. Thus, CBNRM is people-centered and community-focused, while co-management focuses more on a partnership arrangement between government and the local community, with the focus of its social and economic characteristics (Figure 4).



To institutionalize these community or herder management groups in a “bottom-up” manner, co-management agreements have been developed by these groups with agreements between herders in a community on one hand, and between communities and local level governments at another level. Roles and responsibilities of all stakeholders are agreed upon during the formal and informal meetings and discussions. PRA’s and other meetings at the start allowed individuals and other stakeholders to understand one another better and then work together at a later stage.

At another and local institutional level, and for emerging community based co-management of pasture resources, *sum* level co-management teams were established consisting of representatives of herder and communities groups, local governors, NGO’s, and local school and other leaders as well as researchers from the project team itself.

The followings are benefits of the co-management agreements and results of project measures listed by some local governors in the *sum* level co-management:

- 1) Herders have good understanding on co-management and the co-management principles became popular among the herders of the *sum* and *bag*.
- 2) Herders evaluate the pasture and natural resources management themselves, they identify the natural resources degradation factors, they established co-management agreements with local governors, and they control the implementation of the agreements.
- 3) Some communities are legally registered. Communities want to be registered legally as cooperatives, NGO’s or herders’ associations.
- 4) Community funds are established in all communities.

- 5) The community activities have been introduced to other *sum* herders
- 6) Women have greater roles in natural resource management as they have more participation and initiative in implementing the co-management agreements. Community funds are now under the control of the womens groups.



Picture 1. Local governors and Ikhburd community leader sign in the co-management agreement revised by involving women's ideas.

It is seen that the most problematic issue (80%) is the disputes between the community and non-community herders because of inhabiting by non-community local people, outsiders movements, despite the established community-made pasture use contracts.

Based on the research results the 3 separate agreements are revised and updated accordingly as:

1. Co-management agreement between the local governors (*sum* and *bag* governor) and the community leader.
2. Co-management agreement between the community leader and a community member

Box 1: Roles of co-management in settling disputes:

- * Co-management created new structure to solve disputes as community arrangements and co-management agreements
- * Local governors and communities together make an effort to define seasonal pasture boundaries
- * Possibility to resolve some debatable issues by agreements
- * Less pasture disputes as a result of clarifying each community area
- * Meetings, discussions among herders allowed common agreement
- * Consciousness of the importance of sound use and protection of natural resources by joint force shaped among the *neg nutgiinkhan* (herders in one area)
- * Co-management guides to sound use of NR
- * Disputes between the local communities and non-community or immigrant herders decreased as their right to use the pasture was recognized as a result of co-management agreements with local governors

Currently 95.9% of the herders in the study sites support community-based management, 72.3% of them think pasture management improved as a result of co-management and 81.5% of the herders assume their knowledge of pasture and natural resources management is improved thanks to CBNRM.

Some difficulties regarding implementation of better CM agreements on pasture and natural resources management are:

- 1- There are often disputes with the non-community people living in the community area
- 2- It is difficult to exclude people moving in the community area

from other areas because of hard winter/climate conditions

- 3- Not possible to implement seasonal pasture shifting due to the shortage of pasture area (communities in Hangai mountain forest-steppe ecosystem)
- 4- Difficulty for involving all members in the pasture protection issues as the community members live far from each other.

Gender Equity

“... Women have clear roles in natural resource management. By establishing the women group, women joined, and are sharing opinions, making joint decisions, and helping each other”.
(Female, secretary of community)

Although both women and men play important but different roles in the management of natural resources in Mongolia’s nomadic pastoralism, women's particular roles and participation in natural resource use, decision-making and implementation have been undervalued. In many cases, in research and in policy-making, women's knowledge and abilities are “simply” forgotten or neglected.

Picture 2. *The project pays more attention to supporting women’s co-management activities in relation to increasing household livelihoods. This year project financed small-scale projects proposed by the women groups of the communities. The small projects proposed by the women concern mainly on livelihood issues, increasing additional income by making felt and handicrafts, growing vegetables, and increasing community fund, or natural management issues like protecting forest, reseeding pasture, etc.*



Women's participation in NRM use, decision-making and implementation needs to be recognized more fully and their contributions valued. In many cases, women's knowledge and abilities are left out of NRM. Women may also need help and special attention in training activities and their decision-making roles will be supported in this work.

Box 2: Women’s view on CM

To clarify women’s ideas about co-management we surveyed the opinions of the 461 women members from 220 herding families from 9 communities. According to this survey, women defined as important goals of co-management:

- To cooperate, to have common goals
- To plan their activities and to work according to certain goals
- Improving knowledge on NRM
- Sound use of pasture and other natural resources
- Improving herding management, improving productivity of animals
- Improving livelihoods and income of the households
- Learning laws and rules related to herders and pastures
- To support and increase women’s participation in co-management activities

Most of the women support CM activities and their aspirations were usually connected to improving their livelihoods and protection and restoration of pasture and other natural resources.

Women groups organize the following activities among women: supporting women’s income generation activities (e.g., handicrafts, felt-making, vegetable growing), learning from each other

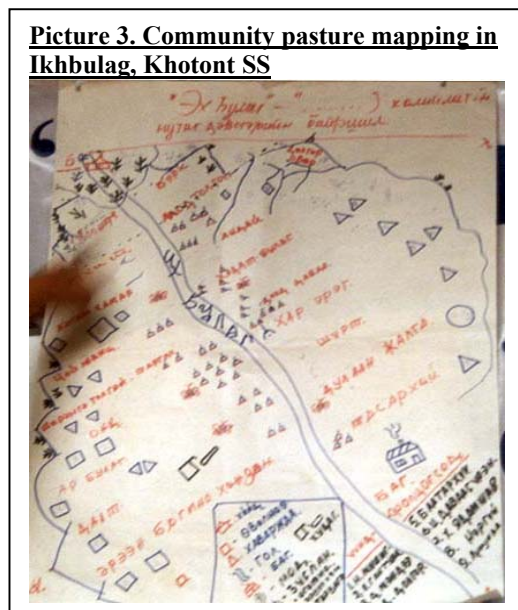
(teaching their skills to other members of the community, learning from other communities, organizing various trainings for women on sustainable livelihood options and NRM), exchange of experiences between the communities and between study sites (community products exhibition, study tour visits to other sites; e.g., inter-site women groups' meeting and stakeholders' meeting about updating co-management agreements), and participatory monitoring and evaluation of the community co-management efforts.

Physical Boundaries of Pasture

Historically, in Mongolia unclear boundaries of pasture among the herders groups and clans existed. This broke down during the planned economy system. In Soviet era when government had established an equal pasture distribution and household resettlement system, the traditionally established neighborhood system was changed. The nomadic pastureland system requires larger land areas, the size of pastoral communities measuring several thousands of hectares. Boundaries serve several functions: they define and limit the number of legitimate users, they define areas of control, and they reference decision-making to an ecosystem. Costs of coordination, information gathering, monitoring and enforcement are all affected by the specification of boundaries (Ostrom 1990).

Now, during the community-based co-management arrangements, communities and neighborhood systems must agree to traditional boundaries of pasture among the herders groups by seasons of year by the features of valleys, mountains and rivers. According to the CM agreements in the case of community-based pasture management system, boundaries of pasture within the community area now has more common access but between the communities there are more clear arrangements in physically, as well as regulatory.

Fixed boundaries in rangelands, whether they be village, group or household, can undermine land tenure flexibility and thus the capacity of herders to pursue opportunistic grazing strategies in response to environmental variability (Banks, et al., 2001).

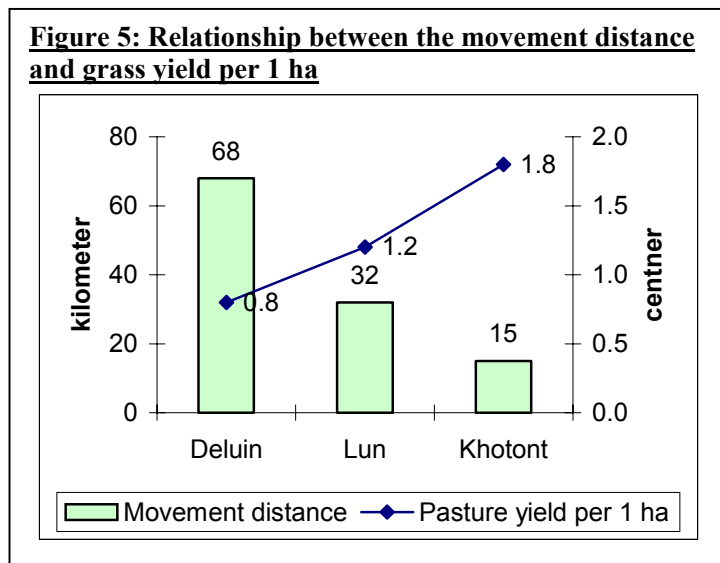


During the project activities several communities have contracted with local governments overall pasture use agreement, where boundaries of seasonal pasture have clearly agreed in the topographic maps, and all regulatory measures, as well as responsibilities of its protection and sound use rights transferred to the community.

During the PRA exercises herders draw their pasture management and location of seasonal pasture, water sources, natural resources, and infrastructure as mapping (Picture 3).

Average distance between seasonal pasture boundaries reached in some study sites to more than 100 km, so in near future spatial planning of pasture and NRM at community level is becoming vitally important.

Distance of migration of herders between seasons is also different according to the ecosystem specifics, which main indicator is grass yield (Figure 5).



The project team has included location of seasonal pasture and natural resources in the GIS, using cartographic maps, data on transect works, community mapping, and GPS location coordinates.

Currently one of most problematic issues is the relation between the community and non-community herders, outsiders' movements and other neighborhoods.

Therefore in given the condition of pasture management between community, bag and sum, there are also clear need for widening of CM agreements between primary stakeholders themselves as communities, bags and sums, where physical boundaries of community based CM of pasture and other natural resources will expand, with the clarification of roles and responsibilities of all stakeholders in this system.

Capacity Building

As current conditions for transitional pastoral systems are difficult and the rural economy is still weak, one needs to build management systems over time. There is a need for support and empowerment of these newly established local institutions and policies. Therefore, we have supported training activities (pasture management, NRM, vegetation growing, raw material processing, handicraft making, sewing, reforestation, seeding of haylands, PM&E), networking and experience-sharing between groups (participation of herders to the inter-site meetings and herder to herder visits). There is institutional support (small scheme credit, community funds, community projects, an information database at the sum or *aimag* levels, supporting the setup of community groups and help in drafting of rule and regulations, support for community councils and women's groups, etc.).

During the work of the past 2-3 years, almost all the stakeholders have accepted the principle of co-management as useful for guiding the sustainable use and management of pasture resources. There is strong support from local governors and other groups for improving the capacities of newly established community groups in a “bottom-up” co-management.

Establishment of NRM groups within communities has become one principal activity to draw people’s attention to ecosystem sustainability. This addresses changes at a broader level i.e. that they should not only concern themselves with pasture lands, without a concern for other natural resources Today herders are not only responsible for their animals or pasture; they are also an important unit of rural development.

About 75 to 98 % of community members in our study sites are actively supporting co-management arrangements. Among the different stakeholders the degree of enforcement of their co-management activities and roles and responsibilities vary by different ecosystems types and according to their own needs and interests.

Currently about 20 percent of the herders in a sum belong to herder groups and are involved in co-management agreements and the testing of this system. We are planning to involve more herders and other stakeholders in co-management activities and there are requests for support in helping to form new groups. Ideally 100% of all herders in a sum or *aimak* would belong to some group.

Lessons Learned

- Co-management promotes the use of the traditions of nomadic people and links herders to whole ecosystem management approaches.
- A CBNRM and co-management approach supports better links between local and central governments under the decentralized approach to governance and herder groups are now working towards more sustainable management of common pasturelands within a nomadic pastoral agricultural system;
- Successful CBNRM approaches need transparency and collective decision-making within the community and broad participation of social groups such as women, elders, and youth, etc. The benefits of CBNRM in a nomadic setting will be realized only in the longer term. The short term needs of herders must be addressed through the implementation of sustainable livelihood opportunities, which stress adding value to livestock products;
- In the case of transitional economies, such as in Mongolia, the implementation of CBNRM approaches needs more time as well as clearer legitimacy and supportive policies.
- Awareness building and an understanding by all stakeholders are important factors for successful CBNRM approaches. About 65-100% of all disputes in our study sites arise in relation to conflicts between those that belong to herder groups with those who are outside to these groups;

- Community based pasture management in Mongolia has its own specific needs based on the size of community herds and herding areas over the four seasons (average is 22,000 ha. for our 10 community groups with long distance herd movements of up to 120 km) and can be more effective with the community based management of all natural resources (forest, water, plants, biodiversity) at the same time. Complete ecosystem management & nature protection and not just pasturelands or pasturelands management is important. About 55-70 % of community members want to actively participate in broader natural resources restoration or protection activities;
- The optimal size of herder groups and their communities depends on ecosystem specifics, SL opportunities, the traditions and local culture. Co-management approaches will be more effective when all neighborhood herders join or form such groups.
- Over time it will be important for herder groups to address issues of inequalities of herder sizes within their groups.
- It is also important that livestock numbers be balanced with carrying capacities of Pasturelands and in the near future our herder groups and other levels of government need to find solutions to this problem.
- CBNRM and co-management regulates roles and responsibilities of stakeholders on the exploitation of common grassing land with open access regime.

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Notes:

Aimak - Administrative unit - province

Bag- Administrative unit - sub-district

Khot ail- group or camp of herders

Neg nutgiinkhan- community of herders living in the same place

Otor-animal-fattening pasture

Sum- Administrative unit - district

Zhud- hard winter

Acronyms:

CBNRM-Community based Natural Resource Management

CBCM - Community Based Co-Management

CM - Co-management

GIS- Geographic Information Systems

CRF- Community Revolving Fund

IDRC – International Development Research Centre

MNE – Ministry of Nature and Environment

NGO – Non-Governmental Organization

NR- Natural Resources

NRM - Natural Resource Management

PM& E- Participatory Monitoring and Evaluation

PR- Pasture resources

PRA- Participatory Rural Appraisal

SA/GA – Social Analysis / Gender Analysis

SLO - Sustainable livelihood Opportunities

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