



Land Governance in an Interconnected World

ANNUAL WORLD BANK CONFERENCE ON LAND AND POVERTY
WASHINGTON DC, MARCH 19-23, 2018



REGIONAL INNOVATIONS FOR DIVERSE TENURE SYSTEMS OF PASTURE LAND IN CENTRAL ASIA

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**Paper prepared for presentation at the
“2018 WORLD BANK CONFERENCE ON LAND AND POVERTY”
The World Bank - Washington DC, March 19-23, 2018**

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Abstract

Pastoral agriculture is a way of life for many communities in the vast steppes and mountains of Central Asia. Over time this has evolved, and there has been a need to support environmental protection of rangeland landscapes and the livelihoods of herders. Central Asia is currently undergoing a transitional phase with challenges relating to the socio-economic, ecological and political situation. In economic aspects pastureland makes an important contribution to the wellbeing and livelihood of herders and local communities. In social aspects we conclude that community based co-management of pasture land promotes equal participation of herders, the poor, women and local and central governments for the integrated sustainable management of local ecosystems. For this to happen there is a need to introduce a diverse system of pastureland tenure arrangements based on the rich traditions of local communities and the best pasture management practices in the region. In this context this paper compares the land tenure system for pastureland use in Mongolia, Kyrgyzstan, Kazakhstan and Tajikistan.

Key Words:

Key words: Central Asia, Pastureland, tenure systems, best practices



Introduction

Nomadic herding based on common pasture use practices is a way of life for Mongolians, Kyrgyz and Kazakhs as well as for other nationals and communities in Central Asia (CA). Traditionally, there are two types of agriculture in Asia: i) pastoral agriculture and ii) non-pastoral or settled agriculture. The countries representing the first group are: Mongolia, Kazakhstan and Kyrgyzstan (Ykhanbai H., 2000).

At present, the development of the natural resources-based sector is the backbone of the economies of Mongolia, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan.

Geographically, Mongolia is included in Northeast Asia. However, taking into consideration its rangeland and widespread pastoralism, Mongolia is well-situated in the Central Asian region, as are all of these landlocked nations with low population density, traditional nomadic pastoral agriculture societies, a comparatively low degree of industrial development and a high proportion of rural population. Mongolia has cultural links with both above regions of Asia.

Fig.1 is a map of the regions of Asia¹, where Mongolia is included as part of the Central Asia region. This is not widely accepted, but we use this map to show the pastoral agriculture-dominated nations of Asia.

Fig. 1 Central Asia in a map of Asian regions



1 More discussion can be found here: https://wikitravel.org/en/Talk:East_Asia



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Source: <https://www.google.mn/search?q=central+asia++map+with+mongolia&tbm=isch&tbs=rimg>

Nomadic and semi-nomadic pastoralists² in Central Asia contribute to food security, job opportunities and reduction of rural poverty.

In the following sections we will explain, compare, and draw lessons from scoping studies carried out by members of the Asia Rangelands Initiative, supported by the International Land Coalition for networking, mobilizing and influencing different tenure systems for improved pastureland management for nomadic and semi-nomadic pastoralists in CA.

Why rangelands?

In Central Asia rural populations rely heavily on livestock production, and because of this their livelihood and social lives are closely connected with pastureland use. The share of agriculture in the GDP of Mongolia, Kazakhstan, Kyrgyzstan and Tajikistan ranges from approximately 15.0 to 27.2%. Pastureland covers between 45 to 72% of the area of Mongolia, Kazakhstan, and Kyrgyzstan. The proportion of pastureland in these nations (1/3 of the total land area of Asia) is higher than the Asian average by more than double in Mongolia and Kazakhstan, and by 1.4 times in Kyrgyzstan (Table 1).

Table 1. Main indicators of Pastoral Agriculture and Rangelands in Central Asia

Indicators		Mongolia	Kazakhstan	Kyrgyzstan	Tajikistan
Population	mln. pers.	3,12**	18,1**	6,04	8,74**
Total land area	mln. ha	156.5	272,500	19,995	14,31
Pastureland	mln. ha	112,7*	182,00	9,068	3.8
Forest land	mln. ha	12,280*	22,9*	2,620	0,412*

² According to IFAD (2016) the total number of nomadic and semi-nomadic pastoralists in dry rangeland ecosystems including herders and populations linked with pastoral agriculture is estimated to be around 150 million, of which 50 million are in sub-Saharan Africa, 31 million in the Middle East and North Africa, 25 million in Central Asia, 10 million in South Asia, and 5 million in South and Central America



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Share of pastureland as a percentage of total land area	%	72	66,8	45,4	26,6
Animal herd size	mln. head of animals	66.6**	27,3**	8,0	6,5
Number of herder families	thous. HH	153,000*	120,0***	1,700	na
Number of herders	thous. pers.	297,8*	360,0***	13,0	na
Share of Agriculture in GDP	%	15,0*	7,0*	24%	27,2*
Share of Animal Husbandry as a percentage of Agricultural GDP	%	86,5*	3,0	42%	na
Share of mining land as a percentage of total land area	%	6,96*	na	0,025	na

*2015, **2017, *** estimate

Source: Ykhanbai H., Levin B., Maratova E., Tazbaeva S., Jaukasin G.

Between 59 and 88% of pasture and agriculture land has degraded to some degree in Central Asian countries. This severe land degradation reduces the productivity of animal husbandry and threatens the livelihoods of millions of pastoralists. Land degradation has serious socio-economic impacts in these countries. 59% of the area of Kazakhstan showed environment degradation and soil contamination. The environment has a direct impact on the standard of living and the health of the population, especially with regard to social vulnerability (Karibaeva K., 2017). According to recent estimates more than 75% of pastureland in Mongolia has degraded, and is subject to future desertification. This pastoral way of life – vital to rural communities in CA – faces unique and inter-related challenges. The combined effects of a rapid transition from a state-led economy to a market-based economy, an increasing number of livestock, as well as effects from climate change have contributed to the degradation of public pastureland in the past few decades in



CA. The cost of pastureland degradation, which is calculated by the net price of additional fodder required for the number of livestock that exceeds the carrying capacity of the pastureland, is estimated to be 9.5 billion MNT (4.5 million USD) annually (Ykhanbai H., 2011).

In Mongolia rangeland grass species are being degraded from their original condition. Maximization of livestock numbers results in a decline in land and animal productivity, a decline in the income and assets of herders and increased vulnerability to natural risks. Comparing overgrazed pastures with fresh pastures, the live weight of ewes in overgrazed pastures is, on average, lower by 8 kg, milk yield is lower by a factor of 2.5, and cashmere yield is 8% lower. The losses from land degradation from a decrease in animal product output, such as wool, cashmere and meat amount to more than 1,060 USD per herder household, or more than 150 million USD at the national level (Enkh-Amgalan A., Gankhyag Is., 2017). In addition, in Kyrgyzstan more than 88% of agricultural lands are recognized as degraded and are prone to desertification processes (Temirbekov A., Burkhanov A., 2017).

Most of the common areas have been encroached upon by the interaction of pastureland and arable farming systems, and in many cases pastoralists and other marginalized people have lost in these conflicts. This situation is similar throughout CA, but its severity is higher in Kazakhstan and Tajikistan than in Mongolia and Kyrgyzstan. Given that arable land covers less than 1% of the territory of Mongolia, conflicts on land use rights in pasture and arable land are, comparatively speaking, minimal in most of the country. In addition, pastoralists of Central Asia have been greatly impacted by land use changes due to the development of exploration industries. Nowadays, expansion of the mining industry has had a positive effect in terms of economic development, but has also had a negative impact on pastureland use rights of herders. This is particularly the case in Mongolia, Kyrgyzstan and Kazakhstan, as these countries have significant potential for the development of the mining industry, all the more so because they have successfully launched new businesses and created new jobs since transitioning from Soviet-style governance. For the national governments of these countries, the economic benefits of mining are considered to be higher on the agenda, particularly due to recent economic and financial instability. More than 6.9% of Mongolian territory is used for mining exploration (Table 1). In Kazakhstan the mining sector also has a significant impact on the increase in desertification and environmental degradation.

In most cases, there is clear evidence of misunderstanding between mining operations and local herders, communities and the public at large. Pasture land has been degrading due to rapid growth of animal population, and its concentration around water sources and settlement areas. The impacts of mining (which has served to change herders' seasonal pasture use practices), dusty roads, mining holes and rivers



becoming polluted and drying also have an impact. This in turn has impacted herders' health and biodiversity of ecosystems.

According to new procedures enacted by the Mongolian Government, all new mining licenses are valid only after a decision from the local government, after having taken into consideration comments and reactions from local communities. The Procedure on Public Participation has now been developed, in which we took part, and this will now be implemented. In the new public participation procedure there are 2 main parties: the first is the project implementer, and the second is the local community. In economic terms related to the project, the first party can be considered to be mining companies, and the second party as the public.

One of benefits of PP in EIA is to help these parties work closer together from the start of mining activities and to implement mitigation measures to avoid negative impacts on pastureland use rights of herders, and the health of the ecosystem. If public participation is enabled from the beginning and follows all the way to the implementation and monitoring of mining activities, that can be considered a "good project". Let's see how it works. Currently JASIL and other our partners are uploading data from the biggest mining companies, among other Large Scale Land Acquisitions, with foreign investments (which operate in an area more than 200 ha) into a Global Land Matrix Database (www.landmatrix.org), so that interested parties and the public can access the data and monitor the activities of mining companies.

As shown in our scoping studies, the mining sector is booming in all of these CA countries, as all of them are rich in natural and mineral resources. With regard to pastureland and land use there are some negative impacts on herder communities in Mongolia due to the exploration and exploitation of the land, which had previously been used as pasture and grazing land for animals. In terms of forest management there are also some disagreements between forest communities and mining companies in Mongolia and Kyrgyzstan.

Pastoral communities

Animal husbandry is the main occupation of pastoralist communities in CA. Pastoralists have a long tradition of living in harmony with nature. These are among the most marginalized individuals, and they are highly dependent on the use of common resources, such as rangelands.

In most cases, pastoral agriculture and pastoralists lie outside of government priorities, and this exacerbates issues in socio-economic development, including increasing poverty. Poverty is higher in these communities than in other places due to the fact that countries in CA are still in the process of transition, and are facing institutional and agro-ecological changes such as population growth, climate change, globalization of markets, changes in demand for animal products, decentralization of governance, as well as changes in tenure systems. All of these changes are disrupting the framework of traditional operations of pastoral societies. These changes have a large impact on the life of nomadic herders.



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Currently, there are some ongoing changes in livestock distributions, such as high growth of herd size in the region, particularly in Mongolia, which leads to overgrazing, as well as the capacity of the pasture being exceeded. Economic barriers to seasonal pasture use in all these countries exist, and the number of livestock around settlements in Kazakhstan, Kyrgyzstan and Mongolia have increased. The new livestock owners of urban areas significantly influence pasture management in Mongolia and Kazakhstan. Pastoral agriculture currently ranges from individual herders of Mongolia and smallholders of Kyrgyzstan and Tajikistan to large commercial livestock operations in Kazakhstan.

Pastoralists of Central Asia have been working under the heavy pressure of current climatic events, *dzud*, and other natural disasters. Poverty is also connected with the degradation of natural resources. In the *dzud* winter of 2009-2010, 8.4 million head died- equal to 15% of the total livestock- which caused an increase in poverty in rural areas. According to the latest estimate from NSO using the World Bank methodology, the poverty headcount index in Mongolia stood at 29.8% in 2011, and poverty depth amounted to 7.6%, which represents a drop of 3.7 percentage points. Poverty severity stood at 2.8%, which is 1.8 percentage points lower than in 2010 (NSO, 2012). The world's first index-based livestock insurance was launched in Mongolia in 2005, however uptake has been slow due to a lack of awareness and affordability.

Related to the issue of equality, both women and men play important, but different roles in the management of natural resources in nomadic pastoralism. Women's participation in the use of natural resources, decision-making, and implementation has been undervalued in all countries of CA, which is one of the sources of poverty.

In CA, the source of herders' income comes mainly from animal husbandry. In an open market situation, individual herders are compelled to raise more and more animals in order to increase their income and welfare, to the detriment of the natural resource base. This trend has become one of the major difficulties facing pastoral agriculture in CA. It makes finding solutions and innovative tenure systems for pasture degradation and overgrazing a serious challenge.

Often pastoralists face a lack of tenure security due to poor attention or investment in developing tenure systems that work in these complex social and environmental systems. This means that pastoral lands are vulnerable to expropriation and encroachment, which leads to the loss and fragmentation of grazing areas, and loss of access to water and other important resources (Fiona F., 2017).

A shift in tenure systems



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It is commonly accepted that tenure is how people *gain access to land and other natural resources*. Having secure and equitable access to natural resources can allow people to produce food for their consumption and increase income. Inadequate and insecure tenure rights to natural resources often result in extreme poverty and hunger. The governance of tenure is a crucial element in determining if and how people, communities and others are able to acquire rights and associated duties to use and control land and natural resources. Many tenure problems arise because of weak governance, and attempts to address tenure problems are affected by the quality of governance. The eradication of hunger and poverty depend in large measure on how people, communities and others gain access to land and other natural resources. The livelihoods of many, particularly the rural poor, are based on secure and equitable access to, and control over these resources. They are the source of food and shelter, the basis for social, cultural and religious practices, and a central factor in economic growth (VGGT, 2012).

The rangeland tenure system has its own specifics, such as large areas of pasture land being used by nomadic herders and their communities without any clear borders, mobility of herding being a strategic action to fit animals and overcome pasture degradation, seasonality of rangeland use, biodiversity conservation being the highest priority of rangelands, poor infrastructure and marginalized communities, livelihoods of herders depending only on the grass growth of each year and season, herders being poor in terms of introducing economic incentives, and difficulty in equalizing herd size for each herder's household. Mobility refers to the practice of moving animals based on resource availability, mainly pastures and water. It allows pastoral communities to access fresh pasture and water by moving to resource-surplus areas. While this is supported under collective land tenure, it is constrained where land is under individual tenure. However, as the land tenure becomes individualized, strategies of the commons can no longer be practiced. After the transition to a market economy many started to adopt different and innovative tenure systems of pastoral land management to adapt to socio-ecological and political changes in the region.

There are special regulations and sub-laws on pasture land, where implementation of tenure arrangements is in place for the given conditions. Economic aspects of pastureland are important because they can contribute to the well-being and livelihood of the rural population and communities. Community-based co-management of pastureland can help implement SDG as an innovative tenure systems, with equal participation of herders and local and central governments in pasture management, including recognition of traditional pasture use rights of herder communities and integrated management of local ecosystems.



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In the transition to a market economy, countries of the region started to adopt different and innovative tenure systems for pastoral land. These tenure systems contribute to the independent economic development, decentralization and devolution of decision making, and to the reduction of degradation of pastureland.

Currently, Central Asian countries are practicing different tenure systems. This includes state owned and common property, state managed systems, open access and mixed systems, individualized private ownership and leased/rented systems. In social, economic and ecological terms the Central Asian region is still adapting to ongoing political challenges. Until the early 1990s the five ‘*stan*’ republics of the former USSR as well as Mongolia had a common mechanism of pasture management, which was a centrally planned, state-managed system. However, after the transition to a market economy they started to adopt very different systems of pastoral property rights, namely common property and open access in Mongolia, state managed systems in Kyrgyzstan and Tajikistan, and state-owned, individualized (private/rented) leasehold systems and private ownership in Kazakhstan (Table 2).

Pasture legislation is a longstanding issue in Mongolia, as well as in other countries of CA. It plays an important role in legal, economic, ecological and social aspects of pastureland use. In legal and policy innovations the Central Asian region has broader experience on the legal side, such as the “Law on Pastureland” (2009) in Kyrgyzstan, which legalized local pasture management committees in the country, and the “Law on Pasture” (2013) in Tajikistan which clarified roles and responsibilities of local and national organizations on pastureland use. Also recently implemented were the “Law on Pastures” (2017) in Kazakhstan, which established different roles for local-level pasture management friendship organizations and herders’ associations, and the “Land Law” (2003) and “Law on Environment Protection” (2006, 2012) in Mongolia which have articles on the responsibilities and rights of local communities regarding the use of degraded pasture land. There are special regulations and sub-laws on pastureland, where implementation of tenure arrangements is in place for particular conditions.

Table 2: Pastureland tenure and management specifics in selected CA countries

Country	Legal support	Pasture land tenure	Grazing fee or pasture use payment	Mobility and use in seasonal pastures	Community based pasture and natural resources management



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Kazakhstan	Law on Pasture (2017)	Mixed tenure arrangements, such as private ownership, leasehold and common use	Some relationship between livestock ownership and registered pasture use with payment	Large livestock operations increasingly common and relatively mobile	Village-based grazing, but has led to localized pasture degradation. Co-management contracts supported by the new law.
Kyrgyzstan	Pasture Law (2009)	Pasture state owned, no private ownership, leasing of pasture to herders	Access rights to pasture with purchase of tickets, sold on an annual basis with pasture use payment	Seasonal pastures under administration of local government	Management devolved to local Pasture Users Associations
Mongolia	Land Law (2003) and Environment Protection Law (2006, 2012)	Open access for summer pasture, animals private, pastureland state owned Use of pasture land based on contracts with local governments	Herder households exempts from pasture use fee	Seasonal migration incorporating traditional systems of pasture rotation	Community based co-management of pasture and natural resources introduced



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Tajikistan	Pasture law (2013)	Pastureland state owned, but some pastures privatised	Pasture use payment system introduced	Settled pasture use and mobility only in summer	Co-management approaches introduced with Pasture User Groups
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Source: Scoping study by members of Asia Rangelands Initiative, 2017

In recent years there has been a move to adopt different tenure systems of pastoral land management adjusted to different socio-ecological and political contexts and processes of change in the region. All pastureland in Kyrgyzstan, Mongolia and Tajikistan belongs to the state. New laws and policies have been developed, such as the law on pastures in Kyrgyzstan and the development of countrywide pasture user unions. In Mongolia herder communities have organized co-management communities for natural resources (Amendment to Environment Protection Law). Alternatively, in Tajikistan the majority of pasture has been allocated to private *dehkan* farms by the “Law on Pasture” (2013). In Kazakhstan a system of private ownership has been introduced (See Table 2).

There are some changes in livestock distributions, including high growth of herd size and exceeded pasture capacity (Mongolia), economic barriers to seasonal pasture use (all), large areas of pasture abandoned (Kazakhstan), livestock concentrated around settlements (Kazakhstan and Kyrgyzstan) and system fragmentation (all). The new livestock owners range from individual herders (Mongolia) and smallholders (Kyrgyzstan) to commercial livestock operations (Kazakhstan). Herders and smallholders access remote pasture through collective herding systems (all) (Ykhanbai H., 2017).

In Kyrgyzstan, the old management system was replaced by the new “Law on Pastures” (2009). Rangeland degradation is currently a great threat to food security in the country and is threatening the sustainable development of Kyrgyzstan (Temirbekov A., Burkhanov A., 2016). The main goals and objectives of the Law on Pastures were: transfer of responsibility and control of the use of pastures from state ownership to local self-governed bodies, prohibition of lease and sublease of pastures, establishment and definition of pasture boundaries, the creation of pasture user associations by local communities, setting fees for the use of pastures for livestock, provisions for the use of pasture resources, management and use of pastures in



accordance with management plans developed by pasture committees and approved by the local government, and pasture provisions for foreign users or for other purposes (Egemberdiev A., Naizabekov B., 2017). The Law on Pastures does not, however, regulate pasture use in State Forest Fund territory. According to the Forest Code of the Kyrgyz Republic, pasture use in the State Forest Fund territory is regulated by a legal document developed by the state forestry management body, which currently requires the development of such a document (Burkhanov A., Tazhibaeva S., 2017).

Since the law came into effect, pasture users have created 454 Pasture User Unions, each with an executive body- the *Jaiyt* (Pasture) Committee. Seasonal pastures under the administration of the local government and pasture management have devolved to local Pasture Users Associations. Access rights to pasture through purchase of tickets sold on an annual basis to members, and a leasehold system were introduced but later stopped with a ban on leasing pastureland in Kyrgyzstan.

In Tajikistan the majority of pasture has been allocated to private *dehkan* farms by the “Law on Pasture” (2013). In particular the law recognizes a new set of institutions for pasture management, and new regulations on pasture use fees. The Pasture User Unions are to be public, independent activity bodies, established by pasture users for joint use of pastures (Sharifov A., Anoosh S., 2017). They may apply for and hold pasture lease rights from the state. There are more co-management approaches being implemented in Mongolia and Tajikistan as opposed to the state dominated management systems in place in Kazakhstan. The basic problems of pastureland use in Kazakhstan are: i) degradation of pastureland due to the distribution of traditional seasonal use practices ii) poverty and dissociation of small-sized holders (owners) of livestock, and iii) absence of support for pastoral animal husbandry from the state.

The new “Law on Pastures” in Kazakhstan (2017) regulates the duties of national and local government structures and local self-management bodies and communities and associations (Karibaeva K., Levin B., 2017). For more than 10 years, Kazakhstan practised mixed tenure arrangements, including private ownership for pastureland, which is different from other countries in the region. The Law on Pastures has a very ambitious target, which is to conduct a geo-botanical study on all pastureland in the country, through centrally specialized research and inventory institutions. This would be very time consuming, and less supportive for local communities’ pasture use rights. Currently, nearly 1400 pastoral smallholders in the country don’t have their own pastureland for grazing their animals.

The new Constitution of Mongolia (1992) contains provisions decreeing that livestock is “national wealth” and shall be protected by the state. Pasture management is currently regulated by the Mongolian “Law on



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Land” (2002). Open access for most seasonal pastures, and strong traditional systems of pasture use are highly encouraged, which contrasts with other countries in the region (Ykhanbai H., Munkhbaatar D., 2017).

A survey of 15000 herders shows that 67.3% of respondents support the need for a strong legal basis, and 65.9% of them believe that it is better to allocate pasture to herder communities (Ykhanbai H., 2011).

Ongoing legal and policy changes need to address the issue of co-management of pastureland, poor and wealthy herders, equity, transference and good governance. As herd size has rapidly increased in all countries of Central Asia, overgrazing has become one of the major contributors to rangeland degradation. Herders in Mongolia, as well as in other countries of the region are not much willing to cover the environmental externality costs of overgrazing. Rangeland tenure system can address this issue through the introduction of grazing fees or other incentives and instruments for the reduction of pastureland degradation and sustainable rangeland management. In this regard, Mongolia and Kazakhstan can implement an innovative grazing fee system that can be collected by local herders’ associations in cooperation with local governments and can spend the grazing fee income both on the improvement of pastureland and the conservation of rangeland biodiversity. As an option to diversify the rangeland tenure system, and because of the rapid growth in herd size, we are currently lobbying the Mongolian Government to impose a grazing fee on rangelands. The size of the fee can be estimated as a percentage of the base value of the land, and on the basis of a unit of sheep differentiated by livestock product yield, value, animal species, location and stocking rate. This can be thought of as an amendment to the existing “Land Use Payment Law” (2005). This will improve economic incentives for the co-management of rangeland, and reduce pasture degradation in Mongolia.

Devolution of management authority from national governments to the local level, supporting specific arrangements for co-management of pastureland and other natural resources is ongoing in Mongolia and Kyrgyzstan, and this is being discussed and attempted in Kazakhstan, Tajikistan and Turkmenistan.

Rangeland tenure system can also be greatly supported by national policy documents and programs. For example, the National Program on Intensive Animal Husbandry (2003), the State policy on Pastoralists (2009), and the National Program on Mongolian Animals (2010) in Mongolia can be used as a guideline for pastoral agriculture development in Mongolia, particularly for the sound use of pastureland and improvement of the livelihoods of herders.

The existing scaling-up process of community-based natural resource management approaches and the allocation of pasture and other natural resources to local communities in the region also demand public



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participation in decision-making and its implementation. It is absolutely critical for all CA countries, where the current practise emphasizes decentralization of management and “unlearning” the Soviet-style top-down administrative system. Public participation should be thought of according to the specifics of each country in terms of their socio-economic development and the current ecological conditions, as well considering traditions, culture, institutional structure, and the capacity of different stakeholders.

Pastureland possession in CA encourages an ownership mentality towards pastures in Kazakhstan. Different types of co-management arrangements in Mongolia, Kyrgyzstan and Tajikistan encourage the specification of different groups’ pastureland boundaries, and the enforcement of stocking density regulations, which help in the long run to reduce poverty in herder communities.

Currently the issue of recognizing traditional land use rights of herders and their communities has been considered in CA as suggested by VGGT. Disputes over pasture land use in CA involve competing claims to water and pasture, land distribution, the expansion of protected areas to include customary grazing areas, and property rights in areas of mining exploration and extraction. Since 2016 members of Asia RLI have been working with the Mongolian federal government to recognize and register traditional rights of herder communities. This procedure was approved by the Mongolian National Agency of Land Management, Geodesy and Cartography. This agency is currently cooperating with local governments and NGOs to work on registration of these rights. This is also important for other countries in CA. Disputes between individual herders or herder communities and the state are generally resolved by the national and local governors on the basis of registered pasture use rights.

Securing secondary rights and access provides options for extensively use rangeland, forests, river, swamplands, etc. Together these resources form an important income source and reduce risks for the poor. Most of these lands have to be held as common land due to high costs of monitoring and enforcement in the case of privatization or nationalization. Pasture monitoring activities conducted by local and national stakeholders in Mongolia and Kyrgyzstan can be a good example of exchanging experiences and collaborative learning in the CA region. We can agree that land tenure reform is not only a means of redistributing land, but also serves as an integral process for providing access, monitoring, recognition of traditional rights of pasture use, tenure rights and sustainable use of natural resources such as forests, water, seeds, genetic resources and biodiversity (Michael K., 2017). One of the main challenges encountered in the allocation of pastureland relates to the migration of herders during episodes of severe winter weather (*‘dzud’*).



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Land conflicts in Kyrgyzstan involve individuals, state actors and entities across international borders. Many of these conflicts are related to land allocation, corruption and favoritism, and on a larger scale they also depend on the co-existence of different ethnic groups. Land disputes are generally resolved by formal and informal tribunals (local village leaders and women's councils), which can apply customary laws that are not in contrast with formal laws. As discussed above, in many cases mining companies enter without any Environmental Assessment Impact procedures, mitigation measures or appropriate permissions and licenses. According to new government procedures in place since the end of 2017, all new mining licenses can be valid only after a decision from the local government. Previously mining companies did not consult with herder communities or local governments. Therefore, this can help with the implementation of the Procedure on Public Participation into the EIA process. Our team was involved in the development of this process.

Best practices

A scoping study on the Rangeland Initiative in Central Asia identified some best practices for pasture use tenure systems in Central Asia. These good practices range from those that focus on good governance and improved rangeland management systems to an increasing use of technology for sharing information relevant to pasture use or for registration purposes.

Of particular note are the co-management of pastureland in Mongolia, which includes mobile-based information sharing, and the recent development of an electronic system for better registration and management of pastoral committees in Kyrgyzstan, and their access to rangeland resources.

Over the past decade Mongolia has successfully implemented a model for community-based, co-management of pastureland, in which herder households, their community heads and the local governments enter into a contract in order to manage the pastureland in an environmentally and economically sustainable manner. This approach is based on insights from pastoral ecology and related sciences such as livestock management, natural resource economics, and sociology.

Most nomadic and semi-nomadic herders move on a seasonal basis in pursuit of pastureland. Pastureland is owned by the state but herders can access the land and its resources as a public good. The "Land Law" (2003), only allows herders to *use* the pastureland and does not permit its allocation or long-term lease.



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The situation in Mongolia may thus be an example of the proverbial ‘tragedy of the commons’, where public land is overused and not properly managed to prevent further degradation. While it may be difficult to point out a single cause of degradation, scholars usually propose the following solutions: (a) privatize common pool resources; or (b) improve the communal ownership of the common pool resources. However, in Mongolia private or communal ownership and management of pastureland has never been practiced, due to the many diverse local arrangements and the varying use of pasturelands on a seasonal basis. Against this background, turning pasturelands into privately or communally owned land would cause conflicts.

In the CBNMR of pastureland, herding families enter into a contract with each other and with the local government, in order to define the seasonal use and management of pastureland. The contracts are science-based and include guidelines on the carrying capacity of the plots covered by the contract. The plots are demarcated in a participatory way.

This innovation helps for the Amendment to the Mongolian “Law on Environmental Protection”, approved by Parliament on 18 November 2005, which was the legal genesis of community based co-management of rangelands in Mongolia, using a bottom-up approach. According to this law the government legally recognized the creation and registration of communities as “*nukhurlul*”, and established a legal framework for the allocation of certain natural resources to the communities. The special Chapter on “Co-management of Natural Resources” (2008, 2012) of the Environmental Protection Law legalized co-management approaches for natural resources with the roles of stakeholders, as communities and Community Associations.

According to the “Law on Environmental Protection”, the new community guideline for: “*Procedure for the allocation of certain natural resources to the communities for their protection and sound use,*” was approved by Decree N114 of the Ministry of Nature and the Environment in 2006 and later in 2009, 2012 it was updated and improved for full legal support of pasture use in the country. Since then it has been the main policy and guiding document for the implementation of CBNRM approaches in the country at the local and national level. The core element of the procedure paves the way for herders to organize themselves (with or without external support) as a legally recognized “community” in pursuit of sustainable management of natural resources such as grassland, water resources and wildlife.

According to this law the herder communities were recognized as a voluntary organization of citizens for the protection of nature that was established according to the Mongolian Citizen Law 476, 481 in order to cooperate with citizens for the Protection of the environment as the basis for the co-management agreement.



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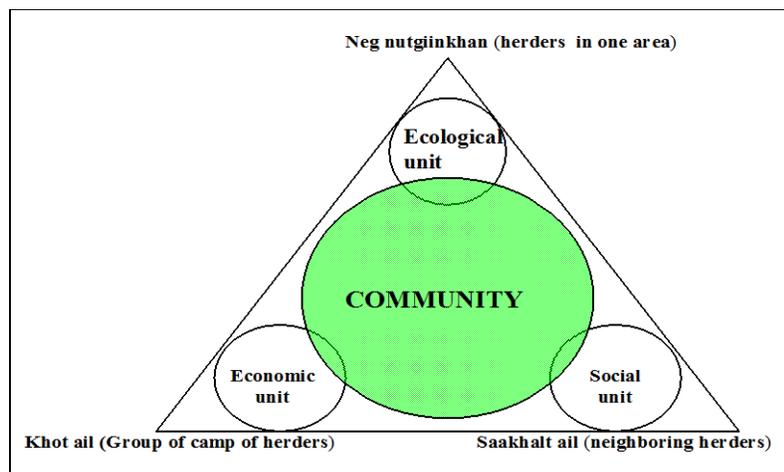


In Mongolia, as well as in other countries, experience from previous studies shows that co-management of pastureland is unique compared to forest, water and other resources. Traditionally, herders use pastureland according to certain kinship relationships combined with the sharing of a common area (*khot ail*, *sakhalt ail* or *neg nutgiinkan*) through sets of evolving community arrangements (Ykhanbai H. et al, 2011).

The “community” defined as such, represents a community-based organization of local residents with similarities such as language, lifestyle and natural resources base linked together with strong kinship and friendship ties that have evolved over time. They are also rural people, who are the most vulnerable to poverty and climate change. They agree to operate as a social unit with common economic and ecological interests (see Figure 2) as a means to improve pastoral livelihoods. Communities are mobile over time and space: they follow their animals in the search of green pastures. As such, they represent a novel Mongolian form of local organization. They differ from villages in other countries in terms of size (villages are usually larger units), purpose (villages seldom operate as socio-economic and ecological units), and relationship to the land (villages normally have a fixed location).

Each year the district determines the size of the pastureland that can be allocated to herder groups on the basis of the requests from the different groups, the carrying capacity of the pastureland, the location, and

Figure 2: The logic of pasture and natural resources management communities in Mongolia



Source :H.Ykhanbai, 2011

land use policies of the sub-districts. Accordingly, the three parties enter into a co-management agreement: (a) the individual herders, (b) communities and associations, and (3) the local government of the district or



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sub-district. The allocation of pastureland use is discussed during an assembly (*khural*) of the citizens of the sub-district, and stipulated in agreements between the individual herders and the sub-district administration. The decisions of the sub-district assembly are then discussed and approved by the citizens' assembly at the district level. This allocation is then formalized in a co-management contract with the district level governor.

Some specifics of seasonal pastureland use were regulated according to articles 6.2.1, and 52.2. of the "Land Law" (2003) of Mongolia, which recognizes of importance of *otor* pasture use during harsh climate events, and the protection of pastureland from over-grazing, based on land use traditions, pasture capacity and regional specifics.

Communities self-organise into legal entities to enter into a co-management contract over time, informal local organisations set up by local people have begun to self-identify themselves as a "community", "association", "partnership", "group", "herders' group", "citizens' association", "partnership for natural conservation" or "water users association".

At the end of 2015, at the national level there were about 1150 communities, or community-based groups (*nukhurluls*) registered, encompassing about 17,500 households, with a focus on co-management. They leased an area of about 3,400,000 ha from the state, including pasture, forest, hunting areas and land covered with rare plants (MNET report 2015). Currently, there are also 1362 Pasture User Groups in Mongolia, involving about 63.5 thousand herder families, which were established for the co-management of pasture land and to improve the livelihoods of the herders (Gankhyag Is., 2017).

These experiences show that co-management of grassland is unique compared to forest, water and other resources management, as herders use pasture through joint contract arrangements with local governments and other stakeholders that include participatory monitoring of activities on pasture and the rotation and shifting of seasonal pasture use at the community level. The results of community-based co-management approaches were gradually improved livelihoods and reduced pasture degradation. Co-management arrangements based on local ecosystems were strongly supported by 60-90% of community members, and by 50-98% of local governors (Ykhanbai H., 2011).

In the study sites, as well as in communities, implemented CM arrangements have helped to foster equal participation of men and women in pasture use. The learning by-doing approach has produced a rich record, demonstrating that co-management is an effective way of maintaining the natural resource base at healthy



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levels, while at the same time contributing to the improvement of herders' livelihoods. Currently, JASIL is testing how ICTs can improve the effectiveness of CBNRM in environmental and economic terms, e.g. by disseminating weather forecast data.

Using ICT for reading weather by herders is important. It is now theoretically, as well as practically, important to study traditional nomadic pasture use methods, given that climate change and desertification impacts have been increasing from year to year. Mongolian herders move from season to season, and are always dependent on the weather. Their livelihoods depend on the sound management of livestock and the natural resources that sustain their animals. However, herders continue to be challenged by weather vagaries and calamities. In particular, extremely cold winters known as *dzud*, cause major havoc.

Regarding the use of ICTs for livelihood improvement, the pilot test on "Reading the weather: using ICTs for climate risk management and improvement of herders' livelihoods in Mongolia" is supported by the Regional Integrated Multi-Hazard Early Warning System for Africa and Asia (RIMES), which was an important initiative implemented by a team of researchers, communities, herders and other stakeholders for the co-management of pasture land and natural resources. This was led by JASIL³ in cooperation with the National Agency of Hydrometeorology.

Early warning information in the form of community-specific weather forecasts can assist herders in making better informed and less risk-prone decisions regarding their everyday lives. This pilot experience suggests that an effective localized weather forecast system based on ICTs facilitates and strengthens interaction and cooperation among herders. This leads to the hypothesis that the scaling out of co-management could be made easier through the adoption of effective localized weather forecast systems based on ICTs (Ronnie V., Ykhanbai H., Tsogt J., 2012).

A participatory assessment in the communities living in different ecosystems showed that annual household income increased over the period 2010-2013 from 23 to 56%.

ii) The "Electronic Pasture Committee" information system in Kyrgyzstan is a program that allows for the management of pastures. It contains an electronic map of the territory and keeps a record of pasture areas

3 *Environment and Development Association "JASIL", established 2003, is an NGO that aims to support sustainable management of pastureland, forest and other natural resource management in Mongolia*



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from 454 Pasture User Unions (PUUs) in the country. This was created in accordance with the “Law on Pastures” (2009). It also records the number of pasture users and livestock, accounting for vaccination, payments for livestock and pasture tickets issued. The system includes a plan for pasture use, which comprises terms, routes and pasture areas with yield and capacity data, which are updated annually by the committee. It is an innovative approach in pasture management, based on local pasture user associations (Egemberdiev A., Maratova E., 2017).

PUUs were established in the years after enactment of the Law on Pastures. They have been working hard to support pasture users, coordinate with other stakeholders and address challenges for effective management of pastures. However, NAPUKKJ’s⁴ members still need further support in order to better perform their roles and achieve their goals.

Results of the above innovative tenure systems of pasture management are:

Co-management processes establish effective roles and responsibilities of the stakeholders who manage, directly or indirectly, livestock (privately owned), land, water and biodiversity resources (state owned), and supports recognition of traditional rights of herders. In terms of policy and legislative results, one of the biggest achievements has been the establishment of the legal foundation of herder communities as formally responsible for the allocation and management of natural resources at the local level. By changing and linking community rules with new legal procedures governing nature and the environment, a foundation for successful community-based interventions was established. Communities are involved in economic capacity building in areas such as processing agricultural raw materials and dairy products and marketing, adapting and expanding agricultural mini-projects at the community level with a focus on full participation of community members, implementation of ecosystem monitoring and evaluation by creating pasture monitoring points and observations units including weather forecast data dissemination, use and observation, breeding better quality livestock or obtaining high-quality species and new breeds, benefiting

⁴ NAPUKKJ -National Association of Pasture Users of Kyrgyzstan “Kyrgyz Jaiyty”, which was established after the approval of the “Law on Pastureland”, a leading NGO for the support of pasture user groups in the country



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from eco-tourism and improving rural services, using and marketing rare medical herbs and protecting biodiversity, using forest resources, and participating in planting trees and perennial herbs. Scoping studies of tenure systems show that co-management is an effective way of maintaining the natural resource base in pastoral communities while contributing to the improvement of the livelihoods of herders and reduction of poverty. Co-management requires vision and commitment, practical tools, incentives, and an enabling environment. Involvement in co-management is highly dependent on the interests of herders (and others with a stake in the natural resource base), but can be made to work and produce good results, whether ecologically, economically and socially. Co-management can be made to work if all stakeholders engage seriously, over a long period of time, learning-by-doing as they go. Co-management encourages adaptability – a vital tool in the face of the climate-induced challenges faced by Mongolia and all other Central Asian countries.

The introduction of an electronic pasture committee allowed for rational and steady management of pastures, taking into account the ecologically safe load on pastures. It was shown to be effective. This mechanism allows quick management of pastures and monitors the condition of pastures and the processes of land degradation. It includes functions for counting livestock numbers, controlling vaccination, and also allows for the search for pasture tickets, the route for the transfer of livestock, the number of grazing livestock, the grazing area, and the calculation of payments.

The electronic pasture committee will promote the formation of an equitable and socially acceptable pasture distribution system, resolve conflicts of interest, ensure effective public control (reporting and transparency), and thereby improve the pasture management system at the local level. Our analysis shows that all leaders and members of the pilot pasture committees in Kyrgyzstan noted the importance of the electronic module, as the automated information system made it very easy for them to work with pasture users. This gives confidence that the results obtained during its implementation will be sustainable and will continue to further improve pasture management practices in pilot pasture committees, and will undoubtedly have a positive impact on the state of the environment. The experiences of the electronic pasture committee of Kyrgyzstan and community based co-management arrangements of pastureland in Mongolia have been recommended by the Asia Rangelands Initiative to be introduced in all other countries of Central Asia in line with the specifics of their pasture management tenure systems.

However, in the case of transitional economies in Central Asia, the full development and implementation of co-management approaches and electronic pasture committees requires adequate time as well as clear



stipulation of what the government will and will not do to support agreements in terms of policies and legal tenure settings.

Conclusions and recommendations

The conclusions of this paper highlight that despite similar beginnings in Central Asia, different countries have taken different steps in pastureland tenure systems.

We conclude that the strategy and arrangements of community based co-management of pastureland, with broader participation of herders, as implemented by local and central governments in Mongolia and Kyrgyzstan is the best solution. Recognition of traditional pasture use rights of herder communities has improved in Mongolia, and integrated management of local ecosystems are in wide use in Tajikistan and Mongolia. A national and local level database for pasture management has advanced in Kyrgyzstan. Participation in monitoring of pasture land efforts has increased in Mongolia. Biodiversity conservation with national and local government are in place in Kazakhstan, as are a strong legal support for pasture land tenure system in Kyrgyzstan, Tajikistan and Kazakhstan, as well as a sectoral policy supporting pastoral agriculture in Mongolia. These are some experiences of CA countries relating to pasture tenure system that can be exchanged with other countries in the region.

Tenure systems require vision and commitment, practical tools, incentives, and an enabling environment. Innovative tenure systems can be made to work and produce results- ecologically, economically and socially, but it requires learning-by-doing and good political support from national governments.

There is often conflict surrounding the pastureland decision-making process because many stakeholders are involved and both individual and collective interests are at stake. Therefore, in creating a sound tenure system, it is important to include all the principal stakeholders- local governments, communities and individual community members.

Our collaborative initiative in the region shows that, if all stakeholders show strong support for innovative tenure systems, including co-management, allocation of pastureland and natural resources to local communities, innovative methods of pasture management and an improved database for pasture use, then it can be a tool to overcome pasture degradation and reduce poverty. For this to happen the roles and responsibilities of all stakeholders need to be clearly established, and legal support should be put in place.



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In terms of legal support for rangeland tenure systems the Laws on Pastureland in Kyrgyzstan and Tajikistan are more effective and functional, with supporting sub-laws and procedures. However, pasture laws in Kazakhstan and Turkmenistan, are more politically oriented, rather than focusing on day-to-day pasture land use practices at the local level. In the case of Mongolia there is a need to approve existing drafts of amendments to the Environment Protection Law and the Law on Pasture Conservation with a focus on the status of pasture user groups and the introduction of a grazing fee to reduce overgrazing and pasture degradation.

In addition, for all countries in the region there is a need for a stronger legal framework to regulate the use of pastureland by mining companies, as mining activities should be subject to land use taxes. The fee should be high enough to adequately compensate the loss of pastureland, and to effectively discourage land grabbing from mining companies. Mining companies should also consult with local communities, and sign a contract with the local government once they obtain a mining license. This would help keep the government informed and facilitate the co-existence of mining and pastoralism.

In the nations of CA there is a need to effectively guide the intended scaling-up process of community based co-management of pasture land and natural resources, and it will be important to evaluate progress made to date in terms of the implementation process and outcomes, as well as capacity development requirements. The Asia Rangelands Initiative and other multi-stakeholder platforms could impact tenure system for improvement of the livelihoods of herders based on lessons learned in practice. An electronic pasture committee will promote the formation of an equitable and socially acceptable pasture distribution system and resolve conflicts of interest, and it should ensure effective public control and continuous government support.

Improved tenure systems of rangelands are a way to deal with pasture degradation and the improvement of herders' livelihoods in Central Asia. However, in the case of transitional economies in CA, securing tenure rights can be effected by clear political and legal support by the governments, and equal participation of all stakeholders, particularly herders and local communities.

Notes:

<i>Dehkan</i>	<i>Farmers with animals in Tajikistan</i>
<i>Neg nutgiinkhan</i>	community of herders living in the same place , Mongolian
<i>Khot ail</i>	Group or camp of herders, Mongolian
<i>Otor</i>	animal-fattening pasture , Mongolian , Kazakh and Kyrgyz
<i>dzhud</i>	hard winter, in Mongolian and Kazakh

Figures, Tables

Fig. 1 Central Asia in the map of regions of Asia

Figure 2: The logic of the pasture and natural resources management communities in Mongolia

Table 1. Main indicators of Central Asia's Pastoral Agriculture and Rangelands

Table 2 Pasture land tenure and management specifics in selected CA countries

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Recommended reading

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