

ECONOMIC SCIENCES

INNOVATIONS FOR DIVERSE TENURE SYSTEMS OF PASTURE LAND IN CENTRAL ASIA

Hijaba Ykhanbai,

ScD, Division on "Nature & ecology management" at Ulaanbaatar Erdem University, Director, Environment and Development Association JASIL, Mongolia

Tuvd Dorj

Academician, ScD, President, Ulaanbaatar Erdem University, Mongolia

<https://doi.org/10.5281/zenodo.19893238>

Abstract

Pastoral agriculture is a way of life for many communities in Central Asian vast steppes and mountains and over time it has evolved and supported environmental protection of rangeland landscapes and herders' livelihoods.

Central Asian region currently in adaptation phase in ongoing socio-economic, ecological and political challenges and flexibility. In economic aspects important how pasture land can contribute for wellbeing and livelihood of herder's and local communities, and in social aspects we conclude that community based co-management of pasture land promote equal participation of herders, poor ,women and local, central governments for integrated sustainable management of local ecosystems. Therefore for this to happen there are need to introduce diverse system of pasture land tenure arrangements, based on rich traditions local communities and best practices of pasture management in the region. In this context this paper compares the land tenure system for pasture land use in Mongolia, Kyrgyzstan, Kazakhstan and Tajikistan.

Keywords: Central Asia, Pasture land, tenure systems, best practices

Introduction

Nomadic herding is a way of life for Mongols, Kyrgyz and Kazakhs as well as for other nationals and communities in Central Asia (CA), which is based on common pasture use practice. Traditionally, in Asia two types of agriculture: i) with pastoral agriculture and ii) with none-pastoral or settled agriculture, and main representatives of the first group countries are: Mongolia, Kazakhstan and Kyrgyzstan (Ykhanbai H., 2000).

Natural resources-based sector's development is currently background of the economy in Mongolia, Kazakhstan, Kyrgyzstan , Tajikistan, Turkmenistan and Uzbekistan.

All these are landlocked countries in CA with a low density population, and a comparatively lower degree of industrial development and higher portion of rural population.

Nomadic and semi nomadic pastoralists¹ in Central Asia largely contributing to food security, job opportunities and rural poverty reduction.

In next sessions we will explain and draw lessons and comparisons from a scoping studies carried out by the members of Asia Rangelands Initiative, supported by International Land coalition for the networking, mobilizing and influencing on different tenure systems for improved pasture land management and livelihoods for nomadic and semi-nomadic pastoralists in CA.

Why rangelands

In Central Asia the rural population particularly relies on livestock production, so their livelihood and the social life closely connected with pasture land use. Agriculture's share in the GDP in Mongolia, Kazakhstan, Kyrgyzstan and Tajikistan ranges from approximately 15.0 to 27,2% and pasture land covers between 45 to 72% of the entire territory of Mongolia, Kazakhstan, and Kyrgyzstan, so share of pasture land to the total territory higher than average of Asia (which is 1/3 of total territory of Asia) by more than 2 times in Mongolia and Kazakhstan , and by 1,4 times in Kyrgyzstan (Table 1).

¹ According to IFAD (2016) the total number of nomadic and semi-nomadic pastoralists in dry rangeland ecosystems including herders and populations linked with pastoral agri-

culture estimated, around 150,0 million from 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 five million in South and Central America

Table 1.

Main indicators of Central Asia's Pastoral Agriculture and Rangelands

Indicators		Mongolia	Kazakhstan	Kyrgyzstan	Tajikistan
Population	mln. pers	3,5*	20,1*	6,04**	8,74**
Total land area	mln .ha	156.5	272,500	19,995	14,31
Pasture land	mln .ha	112,7*	182,00	9,068	3.8
Forest land	mln .ha	12,280*	22,9*	2,620	0,412*
Share of pasture land to total land area	%	72	66,8	45,4	26,6
Animal herd size	mln.head of animals	62.6*	31,3*	8,0	6,5
Number of herder's family	thous.HH	201,000*	320,0**	1,700	
Number of herder's	thous.per	317,8*	360,0***	13,0	
Share of Agriculture to GDP	%	15,0*	7,0*	24%	27,2*
Share of Animal Husbandry to Agriculture GDP	%	86,5*	3,0	42%	
Share of mining land to total land area	%	6,96*	na	0,025	

*2025, **2020, *** estimation

Source: Ykhanbai H., Tazbaeva S., Dorj T.

In all Central Asian countries, almost 59-88% of pasture and agriculture land is degraded by different levels. This severe land degradation in Central Asia reducing productivity of animal husbandry and threatening the livelihoods of millions of pastoralists. Land degradation has a serious socio-economic impact in these CA countries. A large proportion of the environment degradation and soil contamination covered about 59% of the area of Kazakhstan. According very recent estimation more than 76 % of pastureland in Mongolia is degraded and subject for future desertification. The cost of pastureland degradation in Mongolia, calculated by the net price of additional fodder required for the estimated number of livestock that exceeds the maximum herd capacity that is estimated to be 9.5 billion MNT annually (Ykhanbai H., 2011). Currently in Mongolia rangelands and grass species are being lost its traditional natural condition. Livestock number maximization results in declining land, animal productivity, herder's asset value and income and increased vulnerability to natural risks Compared to fresh pastures, on overgrazed pastures live weight of ewes is lower by 8 kg, milk yield by 2.5 folds and cashmere yield by 8%.

As most of the commons have been encroached with the problem on interactions of pasture land and arable farming systems, and in many cases the pastoralists and other marginalized people lost in these conflicts. This situation is same in CA, but its severity is higher in Kazakhstan and Tajikistan, than Mongolia and Kyrgyzstan. As arable land has less than 1% of territory of Mongolia comparatively these conflicts on land use rights between pasture and arable land is minimal in many parts of the country. Moreover, pastoralists of Central Asia has greatly impacted by land use changes due to exploration industries development. Nowadays expansion of mining business has as positive effect in terms of economic development, but has also as negative effect for the pasture land use rights of herder's in Central Asia, particularly in Mongolia, Kyrgyzstan and Kazakhstan, as these countries has a significant potential for the development of the mining industry, as they launch of new businesses after the transition from old soviet stile management system and

creation of new job places. But for national government economic benefits of mining considered to be higher agenda, particularly in recent economic and financial instability in these countries. Mongolia has almost more that 6,9 % of land for the mining (Table 1) exploration and exploitation licenses. In Kazakhstan mining sector also heavily impact for the growing desertification and environmental degradation.

As shown our scoping studies, mining sector booming in all these CA countries, as all of them has high natural and mineral resources rich endowment. In regard to the pasture land and land use it has some negative impacts for herder's communities in Mongolia, due to the exploration and exploitation in the land, which was use as pasture and grazing of animals. In terms of forest management also some disagreements with forest communities and mining companies in Mongolia and Kyrgyzstan.

Pastoral communities

Animal husbandry is the main occupation of the pastoralist communities in CA that has long time traditions living in harmony with nature and belongs to people who are the most marginalized and highly dependent on the use of common resources, as rangelands.

In most cases, pastoral agriculture and pastoralists are outside of priority concerns of the government, which arises issues in current socio-economic development, rural livelihood and poverty elevation. It is also high than in other places due to the fact that the countries in CA are still in the process of transition and facing some 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 these changes are disrupting the frameworks of traditional operations done by pastoral societies and the "burning" socio-economic and political developments to taking place in Central Asia. These changes have a large impact on the life of nomadic herders.

Currently, there are some changes in livestock distributions, such as, high growth of herd size in the region, particularly in Mongolia, which leads to exceeded

pasture capacity and overgrazing. There is an existence of economic barriers to seasonal pasture use in all countries of the region and abandoned large areas of pasture in Kazakhstan, and livestock concentration around settlements of Kazakhstan, Kyrgyzstan and Mongolia. The new livestock owners of the urban area highly influenced the pasture management in Mongolia and Kazakhstan, and currently in the region pastoral agriculture extends from being an individual herders of Mongolia and smallholders of Kyrgyzstan and Tajikistan to the large commercial livestock operations in Kazakhstan.

Pastoralists of the Central Asia have been working under the heavy pressure of current climate events, *dhzut* and natural disasters. Currently, poverty is also connected with the degradation of natural resources. In the *dhzut* winter of 2009-2010, 8.4 million head died, that is equal to 15 % of total herd size, increasing poverty in rural areas. By the latest estimation of NSO, where the World Bank methodology was used, poverty headcount index in Mongolia stands at 29.8 percent in 2011, poverty depth amounts to 7.6 percent which represents a drop of 3.7 percentage points, poverty severity is at 2.8 percent which is 1.8 percentage points less than in 2010 (NSO, 2012). The world's first index-based livestock insurance was launched in Mongolia in 2005, however take-up has been slow due to the lack of awareness and affordability.

In relation with equity, both women and men play important, but different, roles in the management of natural resources in nomadic pastoralism, where 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, herders' income source is mainly from animal husbandry. This situation urges individual herders', in an open market situation, to raise more and more animals in order to increase their income and welfare, in detriment of the natural resource base. This trend has become one of the major difficulties that CA'S pastoral agriculture is facing. It makes finding solutions or 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 when occurs leads to the loss and fragmentation of grazing areas, access to water and other important resources (Fiona F., 2017).

A shift in tenure systems

As 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 to 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 rangelands tenure system has its own specifics, such as: large areas of pasture land used by nomadic herder's and their communities without any clear borders; mobility of herding is strategic action to fit animals and overcome pasture degradation; seasonality of rangeland use; biodiversity conservation highest priority of rangelands; poor infrastructure and marginalized communities; livelihoods of herder's only dependent for grass growth in each year and seasons; herder's poor in terms of introducing economic incentives, as tenure systems; as well as none equal numbers of herd size by herder's households. 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's constrained where land is under individual tenure. However, as the land tenure becomes individualized, strategies of commons can no longer be practiced. After the transition to a market economy they started to adopt innovative and different tenure systems of pastoral land management to adapt socio-ecological and political changes in the region.

There are special regulations and sub-laws on pasture land, where implementation of tenure arrangements in place for the given conditions and changes. In economic aspects important how pasture land can contribute for wellbeing and livelihood of rural population and communities. Therefore community based co-management of pasture land, as one of innovative tenure systems, with equal participation of herders, local and central governments pasture management, including recognizing traditional pasture use rights of herder's communities and integrated management of local ecosystems can greatly help for implementing SDG.

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

In Central Asian countries currently practicing different tenure systems, such as: state owned and common property, state managed systems, open access and mixed systems; individualized private ownership and lease/rented systems. CA region in social, economic and ecological terms stile in adaptation phase in ongoing socio-economic, ecological and political challenges and flexibility. Until early 1990's the five 'stan' republics of former USSR and Mongolia had a common mechanism of pasture management, which is dominated centrally planned state managed systems (Dorj

T., 2003). However after the transition to a market economy they started to adopt very different systems of pastoral property rights, like common property, open access in Mongolia, state managed systems in Kyrgyzstan, and Tajikistan; state owned individualized (private/rented) leasehold systems and private ownership in Kazakhstan (Table 2).

Pasture legislation is longstanding issue in Mongolia, as well as in other countries CA. Under these specifics in important role for legal, economic, ecological and social aspects of pasture land use in CA. In legal and policy innovations Central Asian region has broader experiences on legal side, such as “law on Pasture land”(2009) in Kyrgyzstan legalizing local pasture

management committees in the country, “Law on Pasture” (2013) in Tajikistan clarifies roles and responsibilities of local and national organizations on pasture land use. Recent “Law on Pastures” (2017) in Kazakhstan legalize roles of local level pasture management friendship organizations and herder’s associations, and “Land Law” (2003) and Law On Environment Protection (2006, 2012) in Mongolia has articles on the responsibilities and rights of local communities to use degraded pasture land. There are special regulations and sub-laws on pasture land, where implementation of tenure arrangements in place for the given conditions and changes.

Table 2

Pasture land tenure and management specifics in selected CA countries

Country	Legal support	Pasture land tenure	Grazing fee or pasture use payment	Mobility and use seasonal pastures	Community based pasture and natural resources management
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 live-stock operations increasingly common and relatively mobile	village-based grazing, but led to localized pasture degradation
Kyrgyzstan	Pasture Law (2009)	Pasture state owned, no private ownership and leasing of pasture to herder’s	Access rights to pasture by purchase of tickets, sold on an annual basis with pasture use payment	Seasonal pastures under the 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, pasture land state owned	Herder’s households exempts from pasture use fee	All seasons migration with Strong traditional systems of pasture use	Community based co-managements of pasture and Natural resources are introduced
Tajikistan	Pasture law (2013)	Pasture land state owned, but some pastures privatised	Pasture use payment system introduced	Settled pasture use and mobility only for distance pastures in summer	co-management approaches introduced with Pasture User Groups

Source: Scoping study by members of Asia Rangelands Initiative, 2017

However in recent years there has been a move to adopt different tenure systems of pastoral land management adapted 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 law on pastures in Kyrgyzstan and development of country-wide pasture user unions, and in Mongolia herder’s communities organized as Co-management communities of natural resources (Amendment to Environment Protection Law). Alternatively in Tajikistan the majority of pasture has been allocated to private *dehkan* farms by “Law on Pasture” (2013). And in Kazakhstan a system of private ownership has been introduced (See Table 2).

There are change in livestock distributions, such as, 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); system fragmentation (in all). The new livestock owners: Herders (Mongolia, Kyrgyzstan); 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). Rangelands degradation currently constitutes a great threat to

food security of the country and is changing from environmental to the category of perils threatening the sustainable development of Kyrgyzstan (Temirbekov A., Burkhanov A., 2016). The main goals and objectives of the Law "On pastures" of the Kyrgyz Republic was to transfer of responsibility and control over the use of pastures in state ownership to local self-government bodies, prohibition of leasing and sublease of pastures, establishment and definition of pasture boundaries, the creation by local communities of pasture user associations, setting fees for the use of pastures for livestock, provision and use of pastures and pasture-based pasture resources, management and use of pastures in accordance with management plans and pasture use developed by the pasture committee and approved by the local government, provision of pastures to foreign users, use of pastures for other purposes (Egemberdiev A., Naizabekov B., 2017). But The Law of the Kyrgyz Republic "On Pastures" does not regulate pasture use in the territory of the State Forest Fund. According to the Forest Code of the Kyrgyz Republic, pasture use in the territory of State Forest Fund is regulated by a regulatory legal document developed by the republican state forestry management body, which currently requires the development of such a document (Burkhanov A., Tazhibayeva S., 2017).

Since then, pasture users have created 454 Pasture User Unions with pasture users as members, each with an executive body, the *Jaiyt* (Pasture) Committee. Seasonal pastures under the administration of local government and pasture Management devolved to local Pasture Users Associations. Access rights to pasture by purchase of tickets, sold on an annual basis to members and the leasehold system was introduced but later stopped with ban on leasing of pasture land in Kyrgyzstan.

In Tajikistan the majority of pasture has been allocated to private *dehkan* farms by "Law on Pasture" (2013). In particular, the law recognize a new set of institutions for pasture management, and 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., Anosh S., 2017). They may apply for and hold pasture lease rights from the state of Tajikistan. More co-management approaches in Mongolian and Tajikistan rather than state dominated management system in Kazakhstan. The basic problems of pastureland use in Kazakhstan are: i) degradation of pasture land due to distribution of traditional seasonal use practices ; ii) poverty and dissociation of the small-sized holders(owners) of livestock; and iii) absence of support of pastoral animal husbandry from the state.

New Law "On Pastures" in Kazakhstan(2017) regulates duties of national and local government structures and Local self-management bodies, communities and associations (Karibaeva K., Levin B., 2017). More than 10 years Kazakhstan practiced more mixed tenure arrangements, including private ownership for some pasture land, which is different from other countries of the region. Almost 1400 pastoral Small holders in the country now haven't their own pasture land for grazing their animals.

The survey among 15000 herders shows that 67,3% of respondents supports the need for strong legal base , and 65,9% thinking better to allocate pasture to the herders communities (Ykhanbai H., 2011).

New Constitution of Mongolia (1992) provides that livestock are national wealth and shall be protected by the state. Currently pasture management regulated by Law of Mongolia "On Land "(2002) . Open access for most seasonal pastures and strong traditional systems of pasture use in Mongolia with comparison in other countries of the region (Ykhanbai H., Munkhbaatar D., 2017).

Ongoing legal and policy changes and transition still need to address issue of co-management of pasture land, with more among the poor and wealthy herders, equity and transference and good governance. As herd size rapidly increased in all countries of Central Asia, overgrazing come as one of major reason of rangelands degradation. Currently herder's in Mongolia, as well as in other countries of the region not much willing to cover environmental externality cost of overgrazing.

"The Law on Herders" (2024) has created new legal base to ensure the right of herders to use pastures in Mongolia. By this law securing the rights of pastoralists to use pastures has made a significant contribution to their sustainable livestock production and adaptation to climate change and combating desertification. The law also support recognizing importance of Rangelands and Pastoralists under the International Year of Rangelands and Pastoralists (IYRP), which will celebrated globally in 2026. Another new law in Mongolia on the "Legal status of the association of herder households" (2024) was a base of long years advocacy and consultation activities of our NGO and CSO groups to improve legal base of local herder's institutions and tenure security for pasture land use in the country. The law provides key regulations for the use of pasture under contract in accordance with carrying capacity, activities in animal health, breeding, environmental protection, and organization of livestock product marketing at a single point for grading and selling (Ykhanbai H., et al , 2024).

Rangelands tenure system can be address this issue through introduction of grazing fee or other incentives and instruments for reducing pasture land degradation and for sustainable rangelands management. In this regard Mongolia and Kazakhstan can legalize innovative grazing fee system that can be collected by local herder's associations in cooperation with local governments to spend grazing fee income for the improvement of pasture land use and for the conservation of rangelands biodiversity. As an option to diverse rangeland tenure system, we are currently lobbying Mongolian Government to impose the grazing fee on rangelands, due to high speed of growth the herd size in the country. Size of fee is estimated as a percentage from base value of land, on the base of sheep unit differentiated by livestock product yield, value, animal species, location and stocking rate. This can be realized as the Amendment to existing Land Use Payment Law (2005). This will improve economic incentive for the co-management of rangelands and reducing pasture degradation in Mongolia.

Devolution of management authority from national governments to local ones supporting by specific arrangements for co-management of pasture land and other natural resources ongoing in Mongolia, Kyrgyzstan and it's under the discussion and attempts in Kazakhstan, Tajikistan and Turkmenistan. Central Asia require to set the legal and economic base of tenure systems.

Rangelands tenure system can also supported by national policy documents and programs. In Mongolia was accepted several policy documents, such as National Program on Intensive Animal Husbandry (2003), State policy on Pastoralists (2009), and National Program on "Mongolian Animal"(2010) which guiding for the pastoral agriculture development in the country, particularly sound use of pasture land and improving livelihoods of herder's (Ykhanbai, 2017).

Existing scaling-up process of community based natural resources management approaches and allocation of pasture and other natural resources to the local communities also demanding public participation on decision making and its implementation. It's absolutely critical for all CA countries, where currently practicing on the decentralization of management and unlearning from soviet style top down administrative system. Public participation should be regarded according to the specifics of each country in CA in terms of their socio-economic development and the ecological condition, as well as it consider tradition, culture, institutional structure, and the capacity of different stakeholders.

The pastureland possession attempts in CA encouraging ownership mentality towards pastures in Kazakhstan, and different types of co-management arrangements in Mongolia, Kyrgyzstan and Tajikistan, encourages specifying pasture land boundaries of herder's groups and enforcing stocking density regulations, which helps in long run to the poverty reduction of herder's communities.

Currently the issue on 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 use, land distribution the expansion of protected areas for the inclusion of customary grazing areas, the property rights in areas of mining exploration and extraction. Since 2016, our members of Asia RLI working with national government to recognize and to register traditional rights of herder's communities. As first case in CA the procedure on the registration of traditional pasture use right's was approved by National Agency of Land Management, Geodesy and Cartography of Mongolia, and this agency currently in cooperation with local governments and NGO's actively working on registration of these right's. So, it's also important now for other countries of CA. In regard that disputes between individual herder's and herders communities and the state are generally resolved by the national and local governors on the base of registered pasture use rights.

Securing secondary rights and access provides options to use extensive rangelands, forests, river swamp

lands, etc. In combination, these resources form an important income source and element of risk reduction for the poor. Most of these lands have to be held in common property (due to high monitoring and enforcement costs in case of privatization or nationalization). Pasture monitoring activities conducted by local and national stakeholders in Mongolia and Kyrgyzstan can be good example for exchange experiences and collaborative learning in the CA region. We are agree that land tenure reform not only as a means of redistributing land but 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, seed, genetic resources and biodiversity (Michael K., 2017).

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 entering without any Environmental Assessment Impact procedures, mitigation measures, and appropriate permission and licenses for that. According to the new procedure of the Government since end of 2017, all new mining licenses can be valid only after decision from Local Government. Previously mining companies not consulted with herder's communities and local governments, therefore it now can help on the implementation of Procedure on Public Participation to EIA processes, which our team was involved on it's development

Best practices

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

Of particular note is the co-management of pasture land in Mongolia, including use of mobile-based information sharing, and the recent development of an electronic system for better registering and managing pastoral committees in Kyrgyzstan and their access to rangeland resources.

i) Co-management of pasture land were first introduced in Mongolia since 2000. The increasing degradation of the natural resource base, widespread biodiversity loss and climate change impacts, require action at levels higher than the individual household or single community.

Amendment to the Mongolian Law on "Environmental Protection", firstly approved by Parliament on 18 November 2005, which legally gave start to the community based co-management of rangelands in Mongolia, by bottom-up approach. By this law the government legally recognized the creation and registration

of communities, as “*nukhurlul*”, and established a legal framework for allocation of certain natural resources to the communities. The special Chapter on “Co-management of natural Resources” (2008, 2012) to Environment Protection Law was legalized and legally recognized Co-management approaches of natural resources with the roles of stakeholders, as communities and Community Associations.

According to this Law on “Environmental Protection”, the new community guideline on: “*Procedure for the allocation of certain natural resources to the communities for their protection and sound use*,” was approved by Decree N114 of Ministry of Nature and Environment in 2006 and later on in 2009, 2012 was updated and improved for the need of full support and regulate pasture and natural resources in the country. Since then it has been the main policy and guiding document for the implementation of CBNRM approaches in the country at 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 the sustainable management of natural resources including grassland, water resources, wildlife, and other natural resources.

According to this Law the herder’s communities for protection of nature referred as a voluntary organization for citizens that was established according to the

Mongolian Citizen’s Law 476, 481 in order to cooperate with citizens for the Protection of the environment as the basic of co-management agreement.

In Mongolia, as well as in other countries, study experiences shows that co-management of pastureland is special in comparison with forest, water and other resources management. Traditionally herders use pastureland according to certain kinship relationships combined with the sharing of a common area (*khot ail*, *saakhalt 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 their language, life styles, natural resources base, linked together by strong kinship and friendship ties that have evolved over time, and they are rural people, which are most vulnerable to the poverty and climate change. They agree to operate as a social unit with common economic and ecological interests (see Figure1) as a means to improve pastoral livelihoods. Communities are mobile over time and in space: they follow their animals in the search of green pastures. As such, they represent a novel and 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).

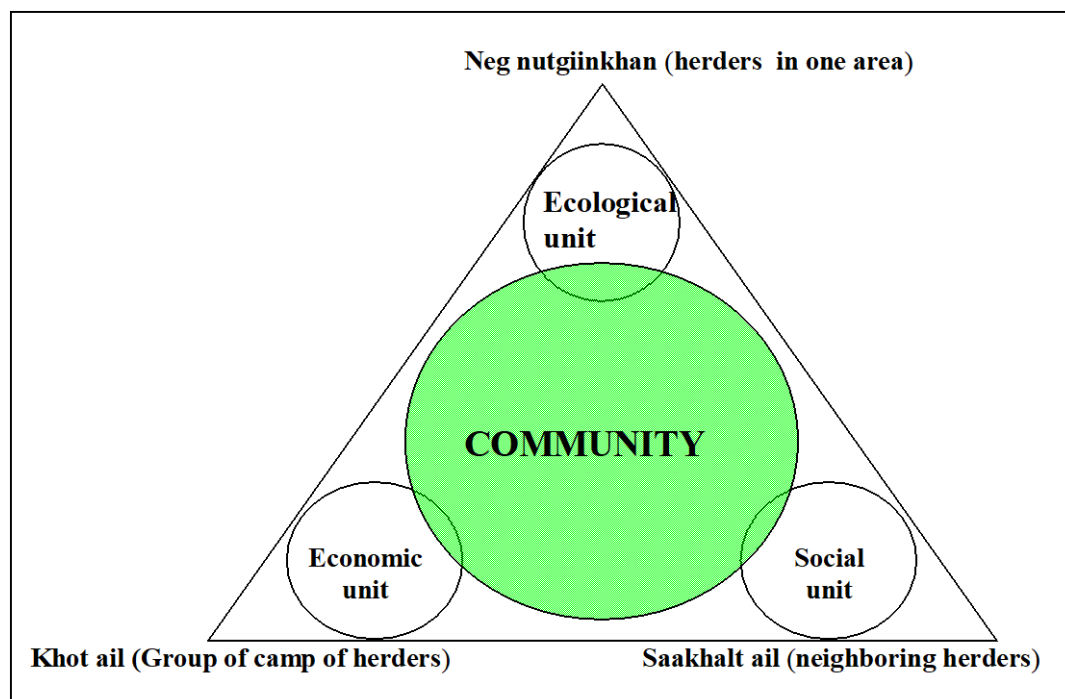


Figure 1: The logic of the new communities

Source: H. Ykhanbai, 2011

Some specifics of seasonal pasture land use was regulated according to articles 6.2.1, and 52.2. of the Land Law (2003), “The Law on Herders” (2024), and “Legal status of the association of herder households” (2024) of Mongolia, which recognizes importance of seasonal and *otor* pasture use during the hard climate events and protection of pasture land from over-grazing, based on land use traditions, pasture capacity and regional specifics.

At the end of 2025, at national level were registered about 1950 communities, associations or community-based groups (*nukhurluls*) with a focus on co-management, encompassing about 17,500 households. They have leased from the state about 3400,000 ha area, including pasture, forest, hunting areas and land covered with rare plants (MNET report 2015). Also currently 1362 Pasture User Groups in Mongolia, involving about 63,5 thou-

sand herder's families, was established for the co-management of pasture land and improving their livelihood opportunities (Ykhanbai H., 2025).

These experiences show that co-management of grassland is special in comparison with forest, water and other resources management as herders use pasture by joint contracted arrangements local governments and other stakeholders with participatory monitoring of activities on pasture and rotation and shifting in local and community level. The results of community based co-management approaches was gradually improve livelihood and reduce pasture degradation. Co-management arrangements depending the local ecosystems was strongly supported by 60-90% of community members, and by 50-98% of local governors (Ykhanbai H., 2011).

However, herders wants over and over again that without concrete improvements in their livelihood, poverty reduction, it is hard to sustain co-management over time. This points to the fact that livelihood improvement requires ongoing research, targeted training, and policy and legal support. Communities are interested in economic capacity building in such areas 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; breeding better quality livestock or obtaining high-quality species and new breeds; benefiting from eco-tourism and improving rural services; using and marketing rare medical herbs; using forest resources; and participating in planting trees and perennial herbs.

In the CM and the participation one of important issue is gender , poverty reduction and equity. In study sites, as well as in communities we have some progress of equal participation of man and women on CM.

There are many supporting activities of co-management of pasture land and natural resources, however they should focus on improving livelihoods of local communities. One of such activities is using Information Communication Techniques (ICT) for disseminating information to the nomadic herder's in Mongolia.

Using ICT for reading weather by herders was important one. It is now theoretically as well as practically, important to study traditional nomadic or nomadic pasture use methods in this period , where climate change and desertification impact increases from year to year . Mongolian herders are moving from season to season, 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 to the using ICT for livelihood improvement the pilot test on "Reading the weather: using ICTs for climate risk management and herders' livelihoods improvement in Mongolia" supported by Regional Integrated Multi-Hazard Early Warning System for Africa and Asia, RIMES, was very important initiative, which was implemented by a team of researchers, communities, herders and other stakeholders led by

"JASIL", in cooperation with National Agency of Hydrometeorology.

Early warning information in the form of weather forecasts that are community specific can assist herders to make better informed and less risk prone decisions concerning their every day livelihoods. The 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).

Implementation of new laws and legal bases for to realize the "2030 Agenda for Sustainable Development" and the SDGs its targets - specifically the launch of the "New Cooperative - Wealthy Herder" program in Mongolia , aiming to stabilize livestock income through collective action that enables herders to secure better pricing and reduce income volatility. As part of the initiative, the government has facilitated investment loans for cooperative member herders. These loans, provided by commercial banks, are supported by government incentives covering interest rate differentials and collateral guarantees ranging from 80-100% through the Credit Guarantee Fund of Mongolia, as another way of Ramsey's growth (Dorj.T., 2024). Within this framework, herders will have access to investment loans of up to 50 million MNT over a period of 60 months, with a nominal interest rate of 6%. This pivotal measure aims to lay the groundwork for herders to initiate cooperative endeavors and ultimately transition into agricultural producers, helps to implement for sustainable agriculture (SDG 2), poverty alleviation (SDG 1), pastoralist access to basic services and justice (SDGs 3, 4 and 16), economic growth (SDGs 5, 8, 9 and 10), as well for sustainable consumption and production of livestock products (SDG 12), By Law on Herders and the legal base for Mitigating the Negative Effects of Climate Change on Traditional Livestock Husbandry enhancing the resilience of Mongolia's pastoralists to the harsh effects of climate change. The law seeks to provide a legal framework for herders to adopt sustainable livestock practices that can better withstand severe winters and droughts, which have become increasingly common in Mongolia. is securing the rights of pastoralists to use pastures has made a significant contribution to their sustainable livestock production and adaptation to climate change and combating desertification(SDG 13), and promoting sustainable use of terrestrial ecosystems (SDG 15).

The results of our study on economics of environment and the development in Mongolia was included in the Vision 2050 (2020) , which is a government program aiming to improve social development, economic growth, and quality of life in the country. The overall vision for 2050 is for Mongolia to become a leading Asian country when it comes to its social development, economic growth and citizens' quality of life. The vision for 2050 includes the objective to contribute to international efforts to mitigate climate change by developing a low emission, productive and inclusive green economy following three stages: Stage 1 (2021-2030)

as a period to develop and establish a national green financing system and promote the use of environmentally friendly and clean technologies; Stage 2 (2031-2040) period in which smart consumption and production should be developed, and increasing the internal and external sources of climate green financing; Stage 3 (2041-2050) continuously strengthen adaptation to climate change and improving the sustainable production and consumption (Dorj T., 2025)

ii) The Information System "Electronic pasture committee" in Kyrgyzstan is a program that allows to manage pastures and contains an electronic map of the territory and to keep a record of pasture areas of 454 Pasture User Unions (PUUs) in the country, which was created according to the "law on Pastures" in Kyrgyzstan (2009). It also records the number of pasture users and livestock, accounting for vaccination, payment for livestock and issued pasture tickets. The system includes a plan for pasture use, which includes terms, routes, pasture areas with yield and capacity data, which are updated annually by the committee. It's an innovative approach in pasture management, based on the local pasture user's associations (Egemberdiev A., Maratova E., 2017).

Results and conclusions of above innovative tenure systems of pasture management at local level are:

Co-management processes establish effective roles and responsibilities of the stakeholders who manage, directly or indirectly, livestock (privately owned), land and water and biodiversity resources (state owned) supports recognizing traditional rights of herder's. 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 the new legal procedures governing nature and environment, a foundation for successful community-based interventions was built. Communities are involved in economic capacity building in such areas 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; implementing 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 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 study 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, 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 along. Co-management encourages adaptability – a vital tool the face of the climate-induced challenges where Mongolia, and all other Central Asian countries face today.

Introduction of Electronic pasture committee allowed to start rationally and steadily to manage pastures, taking into account ecologically safe load on pastures, and showed its effectiveness, this mechanism allows you to quickly manage pastures and monitor the condition of pastures, monitor 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 grazed livestock, the grazing area, the calculation of the amount of payment, accounting for payments, reporting.

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, transparency), and thereby improve the pasture management system at the local level. Our analyze 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 in further work to improve pasture management practices in pilot pasture committees, and will undoubtedly have a positive impact on the state of the environment. The experiences of Electronic pasture committee of Kyrgyzstan and Community based Co-management arrangements of pasture land Mongolian currently recommended by Asia Rangelands Initiative to introduce in all other countries of Central Asia in line with specifics of their pasture management tenure system.

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 the CA countries have taken different steps in pasture land tenure systems.

We conclude that community based co-management of pasture land, with broader participation of herders, local and central governments experienced more in Mongolia and Kyrgyzstan; however recognizing traditional pasture use rights of herder's communities advanced in Mongolia; and integrated management of local ecosystems wide use in Tajikistan and Mongolia; and national and local level data base for pasture management advanced in Kyrgyzstan; participatory monitoring of pasture land capacity in Mongolia; biodiversity conservation with national and local government lead in Kazakhstan and strong legal support for

pasture land tenure system in Kyrgyzstan, Tajikistan and Kazakhstan, as well as sectoral policy support on pastoral agriculture in Mongolia. These are some experiences of CA countries on pasture tenure system that can be exchanged with others in the region.

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

Our collaborative initiative in the region shows that, if all stakeholders strongly support for the innovative tenure systems, including the co-management, allocation of pasture land and natural resources to local communities, innovative methods of pasture management, and improve data base for pasture use, then it can be a tool to overcome the 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.

The participatory assessment shows that during the testing period the annual income of herders households increased all study sites in 23-56%, and animal losses was eliminated, and pasture management

was improved. Such kind of pilot tests also can be useful for local communities of herder's in other CA countries.

In countries of CA there are 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 implementation process, outcomes, as well as capacity development requirements. The Asia Rangelands Initiative and other multi-stakeholder platforms could be impact tenure system for livelihood improvement of herder's based on lessons learned in practice. Electronic pasture committee will promote the formation of an equitable and socially acceptable pasture distribution system, resolve conflicts of interest, but should be ensure effective public control and continuously government support.

Improved tenure systems of rangelands is a way to deal with pasture degradation and livelihood improvement of herder's in Central Asia. However in the case of transitional economies of CA, the securing tenure rights and can be effective by clear political and legal support by the government, and equal participation of all stakeholders, particularly herder's and local communities.

Notes:

Dehkan

Neg nutgiinkhan

Khot ail

Otor

dzhud

Farmers with animals in Tajikistan

community of herders living in the same place, Mongolian

Group or camp of herders, Mongolian

animal-fattening pasture, Mongolian, Kazakh and Kyrgyz

hard winter, in Mongolian and Kazakh

References:

1. Ykhanbai H., "Economics of Environment and Sustainable Development", 2000, 198 p, in English
2. Ykhanbai H., "Rangeland Tenure system in Central Asia", ILC Asia Rangelands Initiative WG Meeting, Ulaanbaatar, Aug., 2017
3. Dorj T., Growth and Recovery in Mongolia During Transition, 2003, IMF
4. Dorj, T., Yavuuhulan, D. Mongolian economic development strategy. *Int J Asian Manag* 2, 93–98 (2003).
5. Dorj T., et all, Application of Ramsey's growth theory to optimal taxation (2024)
6. The Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests, FAO, 2012
7. Ykhanbai H., "Scoping study of Rangeland Tenure System in Central Asia", Asia Rangelands Initiative, Working Group Meeting, Ulaanbaatar, 2017
8. Temirbekov A., Burkhanov A., "Experiences of co-management pasture land in Kyrgyzstan", 2016
9. Egemberdiev A., Naizabekov B., "Pasture land tenure in Kyrgyzstan", Report of "Kyrgyz Jaiyt", Bishkek, 2017
10. Burkhanov A., Tazhibayeva S. "Pasture and forest land use in Kyrgyzstan", Cross-regional Meeting of Asia Rangelands Initiative, Bishkek, 2017
11. Sharifov A., Anoosh S. "Pasture land tenure system in Tajikistan", Cross-regional Meeting of Asia Rangelands Initiative, Bishkek, 2017
12. Karibaeva K., Levin B., "Pasture land use and tenure system in Kazakhstan", ILC Asia Rangelands Initiative WG Meeting, Ulaanbaatar, Aug., 2017
13. Ykhabai H., Munkhbaatar D., "Scoping report of Pasture land tenure system in Mongolia", ILC Asia Rangelands Initiative WG Meeting, Bishkek, 2017
14. Karibaeva K. "Scoping study of land use in Kazakhstan", ILC Asia Rangelands Initiative WG Meeting, Bishkek, 2017
15. Temirbekov A., Burkhanov A., "Scoping study of rangelands tenure system in Kyrgyzstan", ILC Asia Rangelands Initiative WG Meeting, Bishkek, 2017
16. Enkh-Amgalan A, Gankhyag Is., "Introducing grazing fee as a mechanism to promote sustainable and green livestock development", Ulaanbaatar, 2017
17. Fiona F., "Making rangelands more secure", ILC, Global Rangelands Initiative, 2017
18. Michael Kirk How can land tenure reform contribute to poverty reduction?, 2017
19. Gankhyag Is., "Report of National Association of Pasture User Groups of Mongolia", 2017
20. Ykhanbai H. "Co-management of pasture land and Natural Resources in Mongolia", Ulaanbaatar, 2011

21. Egemberdiev A., Maratova E., “ Electronic Jayit Committee in Kyrgyzstan ”, Bishkek, 2017

22. Vernooy, R. 2011. How Mongolian herders are transforming nomadic pastoralism. The Solutions 2(5): 82-87. Online:
<http://www.thesolutionsjournal.com/node/983>

23. Ykhanbai H., ““Economics of Environment and natural resources management in Mongolia”, 2010, 223 p in Russian

24. Ykhanbai, H. (ed.) 2011. Community-based co-management of natural resources in Mongolia: ten years of experience. ADMON Publishing house, Ulaanbaatar.

Website links:

<http://cbrnmjasil.wordpress.com>
<http://www.landcoalition.org/es/organizations/jasil>
http://www.landcoalition.org/sites/default/files/documents/resources/case_studies_leaflet_10_mongolia.pdf

Recommended reading

Ykhanbai, H. et al, 2011. Co-management of natural resources in Mongolia: Ten years of experience. Admon Publishing House, Ulaanbaatar.