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ASSESSMENT OF COMMUNITY-BASED PASTURE MANAGEMENT IN MOUNTAINS INNER TIEN SHAN

A Case Study of Cholpon Aiyl Aimak in Naryn province, Kyrgyz Republic

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ABSTRACT

The Kyrgyz people during the 2200-year history of their existence have accumulated traditions and customs related to livestock, which have been passed on from generation to generation. This study examines the influence of traditions on pasture management in Patriarchal-feudal, Soviet and after independence periods of Kyrgyzstan, using the Cholpon municipality as a case. During these periods, there has been a gradual separation of traditions and customs from the pasture management system, putting more weight on the knowledge, technologies and laws of the modern world. In the situation of Kyrgyzstan, this has not completely solved the issue of sustainable use of the pasture resources. The Pasture Committee of Cholpon municipality has been working since 2015 to revive forgotten traditions and customs associated with a careful attitude towards pastures and their integration into the pasture management system at the local level. The results of a survey conducted in Cholpon gives some indication as to how the integration has affected the social and environmental situation of pasture users. It reveals a positive view of local people in Cholpon towards the integration of traditions and customs into the community-based pasture management. Also, the general opinion is that the integration of traditions creates favourable conditions for increasing the participation of women and youth in the decision-making process.

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ABBREVIATIONS

AA – Aiyl Aymak (local self-government in Kyrgyzstan)
AO – Aiyl okmotu (municipality)
DAD of Kochkor district – Department of Agricultural Development of Kochkor district
DPLFMAFIM of the Kyrgyz Republic – Department of Pastures, Livestock and Fisheries of
the Ministry of Agriculture, Food Industry and Melioration of the Kyrgyz Republic
KyrgyzGiproZem – Kyrgyz State Project Institute for Land Management
NSC - National Statistical Committee of the Kyrgyz Republic
PC – Pasture Committee
PF – Public Foundation
PUA –Pasture Users’ Association
SAEPF - State Agency for Environmental Protection and Forestry
SIVPS under the Kyrgyz Government - State Inspectorate on Veterinary and Phytosanitary
Security under the Kyrgyz Government
UNU-LRT – United Nations University Land Restoration Training Programme

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1. INTRODUCTION

Pastures constitute 85% of Kyrgyzstan's agriculture land and are an important resource for the rural people (National Statistical Committee of the Kyrgyz Republic 2016). A total of 66% of the population is engaged in agriculture and relies on livestock as the main source of income (National Statistical Committee of the Kyrgyz Republic 2017a). Agrarian and land reform, which began in 1991 and continues to this day, have created favourable conditions for the development of family farms. Instead of 500 agricultural enterprises (collective and state farms), traditional household plots and some 300,000 peasant farms have emerged since 1992 (Lerman & Sedik 2009). Livestock is generally privately owned, while all pastures are exclusively state-owned (National Statistical Committee of the Kyrgyz Republic 2017b).

The total number of livestock in Kyrgyzstan increased by 11% in the period 2011-2015 (SAEPF 2016). This trend is ongoing and consequently, the load on the pastures increases, which can lead to degradation of the land. The increasing number of livestock is a direct driver of pasture degradation associated with overgrazing and trampling of pastures near settlements (Pasture Committee of Cholpon AA 2018). Pastures located near settlement areas, main roads and water sources are under increased grazing pressure, while some of the remote pastures remain unused (Shukurov 2015).

The last significant reform in pasture management in Kyrgyzstan was the adoption of the pasture law in 2009, based on which pasture resources management was completely transferred to the local communities and leading to the development of a decentralized, community-based pasture management (Shigaeva et al. 2015).

Local communities of Kyrgyzstan use different approaches, skills, practices and knowledge for the management of pastures, depending on the environment. In the local community of Cholpon AA, which is the study area of this project, the practice in Community-based pasture management has developed for decades and has two key social elements; existing legal regulation and aspects of traditions and culture (ISDS 2017).

The responsibility and control over pasture lands in Cholpon AA is with the *aiyl okmotu* (municipality), which has delegated the authority over the management and use of pastures to the Association of Pasture Users. The supreme governing agency is the general meeting of Pasture Users and the executive agency is the Pasture Committee consisting of 21 members.

Results of monitoring and evaluation of the pasture condition in Cholpon AA, carried out by the Pasture Committee, have shown that the pastures near settlements, 41,321 ha (83.4%) of the total number of pastures, are estimated as being subject to varying degrees of degradation (Pasture Committee of Cholpon AA 2018).

The Pasture Committee has accumulated a lot of experience working on the development of a pasture management plan and its implementation. This includes challenges in compliance with the rules of grazing by herders and farmers, which has resulted in overgrazing and trampling of pastures near settlements (Pasture Committee of Cholpon AA 2018). The Pasture Committee as a public organization does not have administrative powers and can only use public management

methods. Therefore, in 2015, the Pasture Committee proposed the revival of the ancient tradition of pasture management, which was expected to adopt a joint decision for the conservation of a certain degraded pasture area. The agenda of the work on community-based management and the revival of forgotten traditions, rituals and ceremonies, reflected a careful attitude towards the pastures, establishing a connection between older and younger generations in conjunction with the existing management system.

The process of integrating traditions and customs into the existing pasture management system takes place without documentation, that is, in the Pasture Committee guidance documents, no additions and changes have been made which describe the practice of community-based pasture management (PUA 2009).

Today it remains unclear whether the current community-based pasture management system has improved degraded pastures and how satisfied the local people are with the management system. Therefore, there is need to analyse this approach from different aspects and to ascertain whether there is need for improvement, to consider points of interrelation between traditions and pastures, and identify participants and beneficiaries. This can help develop the approach for restoring degraded pastures. Based on this research, a manual or guidelines on pasture conservation may be developed which can be implemented in other municipalities of the country.

The purpose of this project was to increase social and ecological sustainability of the community-based pasture management in Cholpon municipality in Naryn province, Kyrgyz Republic.

The main objectives of the project were:

- To describe the historical context and the integration of traditions and culture in the pasture management in Cholpon municipality
- To assess the views of men and women in Cholpon towards the current conservation system by conducting a community survey
- To develop suggestions for improvement and the implementation of the conservation system.

2. COMMUNITY-BASED PASTURE MANAGEMENT, CONCEPTUAL AND HISTORICAL CONTEXT

2.1 Tradition, pasture and community-based management

Traditions, pasture characteristics and the concept of community-based management define the work of the Pasture Committee of the Cholpon AA. This section provides definitions for each of these concepts.

2.1.1 Tradition

The ascription of the Kyrgyz people, according to the Soviet orientalist academician Bartold (1993), is the group of the most ancient peoples of Central Asia. The existence of the Kyrgyz people is mentioned in the records of the Chinese chronicler Sima Qian dated 201 B.C. Throughout history, the Kyrgyz people have formed unique traditions in all spheres of life that have been transferred from one generation to another, enriching and changing under the influence of various factors (Tulebaev et al. 2016). Despite the influence of technological development, globalization and other factors of the modern world, many traditions have been preserved in the everyday life of modern Kyrgyz and retain their application (RDF 2015a).

The connection of traditions and management of pastures is an uncontested phenomenon (Asanakunov et al. 2016). To clarify, it is necessary to understand what is meant by "*tradition*". Among scholars there is no single point of view on the question - what is tradition, both among Russian-speaking and English-speaking scientists (Botokanova & Doolbekova 2013). In this study, we will proceed from the definition given by the sociologist Edward Shils in the 1950s (Alexander 2016, p. 3).

Tradition [according to Shils] – that which is handed down – includes material objects, beliefs about all sorts of things, images of persons and events, practices and institutions. It includes buildings, monuments, landscapes, sculptures, paintings, books, tools, machines. It includes all that a society of a given time possesses and which already existed when its present possessions came upon it and which is not solely the product of physical processes in the external world or exclusively the result of ecological and physiological necessity.

To date, many traditions are perceived as an unchanged rule related to the past and put in opposition to modernity. But traditions are continually being created, not in some past time immemorial, but during modernity (Alexander 2016, Botokanova & Doolbekova 2013). Therefore, it cannot be said that the introduction of traditions and customs into the pasture management system is a return to the past or medieval times.

2.1.2 Pasture

The main natural resource for the population of Kyrgyzstan was and remains natural pastures, which makes up 40% of the country's territory (United Nations 2006). In the law on pastures (Ministry of Justice of the Kyrgyz Republic 2009), the following definition is given for a pasture: "*Type of agricultural land covered with grassy vegetation, used as forage for grazing and for other purposes, reflected in land-registration data*" (p.1). This can be considered a narrow definition of pastures, since wild herbivores are not considered here, for which pastures are a habitat (Blench & Sommer 1999). When determining the load on pastures, the pasture committee proceeds from the presence of domestic animals without taking into account the number of wild herbivores inhabiting these pastures (Pasture Committee of Cholpon AA 2018).

Broader definitions of pastures exist and may overlap with the definition of rangeland described by Thomas (1998) "*Land supporting indigenous vegetation that either is grazed or that has the*

potential to be grazed by domestic or wild herbivores and is managed as a natural ecosystem”. In the conditions of Kyrgyzstan, it is possible to refer to pastures as natural grasslands, alpine communities, shrublands, steppes and meadows, etc., i.e. rangelands are geographical regions dominated by grass and grass-like species with or without scattered woody plants (Blench & Sommer 1999).

2.1.3 Community-based management

According to Dörre (2015), pasture reform carried out in Kyrgyzstan in 2009 on community-based pasture management has been successful and has become a widely applicable tool that allows people at the local level to expand opportunities and provide comprehensive and sustainable pasture management practices in the field. To clarify the term of community-based management, Armitage (2005) proposed a formulation where he examines three complementarity definitions of community-based natural resource management: First, it was generally viewed as a mechanism to address both environmental and socioeconomic goals and to balance the exploitation and conservation of valued ecosystem components. Second, it involves a degree of devolution of decision-making power and authority over natural resources to communities and community-based organizations. Third, it can address critical issues related to the access and control over commons resources by local and nonlocal actors.

The Kyrgyz government has created a favourable environment for the development of community-based pasture management. The pasture management system is to some extent decentralized, so according to the law on pastures, government intervention in the activities of associations of pasture users is not allowed (Shigaeva et al. 2015). The pasture committees carry out their activities based on their Charter which explains their goals, objectives and operating procedures of the organization. Every year, each pasture committee reports to the pasture users and receives proposals for the next year. Thus, the participation of pasture users in the decision-making process is at the level of discussions, where the pasture users are informed, and their opinions taken into account in the decisions made.

2.2 Evolution of Pasture management systems: historical context

In recent centuries, the pasture management system in the territory of Kyrgyzstan has undergone significant changes (Shigaeva et al. 2015). In this section, we consider three main periods: the XIX century – the patriarchal-feudal, the XX century – the Soviet, and the XXI century – of independence.

2.2.1 Patriarchal-feudal period (until 1916)

In the patriarchal-feudal period, the nomadic and semi-nomadic pastoralism prevailed, and the pastures were community property, divided among the tribes. Each tribe had its own pastures, with the borders of the pastures strictly protected by the representatives of the tribes in the person of the feudal-tribal nobility as "biyi" and "manap". Many tribes, however, strictly adhered to the rules of sharing pastures (Abramzon 1990). Even though the population led a semi-nomadic way of life, they lived in unity in *aiyl* (villages) and wandered all together (Fig. 1). The villages were

formed based on tribal affiliation and their size varied from 200 or more yurts (households). The bulk of the population consisted of households owning a relatively small herd of livestock "bucara" and "charba". The management of public life was built on the ideology of "tribal unity" and "tribal solidarity" (Abramzon 1990).

Natural conditions made it possible to keep livestock for a whole year on the pastures; herders smoothly made the year-round cycle, which was divided into four seasons: spring, summer, autumn and winter. Thus, the vertical use of pastures established for centuries is characterized by nomadic wandering from the lower mountain valleys to the alpine pastures and back (Abramzon 1990). A system of customs and traditions was tied to this cycle and gave value to the nomad and filled his life with meaning and depth (RDF 2015a). The full cycle of wandering was preserved only by the rich and wealthy households owned by the feudal-tribal nobility. The poor households themselves did not wander independently; rather, they united their livestock into one larger herd and jointly grazed pastures, hiring a herder or alternately looking after them (Abramzon 1990).

Traditional methods of livestock breeding were based on careful attitudes towards nature, considering natural and climatic conditions. Herders considered the need for a careful attitude toward fodder resources and special respect for domestic animals (Tulebaev et al. 2016). Various kinds of magic methods were used: they fumigated the herds with smoke from the burning leaves of wood (archa), brought the livestock to the sacred places of the "mazar," where prayers were organized, and they offered sacrifices to patrons of house animals "piri". The time of nomadic moving (wandering) was a holiday for the whole community; they dressed beautiful dresses, arranged national games, performed the traditional rites and customs, etc. (Abramzon 1990).



Figure 1. Wandering to high mountain summer pastures in the Alai valley, Kyrgyzstan (end of the 19th century). The wandering process was divided into four seasons: winter, spring, summer and autumn, each with a traditional pasture area (RDF 2015a). The first to go were the men who drove livestock to the mountain pastures. The duties of women included the assembly of a yurt (nomads' house) and household things, loaded on camels, and going to a parking lot (RDF 2015a). (Source: Wandering of Kyrgyz. Photo by D. Hanbury 1901).

2.2.2 Soviet period (1917-1991)

In the Soviet period, with the introduction of collective farming, the system of pasture use, which was built on a planned economy, was radically changed. The ancient way of using pastures, traditions and customs was recognized as a relic of the past (Tulebaev et al. 2016). All animals and lands were state property and decisions on pasture use were taken at the central level (Busler 2010). Pastures were divided between kolkhoz (collective farms) and sovkhos (state farms) based on seasonal use. In this economy the pastures were divided between separate farms and herds, on the basis of the fodder requirements of livestock and seasonality. With the onset of the spring season, the state organized the moving of livestock to remote pastures and provided all vital economic and household supplies for herders (Shaibekov 1959). Extensive work was done to improve the infrastructure of remote pastures, roads, bridges, water reservoirs, and medical and cultural centres were built (Tulebaev et al. 2016).

Negative consequences emerged with the enlargement of the collective farms and state farms. In the 1930s there were 50 herds on average on the farm, while in 1960 they had increased to 540 herds, and in 1970 the number was 710 herds (Asanakunov et al. 2016). In pursuit of the implementation of the five-year plans for the development of the national economy of the USSR, farm managers did not take into account the carrying capacity of pastures and at that time the symptoms of pasture degradation began to be seen, including in the alpine zones (Asanakunov et al. 2016).

2.2.3 Independence period (after 1991)

With the acquisition of independence in 1991, the agrarian sector was reformed with the privatization of state property and livestock (Asanakunov et al. 2016), but pastures remained state property. A new order for pasture management was established, with a division into three levels: remote (summer), intensive (spring and autumn) and pasture near settlements (winter). Remote pastures were managed by the oblast (regional) state administration, the management of intensive pastures was in the hands of the district states, and the management of pastures near settlements was the responsibility of the municipalities (Busler 2010). The most popular pastures among herders were pastures near settlements and intensive pastures, as they were closer to inhabited areas. The herders stayed on their leased pasture for the entire period of the year without moving. This led to the disturbance of the tradition of vertical movement that had persisted for many centuries and intensified the degradation processes in the pastures near settlements (Crewett 2012).

With the adoption of the Law on Pastures in 2009, a new reform in the pasture management system was carried out. Instead of fragmented state control, the management and responsibility for pasture use was transferred to municipalities, which in turn delegated the authority of pasture management to the association of pasture users (Shigaeva et al. 2015). Also, based on the law, all pasture lease agreements made for 49 years lost validity, and pasture boundaries among the Aiyl Aymak (municipalities) were determined based on the former boundaries of collective farms and state farms.

2.3 Integration of local traditions and customs into pasture management system

Traditions and customs relating to the management of pastures in Kyrgyzstan have been mapped and described in publications like Asanakunov et al. (2016) and RDF (2015a; 2015b).

Current planning processes for pasture use at the municipality level are well described in the *Guidelines on Pasture Management Planning in Kyrgyzstan* (CAMP 2015). These guidelines are the main training tool for pasture committees and are based on the development of plans and technologies for sustainable pasture management. The guidelines are therefore a helpful tool for promoting the involvement of pasture users in the decision-making process.

In addressing the problem of degradation of pastures near settlements, the Pasture Committee carried out various measures to encourage the wandering of livestock owners to remote pastures. According to the Pasture Committee they used administrative measures, conducted explanatory work, etc., but the situation did not change radically (Pasture Committee of Cholpon AA 2018). Therefore, in search of a solution to the issue, the Pasture Committee, in 2015, proposed the revival of the ancient tradition of pasture conservation, which required the adoption of a joint decision to preserve a certain degraded pasture plot (Pasture Committee of Cholpon AA 2018). After consulting with the Aksakals (respected Old Men), deputies of the Local Council, the representatives of the municipality and other stakeholders at the general meeting of Pasture Users, it was decided to temporarily conserve 30 ha of a severely degraded pasture site (ISDS 2017).

In 2015, the Pasture Committee began work on the creation of a temporary conservation pasture in the degraded pasture "Kyzart" based on the revival of the ancient tradition of pasture conservation, which requires the adoption of a joint decision with the participation of all members of the community (ISDS 2017). At the general meeting of the Pasture Users' Association of Cholpon AA it was decided to create a temporary conservation pasture of 30 hectares (Pasture Committee of Cholpon AA 2018). On this pasture area, it was forbidden to graze livestock during the summer period, that is, during the ripening and spreading of plant seeds. Also, a festival was held to revive the ceremony of "Baisalduu Koch" (happy wandering) where a unique platform was created which helped the local community to remember traditions, customs and taboos of rational use of nature (Fig. 2). As a result, in 2017 the area of the temporary conservation pasture was increased from 30 to 900 ha.



Figure 2. Festival «Baisalduu Koch» in Cholpon AA (June 2016). The revival of the forgotten tradition of good wandering in remote pastures, where the Elder Woman is at the head of the nomadic movement. (Photo by ISDS public fund, June 2016).

The Pasture Committee as the responsible body for the implementation of this decision, faced the problem that herders and farmers were not complying. Instead they preferred to remain in the same place for the whole year rather than moving to remote pastures. Their preference was based mainly on the economic benefits of selling their livestock products in nearby settlements and along roads (ISDS 2017). Aiming to solve these challenges, the Pasture Committee continued to work on community-based management and the revival of forgotten traditions, rituals and ceremonies which reflected a careful attitude towards the pastures and establishing a connection between older and younger generations in conjunction with the existing management system. For example, a festival was held to revive the ceremony of "Baisalduu Koch" (happy wandering) where a unique platform was created which helped the local community to remember traditions, customs and taboos about the rational use of nature. Custodians of traditional knowledge and old-timers conducted training workshops for 120 shepherds and 214 school children about ancient pastoral traditions. This included the introduction of toponymical names, widely used in the management of pastures, which characterize the natural conditions of specific areas (ISDS 2017).

The mono-national composition of the local community (99.9% of Kyrgyz) determines the traditional way of life of people (Cholpon AO 2017). One of these is tribal relations. The local community consists of three main tribes, who have their own internal structure of tribal relations associated with mutual support, rituals, customs, etc. Traditions of careful attitudes towards the environment are especially widespread in relation to house animals; for example it is strictly forbidden to kick or beat house animals (Tulebaev et al. 2016). The entire population, including men and women, the elderly and the young, takes part in the annual ritual of the "Tuloo" sacrifice (with the wish of good). Many other unwritten traditions are still complied with by members of the local community (RDF 2015b).

2.4 Interaction of politics, ecology and culture – summary

In the patriarchal-feudal period, decision-making at the community level was at a high level, that is, all decisions on pasture management were made with the participation of the whole community (Abramzon 1990). Traditions and customs were also widely used, which are described in the section of "Patriarchal-feudal period". In the literature there is no evidence to be found of pasture degradation for that period (Abramzon 1990, Asanakunov et al. 2016, Shukurov 2013, Tulebaev et al. 2016). During the Soviet period there was general rejection of traditions and decisions regarding pasture management were made at the state level. During this period degradation of pastures was observed (Asanakunov et al. 2016). There is some evidence that the recent revival of traditions and the transfer of responsibility of pasture management to the local communities has resulted in decreased pasture degradation. This relationship between the implementation of tradition and decision-making and pasture degradation can be described as in Figure 3 using lines as hypothetical connections between the three periods in Kyrgyzstan history.

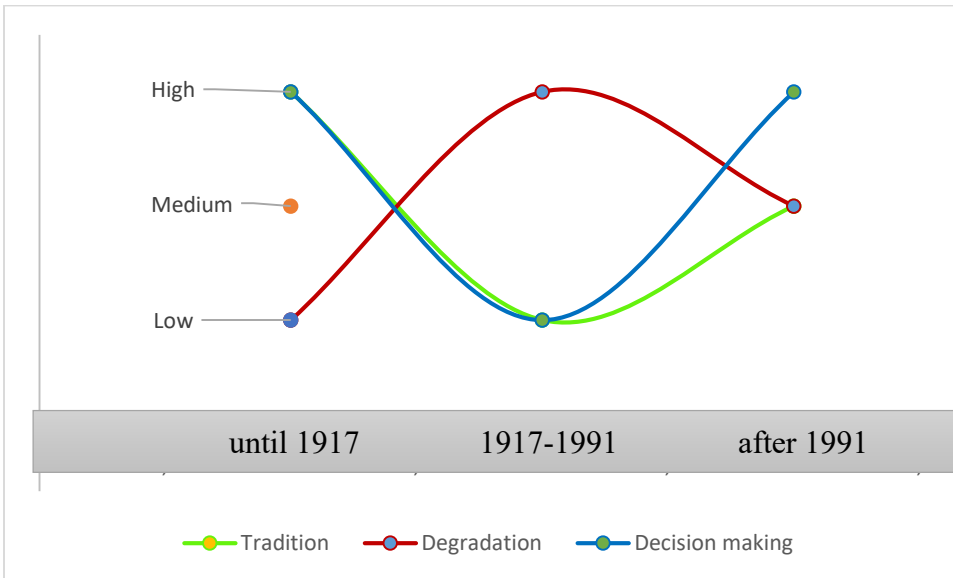


Figure 3. Diagram showing the relationship between community-based pasture management, tradition and pasture degradation using the example of Cholpon AA

This research work in abbreviated form is reflected in Table 1, which compares certain factors like traditions, the decision-making process, and the form of ownership in three significant periods of time denoting changes in the history of Kyrgyzstan. One can draw the following conclusion that traditions and customs are not an obstacle to improving the pasture management system and are an inseparable part of the community-based pasture management. Their integration into the pasture management system will have a positive impact on the sustainable use of pasture resources.

Table 1. Comparison of several factors in three significant time periods of changes in the pasture management system in Kyrgyzstan.

Factors	Patriarchal-feudal period (until – 1916)	Soviet period (1917-1991)	Independence period (after 1991)
Type of ownership	Community	State	State
Responsibility institution	The feudal-tribal nobility as “biyi” and “manap”	Kolkhoz (collective farms) and sovkhoz (state farms)	Pasture users association / Pasture committee
Traditions	Widely used	Abandoned	At the stage of revival
Decision making process	Community level	At the state level	Community level
Pasture condition	Not degraded	Severely degraded	Medium degraded

2.5 Stakeholders analysis

Before starting a stakeholder analysis, it is important to understand what the term "stakeholders" involves. This study used a definition that is often used by international development projects. According to the most common definition of stakeholders in the context of development projects, stakeholders are those who are affected by the outcome or those who can affect the outcome of a proposed development intervention (Mathur et al. 2007).

The goal of the stakeholder’s analysis was to identify potential stakeholders in building a model of co-operation with each stakeholder who are important and can influence the integration of traditions and customs into the pasture management system at the local level. The mapping of stakeholders is based on Mathur et al. (2007).

Together with the representatives of the Pasture Committee, a preliminary list of stakeholders has been compiled with whom the Pasture Committee directly operates. Further, the analysis of regulatory legal acts of the Kyrgyz Republic was conducted, and the guiding documents and websites of organizations having some relation to the pasture management system were studied. Based on this analysis, 15 stakeholders (Appendix I) have been identified that have an indirect and direct relationship to the pasture management system at the local and national level, who are divided into four groups by type of activity (Table 2). Each stakeholder was studied separately, and only a few groups of stakeholders were grouped into separate groups: non-grazing pasture users, international organization and non-governance organizations.

Table 2. List of stakeholders by type of activity.

State organizations	Local-self Governance	Non-governance organization	Private sector
1. Department of Pastures, Livestock and Fisheries of the Ministry of Agriculture, Food Industry and Melioration of the Kyrgyz Republic	1. Cholpon Local Council (aiyl kenesh) 2. Cholpon of aiyl okmot (executive body of local self-governance)	1. Pasture Users’ Association of Cholpon AA 2. Pasture Committee 3. Pasture Users’ Association of Kochkor district	1. Herders and farmers 2. Livestock owners (all households in the villages) 3. Nongrazing pasture users (Collecting herbs and berries,

2. Department of agricultural development of Kochkor district	4. National Pasture Users' Association of Kyrgyzstan "Kyrgyz Jayity"	haymaking, tourism and recreation, beekeeping)
3. State Inspectorate on Veterinary and Phytosanitary Security under the Kyrgyz Government	5. Non-governance organizations	
4. Department of Cadastre and Registration of Rights to Real Estate of Kochkor district	6. International organization	

An analysis of stakeholder primary activities was carried out based on their position in terms of the decision-making authority and their importance and influence in integrating traditions and customs into the pasture management system (Appendix I).

The main power in the pasture management system is distributed between the Local Council (aiyl kenesh), the municipality (aiyl okmot) and the Pasture Users' Association based on a system of checks and balances in the election of the chairman of the Pasture Committee, approval of plans, the budget and reports on the use of pastures. The expertise and knowledge on pasture management are concentrated in the Pasture Committee (Appendix I). The quality of pasture management depends on the level of knowledge and experience of the Pasture Committee members. Thus, these four institutions possess a high interest in and influence on the integration of traditions and customs in the pasture management system at the local level (Fig. 3).

Herders/farmers, livestock owners and non-grazing pasture users were categorized with high importance but low impact (Fig. 3). This group of stakeholders has great interest in improving the pasture management system but no real authority to influence the situation.

As a result, the group of stakeholders A and B constitutes the main players for the integration of traditions and customs into the pasture management system at the local level (Fig. 4).

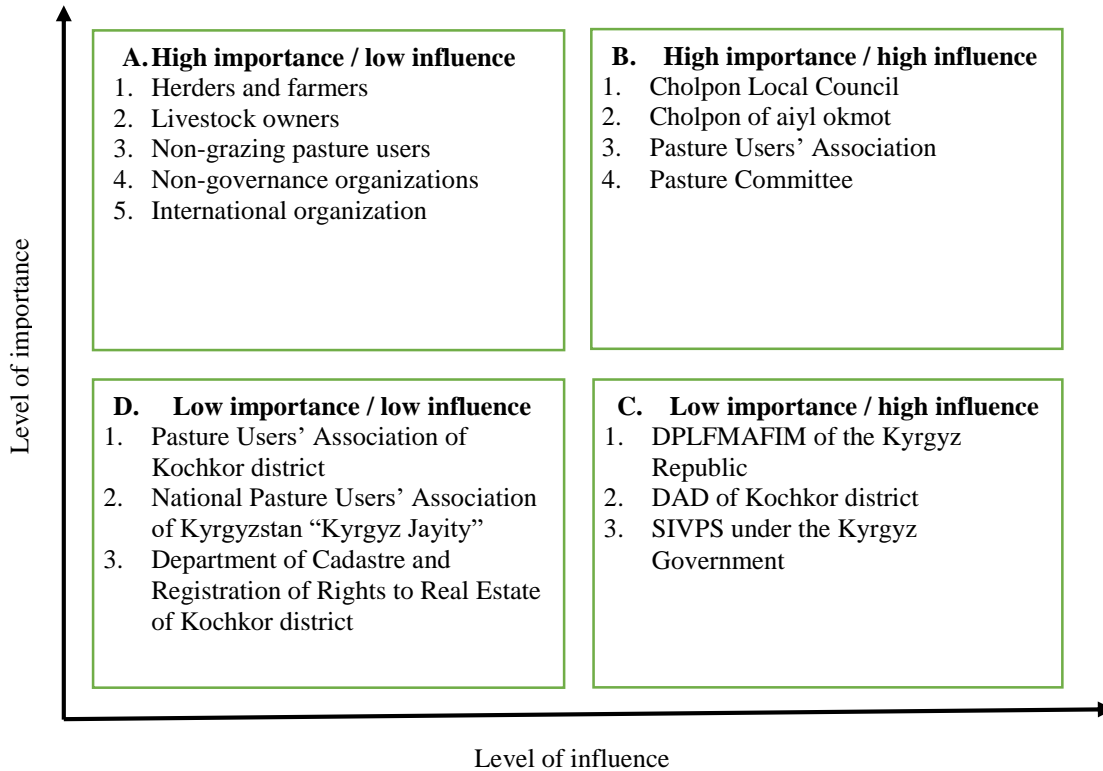


Figure 4. Matrix of importance and influence of stakeholders on the integration of traditions and customs into the pasture management system.

Although the national association has little influence in the decision-making process (Fig. 4) it unites more than 400 pasture users' associations of the country and renders real support in promoting the rights and interests of users' pastures at the republican level. Annually, pasture committees make mandatory membership fees to the fund of the national association. The director of the national association is the chairman of the coordinating council in the field of sustainable management and effective use of pastures in Kyrgyzstan (National Pasture Users' Association of Kyrgyzstan "Kyrgyz Jayity" 2015).

2.6 Gender and the pasture management system in Cholpon AA

In a traditional Kyrgyz family, a man is considered the head of the family and the owner of all the property of the family. In the household, women and men work together, but during the wandering, women take on the main responsibility for caring for the livestock in the pasture. Women, accompanied by their children, leave their winter homes in early May and wander to spring pastures; in June they pass to higher summer pastures, and then pass to autumn pastures and return in October (Food and Agriculture Organization of the United Nations 2016).

The Pasture Committee of Cholpon AA consists of 21 members, of which three are women. In accordance with the election procedure, one woman is elected from the Local Council and two from the local community at the general meeting of pasture users for a period of 3 years. Women participate in all the Pasture Committee events and hold the right to vote and other rights as

members of the Pasture Committee. At events coordinated by the Pasture Committee, mainly men are involved, so there is low participation of women in the processes of the pasture management system.

In 2018, the Pasture Committee granted pasture tickets with the right to graze livestock on pastures to 112 herders and farmers, 10 of which were farms where the owners are women (Pasture Committee of Cholpon AA 2018). Women have equal rights to use pastures on an equal footing with men. There are no restrictions or preferences for women in the work of the Pasture Committee (Pasture Committee of Cholpon AA 2018).

The community plan for pasture management in Cholpon AA (Pasture Committee of Cholpon AA 2018) includes a section on "Identifying needs of pasture users", which is filled out based on the results of focus groups, but there is no information on either the number of participants nor gender aspects. According to this section the main priority areas are related to infrastructure facilities but do not address issues like access to drinking water, firewood, medicine and education.

3. METHODS OF STUDY

3.1 Study area

The study area for this project was Cholpon AA, which is in the Kochkor district of the Naryn region in the Kyrgyz Republic among the mountain ranges of the inner Tien Shan (Fig. 5). This area was selected mainly because since the year 2015 the Pasture Committee has been working on the revival and introduction of local traditions and customs in the pasture management system.

The Cholpon AA (N42°11.76; E075°28.33) consists of seven villages with a total population of 8,723 people (National Statistical Committee of the Kyrgyz Republic 2017c), who live in 1,624 households. According to the demographic data men constitute 50.7% and women 49.3% of the total population (Cholpon AO 2017). The total area of the municipality is 52,928 ha, of which 49,389 ha (93.4%) are pastures (Pasture Committee of Cholpon AA 2018). All households have livestock. The total number of livestock in the municipality is 31,064 heads (sheep, goats, cattle, yaks, horses and donkeys). The formation of personal subsidiary plots at the level of each household was the result of agrarian and land reform (Lerman and Sedik 2009).

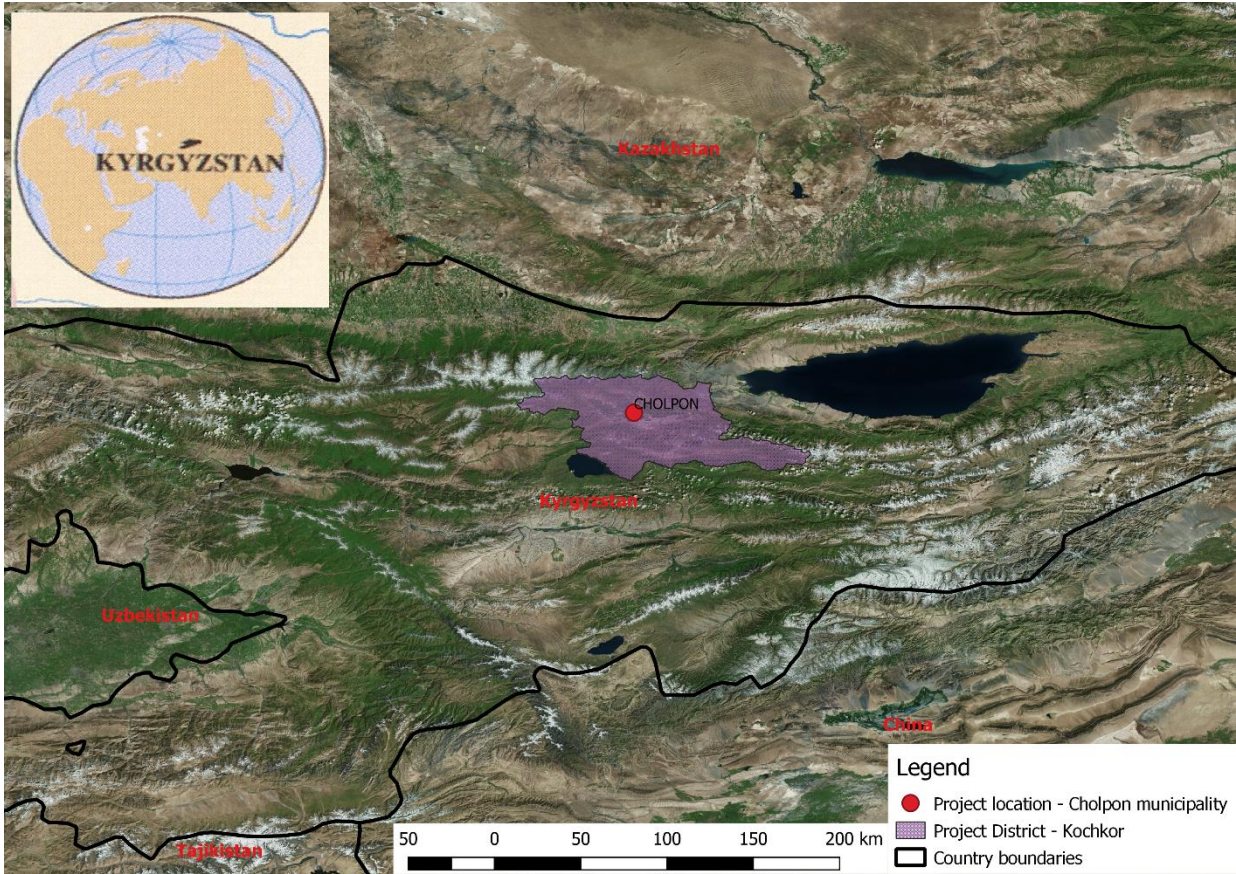


Figure 5. Map showing the location of Kochkor district and Cholpon AA in the Kyrgyz Republic. The territory of the district is shown in purple. Red mark shows the study area in Cholpon AA in Kochkor district. (Source: Natural Earth and ArcGIS).

3.2 Field survey

In order to analyse the views of people in the community of Cholpon, a survey was conducted. The specific objectives of the survey were to assess the opinions of men and women in Cholpon AA on the integration of traditions and customs into the existing pasture management system, learn the attitude of the local community to the revival of traditions and customs in the process of using pastures, and to assess the results of the community-based pasture management in the region (ISDS 2017).

Primary information on the community-based management practice in Cholpon AA was obtained from the project activity of the public fund "Institute for Sustainable Development Strategy" in promoting biocultural diversity (ISDS 2017). In the period from 2015 to 2018, this fund implemented three short-term projects in Cholpon AA on the revival of ancient pasture conservation traditions.

Two main methods were chosen to conduct the study, structured questionnaires and semi-structured interviews.

A semi-structured interview was conducted with the Pasture Committee executive to obtain more detailed information on the following issues; identification of stakeholders and their role in the pasture management system; interaction of the Pasture Committee with pasture users; how traditions and customs are integrated into the pasture management system; and further vision for the use of traditions and customs in the management of pastures. The interview was conducted using the free instant video exchange system for mobile phones "WhatsApp", as the respondent lives in a remote area of Kyrgyzstan. Based on the interview, 15 different stakeholders related to pasture resources at the local level were identified. The roles, levels of influence and interests of each stakeholder in the issue of integrating traditions and customs into the pasture management system were analysed (Appendix I). Based on this, three stakeholder groups were identified that have the greatest interest in preserving pastures and that have the position to influence the practical integration of traditions and customs into the pasture management system. These stakeholder groups were on the one hand the Pasture Committee as an organization with the authority to develop and implement a pasture use plan, and representatives of state and local government organizations. On the other hand, there were livestock owners as one group, and farmers and herders, which implement the plan for using pastures, and members of the Pasture Users' Association, which have real authority to improve pasture management, as a second group. Respondents were selected from these three groups, taking into account age and gender and also considering their experience of participating in the process of integrating traditions and customs into the pasture management system.

A list of 25 respondents was created, but two respondents refused to participate, referring to the fact that they are not sufficiently aware of this issue. A total of 23 respondents therefore took part in the survey. The combination of the group of respondents is presented in Table 3.

Table 3. The combination of respondents by stakeholder groups, gender and age.

	Member of Pasture Committee	Herders and farmers	Livestock owners (all households in the villages)	Percentage of respondents (%)
Women	3	4	9	69%
Men	2	2	3	31%
Total	5	6	12	
to < 28	1	1	0	9%
29-44	1	3	8	52%
45-60	2	2	3	30%
60 <	1	0	1	9%
Total	6	5	12	

The questionnaire included 15 closed questions, of which seven were followed by open questions (Appendix II). The questionnaire was structured in four sections: (1) general information about the study objective and the respondent; (2) participation of men and women in decision-making; (3) integration of traditions and customs into the pasture management system and (4) assessment of the condition of "Kyzart" pasture. In the results section, answers to open questions are grouped together based on similarity.

The questionnaire was compiled in English and then translated into Kyrgyz. The Kyrgyz version of the questionnaire was used in the field survey. The completed questionnaires were then translated again into English. Multiple translations can increase the risk of some misinterpretation.

The survey territory was limited to three villages (Cholpon, Epkin and Ak-Chii) in Cholpon AA, located near the temporary conservation pasture of "Kyzart".

The survey was conducted by two members of the Pasture Committee staff who, before the beginning of the study, were instructed on how the survey should be conducted. These instructions included rules for ensuring anonymity of the respondents, minimizing the impact on the respondent in the process of filling out the questionnaire, providing sufficient time for respondents, etc. The survey was conducted from the 3rd to 14th of July 2018. Each respondent spent one and a half hours on average to complete the questionnaire. At the end of the field survey all the questionnaires were scanned and sent via e-mail.

There were no particular difficulties emerged in the process of conducting the survey, only that some respondents asked for the meaning of the word "integration". Anticipating this situation, the questionnaire translated into the Kyrgyz language describes the meaning of this term.

3.3 Review of existing literature and legal framework

Current Kyrgyz legislation in the field of pasture management and existing documents of the Pasture Committee were reviewed to provide enough information on the ecological and sociological background. Documents of the pasture community for the last five years (2014-2018) were used to review the current processes of the pasture management system. These documents include a statute on the Pasture Committee, a community management plan for pasture use for five years, minutes of meetings of general meetings of the Pasture Users' Association and decisions of the Local Council.

4. RESULTS AND DISCUSSION

In the following sections the results from each question in the survey are analysed and discussed. Numbers in parentheses refer to the question numbers in the questionnaire. Answers from open questions are grouped together for simplification.

4.1 Participation of men and women in decision-making

Question (3): In your opinion, are members of the local community actively involved in the decision-making process in the pasture management system?

A total of 78% (18) of the respondents considered that there is active participation of the local community in pasture management, but 13% (3) of the respondents indicated low participation.

The pasture management system is to some extent decentralized, so according to the law "On pastures", government intervention in the activities of associations of pasture users is not allowed (Shigaeva et al. 2015). The Pasture Committees carry out their activities based on their Charter which explains their goals, objectives and operating procedures. Every year, the Pasture Committees reports to the pasture users and receives proposals for the following year. This is confirmed by an analysis of the Pasture Committee meeting documents for 2014-2018 (PUA 2014, 2015, 2016, 2017).

Participation of pasture users in the decision-making process is at the level of "consultation" in the definition of the Council of Europe (Conference of INGOs of the Council of Europe 2009), where pasture users are informed and their opinions are considered in the decisions taken. Even though the respondents noted the active involvement of pasture users in the decision-making process, it should be noted that this is only the second level of civil participation. The second paradoxical phenomenon is the perception of pasture users of the Pasture Committees as a state agency and not as a non-governmental organization that protects their interests (Shigaeva et al. 2015).

Question (5): Are both genders equally involved in the decision-making process in the pasture management system?

Asked about participation of both men and women, 91% (21) of the respondents stated that participation in the decision-making process is unequal and the same proportion, 91% (21), agreed that men are more involved. Two respondents said they did not know about it.

Assessment of the gender situation in agriculture and rural households in Kyrgyzstan conducted by FAO (Food and Agriculture Organization of the United Nations 2016), confirmed that women are underrepresented in pasture committees and that they have limited influence on decision-making. This is in line with the findings in this study. Priority projects implemented by pasture committees are mainly aimed at improving pasture infrastructure, while women may put more emphasis on sufficient clean drinking water, firewood for cooking, family and animal health, processing of food products, etc.

The rules of traditional rites and rituals require the participation of all members of the community, as in these activities there are spiritual constituent elements and entertainment (dances, songs, oral histories). For example, in the rite "Jurt menen uchurashuu" (greeting of stopping place) the main role is played by a woman (RDF 2015a). The woman on behalf of the family reassures the spirits that her family comes with a pure heart and good intentions, requests permission to settle and to light the fire of the hearth. Consequently, integration of traditions into modern approaches in the decision-making process to increase the participation of women and youth in the pasture management system might have a positive impact on improving the condition of pastures, since women play a large role in decision-making at the family level.

Question (12): In your opinion, can further integration of local traditions and customs into the pasture management system increase the participation of women and youth in the decision-making process?

According to 78% of the respondents, by integrating traditions and customs into the pasture management system, the participation of women and youth would increase. Respondents were presented with specific suggestions and their answers were grouped into three basic groups (Table 4). Some respondents noted several options.

Table 4. The suggestions of respondents to increase the participation of women and youth in the decision-making process. Number of respondents was 23.

	Development of applied handicrafts among women	Revival and observance of traditions and customs where women play the main role	Holding traditional national games and holidays on pastures with active participation women
Respondents	11	9	7

According to the results, respondents of older age note the important role of women in caring for nature. An example of this is the rite "Bulaktyn kozun achuu" (spring water cleaning), when the community jointly cleans around the springs and produces special rituals (RDF 2015b). Most respondents under the age of 41 years old noted the development of applied handicrafts among women, indicating the importance of diverse economic role of women.

4.2 Assessment of the condition of the temporarily conservation pasture "Kyzart"

Question (14): In your opinion, has the condition of the temporary conservation pasture area "Kyzart" improved or degraded during the period of conservation of 2015-2017?

Asked about the condition of the pasture area Kyzart, 91% (21) of the respondents presumed that the condition of the pasture area had improved over the period 2015-2017.

The Pasture Committee provided photos from the pastures since 2015 at the beginning of the temporary conservation pasture and again since 2017 (Fig. 6). The photographs indicate how the pasture cover has improved over the three years of temporary conservation, but the Pasture Committee did not conduct annual monitoring of pastures and does not have data on the dynamics of pasture improvement.



Figure 6. The temporary conservation pasture "Kyzart" in Kyrgyzstan in 2015 (left), and in 2017 (right). (Source: Photos by the pasture committee)

Question (15): In your opinion, were traditions and customs applied for the conservation of 900 ha of the pasture area "Kyzart"?

In the opinion of 82% (19) of the respondents, traditional approaches (see Table 5) were used in the process of preserving the pasture area "Kyzart". Four respondents noted that they did not know the answer to this question.

Responses of respondents were grouped together based on which customs or traditions they identified. Most respondents, 20 out of 23, identified more than one custom. In the opinion of 78% of the respondents the conservation of Kyzart was influenced by the revival of the "Baisalduu koch" (Happy wandering) ceremony, 48% of the respondents noted the practical application of the "Jurt chaluu" (assessment of the wandering site) ritual, when a mixed group of experienced herders, including the elderly and young people, conducts a preliminary monitoring of the suitability of summer pastures for grazing livestock and announces the wandering (Table 5). A total of 30% mentioned the revival of vertical use of the pasture in the mountains, as well as the ritual of "Bata aluu" (benevolence), being influential in the conservation of Kyzart.

Table 5. According to the respondents, the following traditions and customs influenced the improved condition of the temporary conservation pasture "Kyzart". Number of respondents was 23.

	Festival of "Baisalduu Koch" (happy wandering)	Traditions of seasonal use of pastures	The rule for assessing the condition of pastures (jurt-chaluu) until wandering	The rite of blessing "bata aluu"
Respondents	18	7	11	7

4.3 Integration of traditions and customs into the pasture management system

Question (6): In your opinion, are local traditions and customs integrated into the existing system of pasture management?

A clear majority of the respondents, 95% (22), believed that traditions and customs are integrated into the current pasture management system. Asked to give example of how traditions and customs were integrated, 61% of the respondents thought traditional knowledge in the field of animal husbandry is widely used, 52% considered the use of the tradition of wandering and benevolence. Interestingly, 30% wrote about the use of spiritual aspects at the level of families, such as sacrifice, veneration of animal patrons, etc. (Table 6).

In the traditional culture of the Kyrgyz people there is a worldview that each place has its own patron and widely used ritual was sacrifice to the patron (Abramzon 1990). After definition of the Elders of a stopping place, it was necessary to ask permission from the patron of the place via the ritual "Jurt menen uchurashuu" (greeting of stopping place), so that the patron allowed them to stop at this place and graze livestock (RDF 2015a).

Table 6. According to respondents, the following elements of traditional culture are integrated into the pasture management system. Number of respondents was 23.

	Some traditions and customs are used in the pasture management system	Spiritual elements are used at the household level to use pastures	Traditional knowledge is used by pasture users
Respondents	12	7	14

Question (11): Do you think it is important to abide traditions and customs during the use and conservation of pastures?

A clear majority of the respondents or 91% (21), claimed it was important to preserve and abide by traditions and customs during the use and conservation of pastures, although two respondents did not know. When asked about what makes people abide by traditions and customs (Table 7), 12 answered this was due to internal convictions that they received from the older generation through traditional upbringing. Also, 12 suggested this was associated with environmental considerations or knowledge about the need to preserve pastures and transfer them to future generations. Both reasons were identified by five respondents, although four of the respondents could not answer this question.

In Soviet times (1917-1991), traditions were seen as primitive and related to the past (Botokanova & Doolbekova 2013). It is noted that the struggle against religion and traditions during the Soviet era led not only to the destruction of holy places, but also to the destruction of nature. Priority was given to scientific knowledge and technology, which began to supplant culture from the sphere of nature management (Shukurov 2013).

Table 7. Respondents' answers to the question «What compels to comply these traditions and customs? » Number of respondents was 23.

	Persuasion to observe the traditions and customs passed from generation to generation	Ecological beliefs about the need to preserve pastures and transfer them to their future generations
Respondents	12	12

Question (10): In your opinion, can further integration of local traditions and customs into a pasture management system help to ensure the sustainable use and conservation of pastures?

The majority, 91% (21), of the respondents thought that further integration of traditions and customs into the pasture management system would ensure sustainable use and conservation of pastures. Asked which traditions and customs should be included in the pasture management system and after grouping the answers into four groups (Table 8), 70% proposed to continue the work on the introduction of traditions and customs in the pasture management system through their organization in the grazing season, 61% emphasized the importance of training in traditional knowledge for pasture users and five noted the importance of holding traditional holidays and games, as a communication platform for the education and unification of pasture users.

Table 8. The suggestions of respondents to introduce traditions and customs in the pasture management system. Number of respondents was 23.

	Continue work on introducing traditions and customs into the pasture management system	Organization of traditional holidays and games	Development of applied handicrafts among pasture users	Revival of traditional knowledge in pasture use
Respondents	16	5	4	14

Question (8): In your opinion, are there problems in integrating traditions and customs into the pasture management system?

According to 82% (19) of the respondents, the process of integrating traditions and customs into the pasture management system faces problems. Two respondents noted that there are no problems and two did not know. The problems identified by the respondents were grouped in four types (Table 9). According to the opinion of 11 respondents, insufficient training was provided for the education and upbringing of the younger generation with traditions and customs, both at the family level and at the level of institutions (kindergartens, schools, Pasture Committee, etc.). Some respondents noted the absence of elements regarding the transfer of traditions and customs in teaching programmes, whereas the ways of their transfer were rich and diverse (RDF 2015b), the experience was transmitted through proverbs and sayings, legends, epics, songs and legends, and through rituals and games. The second most important problem, noted by eight respondents, was that people had begun to forget traditions and customs connected with nature and had ceased to carry them out, as well as that people of the older generation who knew these traditions and customs were becoming fewer in number and with them the experience and knowledge disappears. This is in harmony with RDF (2015b).

Table 9. Respondents' answers to the question «What kind of problems is existing in integrating traditions and customs into the pasture management system? » Number of respondents was 23.

	Insufficient training workshops for young people on traditions and customs	Insufficient communication between the older and younger generation	Insufficient explanatory work	People began to forget traditions and customs and does not carry out them
Respondents	11	2	2	8

Question (9): In your opinion, what is the most important or efficient way to transfer knowledge regarding traditions and customs?

In this question, respondents were given the opportunity to select only one answer in terms of importance (Table 10). A large majority, 94% of respondents, believed that the most important way of transferring knowledge and experience regarding traditions and customs is through the Pasture Committee.

Table 10. Suggestions of respondent’s ways to transfer knowledge and experience regarding traditions and customs

Way to transfer	Number of respondents
From parents to children (parenting)	4
At school	1
At the Pasture Committee meeting, framework, etc.	17
Informal community rules	0
Don’t know	1
Other (which)	0
Total	23

With the adoption of the pasture law in 2009, the Pasture Committee received real powers to manage pasture resources, which contributed to the creation of a decentralized community pasture management system and being able to solve social and environmental issues at the community level (Shigaeva et al. 2015). The introduction of elements of traditions and customs into the school curriculum, which was suggested by four respondents, requires a lot of effort and time, as the procedure for making changes to the school curriculum requires the consent of many government agencies. To date, the Pasture Committee and local schools have a certain knowledge and experience of joint educational activities in schools in the territory of the Cholpon AA.

Question (13): In your opinion, can the traditional institutions like Aksakaly (honoured Elders), tribal council, etc., affect the improvement of the pasture management system?

In the opinion of 87% (20) of the respondents, traditional institutions can influence the improvement of the pasture management system. The role of the Institute of Elders is particularly emphasized, as 78% of the respondents consider that the Elders have great potential in helping the Pasture Committee to improve pasture management (Table 11). Respondents noted the many years of knowledge and experience build-up amongst the Elders, as well as their authority in the community. This is supported by research conducted in the territory of Kyrgyzstan, finding that Elders have retained the rules of pasture use for many centuries (RDF 2015a).

The purpose of this question was to find out whether there are any traditional institutions at the level of the local community that have an impact on the pasture management system. Respondents did not note any traditional institutions other than those commonly known as the Institute of Elders (*Aksakal*) and the tribal councils (Table 11). Of the respondents, five could not provide an answer.

Table 11. Suggestions of respondents on traditional institutions having an opportunity impact on the pasture management system. Number of respondents was 23.

	Institute of Elders (Aksakal) and intergenerational communication	Tribal relations and their institutions	Others
Respondents	18	4	0

Question (4): In your opinion, which of the following factors (see table 11) has the most positive effect on the use and conservation of pastures in your area?

According to 74% (17) of respondents, the qualitative work of the Pasture Committee renders improvement of the pastures in the region, 17% (4) believe that the population preserves pastures by observing traditions and customs (Table 12).

Table 12. Respondents' opinion of which of the following factors has the most positive effect on the use and conservation of pastures in your area. Number of respondents was 23.

Factors	Number of respondents
Functional activity of Pasture Committee	17
Activity of state institutions and organizations	2
Legal regulations	0
Local traditions and customs	4
Science researches	0
New electronic technologies	0

5. CONCLUSIONS AND RECOMMENDATIONS

The first steps to integrate traditions and customs again into the pasture management system in Cholpon AA have been taken, through the approval of the Local Council of the grazing rules. This is based on the case set by the creation of the conservation pasture area "Kyzart".

According to the findings of the field survey, the local people are positive towards more integration of traditions and customs in the pasture management system. This can also serve the purpose to increase the influence of women in the system.

The Pasture Committee does not have any official document regulating the conservation of pastures. During the interview, the executive of the Pasture Committee noted that pasture users adhere to unspoken rules or traditions without violating the jointly adopted decision to preserve degraded pastures. This is partly based on the custom that at various events, Asakals (honoured Elders) tell stories, proverbs about the ancient traditions of conservation of pastures. Thus, all pasture users are verbally aware of the traditional use of the pasture.

Currently, the Pasture Committee is operating in an informal field guided by non-systemically adopted solutions. Documenting the practice of the community-based pasture management can help to sustain knowledge in the Pasture Committee and become an integral part of the pasture management system. This can address the challenge of knowledge management, so experience and knowledge are not lost due to disappearance of key players in the management system.

It is important to conduct annual monitoring activities to assess the condition of pastures. These can be traditional and/or scientific methods of assessment. The results must be documented, since the data can be the foundation in decision-making regarding the pasture management.

The rules of traditional rites and rituals require the participation of all members of the community, as in these activities there are spiritual constituent elements and entertainment (dances, songs, games, and oral histories, etc.). Consequently, integration of traditions into modern approaches in the decision-making process to increase the participation of women and youth in the pasture

management system might have a positive impact on improving the condition of pastures. This is because women are given a major role in rituals and ceremonies and thus influencing the environmental education of the whole community.

The main body that has the authority to approve plans and reports of the Pasture Committee is the Local Council. Therefore, during the implementation of community-based pasture management in the work of the Pasture Committee, it is necessary to conduct explanatory work for the deputies of the Local Council. A practical seminar can be conducted for the deputies of the Local Council together with the Pasture Committee.

The preparation of legal documents on community-based pasture management that is submitted to the session of the Local Council can create a legal platform for the implementation of community-based pasture management. For implementation at the national level, the National Association of Pasture Users of Kyrgyzstan, which works closely with the Pasture Committee, can provide real support.

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APPENDICES

APPENDIX I. Stakeholder analysis checklist

Stakeholders	Primary activities	Position (rank according to power in decision-making)	Level of Influence	Importance (rank the impact they will have to integrating traditions and customs into the pasture management system)	Level of Importance
Pasture Users' Association of Cholpon AA	<ul style="list-style-type: none"> - Protects the interests of pasture users; - Accepts the annual report of the Pasture committee; - Provides recommendations for management and improvement of pasture conditions; - Elects the executive of pasture committee. 	Has enough powers to consider all issues related to pasture resources, thereby can have a strong influence in the decision-making process and the formation of public opinion.	High	Has a fairly high impact on determining priorities in the process of agreeing a community plan for pasture use over a 5 years period and reviewing the pasture committee reports.	High
Pasture Committee	<ul style="list-style-type: none"> - Development and implementation of a pasture use plan; - Monitoring of pasture conditions; - Extradition of pasture tickets; - Ascertainment and collection of fees for pasture use; - Settlement of disputes and conflicts; - Implementation of measures to improve pasture infrastructure, pasture conditions, etc. 	The executive body develops and implements a community pasture use plan, based on which pasture tickets are issued and the pasture users are controlled. Here the expert potential and knowledge of pasture management are concentrated.	High	Primary level where priorities are defined, and plans are developed, and also their completion after co-ordination with other stakeholders. The quality of documents depends on the level of knowledge and experience of the pasture committee members.	High
Herders and farmers	<ul style="list-style-type: none"> - Pasture use based on pasture ticket; - Are responsible for the implementation of pasture use plans; - Payment of the means for the use of pastures; - Require information about the results of the pasture committee activities. 	Performing all plans and decisions of the Pasture Committee. Separately, herders and farmers do not have any authority to influence the decision-making process.	Low	From the conscientious implementation of the pasture use plan, depends sustainable pasture management.	High
Livestock owners (all households in the villages)	<ul style="list-style-type: none"> - Are members of the Pasture Users' Association; - Have the right to use pasture; - Have the right to receive any information about the 	Individually, livestock owner has no real influence on the process of making decisions. Characterized by the receipt of unilateral	Low	At the household level, public opinion is formed that can affect the sustainable management of pastures. Compliance	High

	activities of the Pasture Committee.	information from the Pasture Committee.		with the pasture use plan.	
Cholpon Local Council (aiyl kenesh)	<ul style="list-style-type: none"> - Approves plans and reports on pasture use; - Approves the budget of the Pasture Committee 	After the approval of the Local Council, the community pasture use plan becomes legally binding, so the Council has real authority in the decision-making process.	High	Legal documents adopted by the council are mandatory for execution at the local level, regardless of the form of ownership.	High
Cholpon of aiyl okmot (executive body of local self-governance)	<ul style="list-style-type: none"> - Responsible for and control over the management of pastures; - Represents nominees of the executive of the Pasture Committee on the general meeting of the Pasture Users' Association; - Appoints one representative to the membership of the Pasture Committee; - At least one third of the fees for pastures, is directed to the local budget. 	Delegates authority for the management and use of pastures to the Pasture Users' Association. Delegated authority requests a report.	High	It determines the priorities for development at the municipal level and requires their implementation in the work of organizations located on the territory of the municipality.	High
Pasture Users' Association of Kochkor district	<ul style="list-style-type: none"> - Technical support of pasture committees; - Training of members of pasture committees; - Protecting the interests of pasture users at the district level. 	Consulting and training support for members of pasture users	Low	Training in new knowledge and approaches in sustainable pasture management.	Low
National Pasture Users' Association of Kyrgyzstan "Kyrgyz Jayity"	<ul style="list-style-type: none"> - Strengthen the capacity of members of pasture users' associations; - Promotion of rights and interests of pasture users at the republican level. 	Consulting and training support for pasture users.	Low	Training in new knowledge and approaches in sustainable pasture management.	Low
Department of Pastures, Livestock and Fisheries of the Ministry of Agriculture, Food Industry and Melioration of the Kyrgyz Republic	<ul style="list-style-type: none"> - Develops recommendations for the implementation of programs and legislation; - Provides technical and other support to municipalities and pasture committees in the use of pastures. 	Forms a state policy in the use and management of pastures.	High	Development of state programs and guidelines for sustainable pasture management and their implementation in the work of the pasture committees.	Low
Department of agricultural development of Kochkor district	<ul style="list-style-type: none"> - Establishment of pasture boundaries between municipalities. 	Resolution of disputed issues on pasture boundaries.	High	The implementation of positive experience at the district level.	Low

State Inspectorate on Veterinary and Phytosanitary Security under the Kyrgyz Government	- Controls the conservation of the natural state of pastures; - Imposition of administrative fines for violation of environmental legislation.	State control over the ecological condition of the environment.	High	Monitoring of the ecological condition of the environment.	Low
Department of Cadastre and Registration of Rights to Real Estate of Kochkor district	- Conducts land management and cadastral work.	State registration of the right to use pastures.	Low	Clear delimitation of pasture boundaries between municipalities.	Low
Non-governance organizations	- Consulting support; - Capacity building.	Non-governmental organizations use technologies of lobbying, informing, etc.	Low	Formation of public opinion on sustainable use of pastures.	High
International organization	- Support services for sustainable use of natural resources - Improving resilience to climate change, crises and disasters	Projects do not have administrative powers and can only use public management methods.	High	A special feature of development programs is the change in thinking of stakeholders and beneficiaries through development program.	High
Nongrazing pasture users (Collecting herbs and berries, haymaking, tourism and recreation, beekeeping)	- Use of pastures on the basis of agreements on pasture use for other purposes.	There are no authorities, since basically they are not representatives of the local community.	Low	More interested in obtaining ecosystem services.	High

APPENDIX II. Questionnaire

Dear Responder, the purpose of this survey is to study the practice of the Cholpon pasture committee on integrating local traditions and customs into the existing pasture management system.

Thank you in advance for your participation in the survey and we ask you to be open and honest when answering the questions. By participating in the survey, you contribute to the conservation of pastures from degradation.

Background information:

1) Gender

- a) Male b) Female c) Other

Age

- a) to < 28 b) 29-44 c) 45-60 d) 60 <

2) Kind of activity

- a) Member of Cholpon Pasture Committee
b) Herders and farmers
c) Livestock owners (all households in the villages)

3) In your opinion, are members of the local community actively involved in the decision-making process in the pasture management system?

- a) Yes
b) No
c) Don't know

4) In your opinion, which of the following factors has the most positive effect on the use and conservation of pastures in your area? (Please, mark only one answer in importance)

- a) Functional activity of Pasture Committee
b) Activity of state institutions and organizations
c) Legal regulations
d) Local traditions and customs
e) Science researches
f) New electronic technologies
g) Other (which) _____

5) Are both genders equally involved in the decision-making process in the pasture management system?

- a) Yes
- b) No
- c) Don't know

If no, which gender is more involved Women Men

Local traditions and customs

6) In your opinion, are local traditions and customs integrated into the existing system of pasture management?

- a) Yes
- b) No
- c) Don't know

If yes, how are local traditions and customs integrated? _____

7) Do you think it is important to abide traditions and customs during the use and conservation of pastures?

- a) Yes
- b) No
- c) Don't know

If yes, what compels to comply these traditions and customs? _____

8) In your opinion, are there problems in integrating traditions and customs into the pasture management system?

- a) Yes
- b) No
- c) Don't know

If yes, what kind of problems _____

9) In your opinion, what is the most important or efficient way to transfer knowledge regarding traditions and customs?

- a) From parents to children (parenting)
- b) At school
- c) At the pasture committee meetings, framework etc.
- d) Informal community rules
- e) Don't know
- f) Other (which) _____

10) In your opinion, can further integration of local traditions and customs into a pasture management system help to ensure the sustainable use and conservation of pastures?

- a) Yes
- b) No
- c) Don't know

11) Do you think any further local traditions and customs should be included in the pasture management system?

- a) Yes
- b) No
- c) Do not know

If yes, which traditions and customs should be included in the pasture management system?

12) In your opinion, can further integration of local traditions and customs into the pasture management system increase the participation of women and youth in the decision-making process?

- a) Yes
- b) No
- c) Don't know

If, which traditions and customs should be increase the participation of women and youth in the decision-making process _____

13) In your opinion, can the traditional institutions like Aksakaly, tribe council, etc. affect the improvement of the pasture management system?

- a) Yes
- b) No
- c) Don't know

If yes, which traditional institutions _____

Kyzart pasture

14) In your opinion, has the condition of the canned pasture area "Kyzart" improved or degraded during the period of conservation of 2015-2017?

- a) Improved
- b) No change
- c) Degraded
- d) Don't know

15) In your opinion, were traditions and customs applied for the conservation of 900 ha of pasture area "Kyzart"?

- a) Yes
- b) No
- c) Don't know

If yes, which traditions and customs were applied?