

Multiple stakeholders, cooperation and conflict in common pasture resources – Comparative analysis of property rights in Azerbaijan and Georgia

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Abstract

Village pastures are still an important and contested resource for village smallholders, large-scale mobile and sedentary livestock keepers in the South Caucasus. We use the bundles of property rights approach (Schlager & Ostrom, 1992) to identify stakeholders in common pasture management, their property rights and possible sources of conflict and unsustainable management in a comparative analysis of 6 case study villages in Azerbaijan and Georgia. We show that local, collective decision making by the villagers takes place within national and regional level institutions enabling local management in Azerbaijan, while in Georgia a pending privatization process leaves common management legally unregulated. Nevertheless, in both countries villagers created access and withdrawal rules for mobile livestock keepers, still the interaction is partly a source of conflict. In contrast, the rules for internal management among villagers, e.g. limiting livestock numbers or rules for rotational grazing, are only marginally developed.

Keywords: pastures; property rights; common property; post-socialist transition

1. Introduction

Village pastures are still an important resource for the rural population in the South Caucasus. Livestock keeping has important functions for many village smallholders' livelihoods, being income source and savings account at the same time. There are also other users of common village pastures, such as mobile and large-scale sedentary livestock keepers, having partly conflicting interests in resource management. Nonetheless, village pastures are an important cornerstone for the livelihoods of all users, making sustainable management and use especially important, yet difficult to achieve.

Village pastures in Azerbaijan and Georgia are primarily managed locally and collectively by a village community designing and enforcing own regulations. Collective decision making takes place within a frame of national and regional level institutions, defining roles and competencies of administrations as well as some general provisions and regulations. Thus, the management of common village pastures can be seen as a complex negotiation process influenced by a variety of actors and regulations.

The paper applies the Schlager-Ostrom framework on property rights (Schlager & Ostrom, 1992) and its alterations (Galik & Jagger, 2015) to identify stakeholders in common pasture management, their property rights and possible sources of conflict and unsustainable management in a comparative analysis for Azerbaijan and Georgia. In particular, the following research questions are answered:

Who are the stakeholders in common pasture management in Azerbaijan and Georgia and which property rights do they hold?

What are possible sources of conflict and unsustainable pasture management deriving from the distribution and structure of property rights?

2. The property rights approach

A property right is defined as a social relationship between one person and others with respect to another object or place offering varying degrees of security over a benefit stream from a resource (Bromley, 1997: 3/4). Schlager and Ostrom (1992) distinguish bundles of property rights (Table 1): The operational level access and withdrawal rights prescribe who has spatially, temporally and under which conditions a right to use the resource. The operational level rules can be changed on the choice level, where stakeholders are holding rights to decide on management or exclusion rights for different stakeholders – and thus to alter access and withdrawal rights. Galik and Jagger (2015) added the right of alteration to the choice level rights. Full ownership of a resource also comprises the right of alienation, i.e. the right to transfer choice level and operational level rights.

Table 1 Bundles of property rights

Choice level	Bundles of rights	Definition
Operational level	Access	The right to enter a defined physical property
	Withdrawal	The right to obtain the “products” of a resource
Choice level	Management	The right to regulate internal use patterns and transform the resource by making improvements
	Alteration	The right to change the set of goods and services provided by a resource
	Exclusion	The right to determine who will have an access and withdrawal right, and how that right may be transferred
	Alienation	The right to sell or lease either or all of the above collective choice rights

Based on Schlager and Ostrom (1992) and Galik and Jagger (2015)

The bundles of rights are also useful to identify which stakeholders hold rights on the resource. Schlager & Ostrom (1992) describe the stylized positions according to the rights they hold as authorized user, claimant, proprietor and owner. However, particularly in property rights systems co-managed by the state the distribution of rights among stakeholders might be less stylized and straightforward. Thus, we identify the actual stakeholders and define which of the rights bundles applies to them.

Although Schlager & Ostrom (1992) developed the bundles of rights approach for common property regimes, the concept is also useful to analyze other property rights regimes (private property, state property and open access, (Bromley 1997)) and the various nested and complex forms of rights regimes found in reality.

Property rights are based on institutions, i.e. rules and regulations (North, 1990). These rules may be formal, i.e. legally fixed, normally written down in laws and decrees, or informal, i.e. not written down, emerging locally among users (North, 1990). Due to incomplete design or enforcement of

formal, legal rules, the de facto situation might deviate from the envisioned de jure rights distribution particularly in property rights regimes with state involvement. Keeping in mind gaps between the de jure and de facto situation, only de facto enforced rules result in rights in a strict sense.

3. Study area and methods

The study focuses with Azerbaijan and Georgia on two neighboring southern Caucasian countries. Both countries have a post-socialist transition background and experienced far-reaching political reforms and socio-economic transitions since beginning of the 1990s (Roland, 2000). Agricultural reforms took place in Azerbaijan in 1996 and in Georgia in 1992 and comprised the dissolution of state and collective farms and the far-reaching privatization of agricultural production (Lerman, 2006). While Azerbaijan experienced in the decade from 2000 to 2010 a massive growth of oil exports with associated rapid economic development and the economic marginalization of agriculture, agricultural development is, besides tourism, even more important for the Georgian economy. In 2016, agriculture contributed 9.3 % to the GDP in Georgia and 5.6 % in Azerbaijan (National Statistics Office of Georgia, 2016; State Statistical Committee of Azerbaijan, 2017). Strong development challenges remain in the agricultural sector in both countries due to the widespread prevalence of subsistence agriculture with low mechanization, low labor productivity and wages far below other sectors (Kötschau & Hemmer, 2009; Lerman & Sedik, 2010).

Livestock keeping and pasture use has a century-long history in both countries, involving sedentary livestock keeping with smallholders for subsistence production of milk and meat as well as various mobile and semi-mobile livestock keeping forms using summer pastures at high elevations in the Greater and Lesser Caucasus and/or winter pastures in the lowlands in both countries (Aliyev et al., 1965). Since the 1990s livestock numbers increased in both countries. While in Azerbaijan numbers of small ruminants nearly doubled from 4.5 million in 1995 to more than 8.6 million in 2014 due to the recent economic development and increased demand for sheep meat (Neudert, 2015a, Neudert et al., 2015, State Statistical Committee of Azerbaijan, 2017), while the increase is less in Georgia (from 720.000 small ruminants in 1995 to 970.000 in 2014, National Statistics Office of Georgia, 2016). Mobile pastoralism with a focus on sheep experienced a recent boom in Azerbaijan due to its economic profitability and possibility for investments (Neudert, 2015b). In Georgia, the current practices livestock keeping are very close to those in Central Europe in historical times as artificial fertilisers, pesticides and imported concentrated feed are almost totally absent (Didebulidze & Plachter, 2002).

The study focuses on two neighboring districts: Ganja-Gasach region in Azerbaijan and Kakheti region in Georgia. Ganja-Gasach region in western Azerbaijan has the second largest total pasture capacity of Azerbaijan's economic regions and with 22.8 % the largest share of village pasture area of the total area (Co⁴ Baseline Study team, 2015). The mountainous part of Kakheti region in eastern Georgia has also a strong focus on livestock keeping and 58.5 % of sheep and 10.0 % of the cattle in Georgia are kept there (Co⁴ Baseline Study team, 2015), while in the plains the main land use is viticulture. Sedentary livestock keeping with grazing on common pasture lands near the villages and stable feeding in winter is an important activity of smallholders in both countries.

3.1. Case study villages

The study takes a comparative case study approach (Yin, 2003). In each country, three case study villages were purposefully selected according to the following criteria: (1) location in an altitudinal

belt between 700 and 1,600 m asl since common pasture use by village smallholders is dominant in this altitudinal zone, (2) selected villages vary according to their natural resource endowments village, particularly pasture per household as an indicator of pasture abundance and arable land per household as indicator of an alternative income source to livestock keeping in the village and (3) differ in remoteness/infrastructural conditions (distance to district centers and the presence of an asphalt road to the village) (Co⁴ Baseline Study team, 2015). Table 2 displays overview information about the case study villages.

Table 2 Case study village characteristics

Item	Unit	Azerbaijani case study villages			Georgian case study villages		
		Keremli	Atabey	Plankend	Arashenda	Gombori	Shakhvetila
Altitude	m asl	996	1,300	1,400-1,500	760	1,150	680
Total number of households	households	97	186	276	720*	655*	89*
Total pasture area	ha	517	863	94	350*	1,846*	411*
Total arable land area	ha	182	346		2,752*	681*	120*
Distance to district center	km	10	37	10	10	53	12
Presence of asphalt road		yes	no	yes	yes	yes	no

*: data for community comprising several other villages in addition to case study village

Source: (Co⁴ Baseline Study team, 2015) based on local information

3.2. Methods

The study is based for both countries on from a rapid rural appraisal study conducted in 2015 with an interdisciplinary team of researchers focussing on institutional, socio-economic and ecological aspects of pasture use (Co⁴ Baseline Study team, 2015). Using tools of the rapid rural appraisal toolbox, such as semi-structured interviews, mapping and transect walks information on pasture use and management was obtained from local level administrations and households from the case study villages. For Azerbaijan, this preliminary information was complemented by a review of laws and decrees governing pasture use and qualitative interview data gathered in 2016. Laws and decrees were for Georgia mostly available in English while for Azerbaijan in most cases they were translated by project team members. Further information was obtained from official websites of the state governmental bodies.

Additional information on administrative structures and regulations as well as on actual implementation was obtained from interviewees in state administrations in Azerbaijan. Administrations on local level (local self-administrations (*Belediyye*) and local representatives of the state (*Icra numayendeliyi*)) as well as on regional level (district administrations and their departments (*Icra hakimiyetti*)) were approached with interview guidelines designed based on the review of laws and preliminary information. In total, 14 interviews were obtained from different administrative bodies on regional level and 10 interviews with local administrations.

Furthermore, information from the rapid rural appraisal study on pasture use was corroborated by interviews with all stakeholder groups in the villages. In total 45 interviews were obtained from the village population. The interviews were based on semi-structured interview guidelines outlining the

topics of interview, while actual questions were formulated according to the situations (Atteslander, 2000). Interviews were consecutively translated between Azerbaijani and English language.

Interview data, including the results of the rapid rural appraisal study was analyzed using a qualitative approach using the software Atlas.ti (Miles & Huberman, 1994). Coding of interview data from the villages was started with a pre-established list of descriptive codes according to the topics covered in the interviews. The list was subsequently extended and amended during the coding process. For analysis of interview data from administrations, a mixture of descriptive and process coding was used (Miles & Huberman, 1994), mainly distinguishing the administrative bodies and their interplay and the administrative processes with regard to pasture use. The outputs of codes were stored in word files and further processed with marking in colors arguments or different aspects visible in the coded data in order to obtain abstracted, ordered information. During all parts of data analysis, information was analyzed comparatively.

4. Results

The results characterize the stakeholders, regulations and practices in pasture management for both countries in two sections and then summarize the rights held by different stakeholders according to the property rights framework.

4.1. Pasture management in Azerbaijani case study villages

Pastures in Azerbaijan are administered locally and used by different user groups resident in the village population and elsewhere.

Administration and legal rules for common village pastures

The most important legal body for common pasture use is the local self-administration (*Belediyye*) who is responsible for local issues mainly with regard to land and infrastructure. However, especially regarding infrastructure investments and land categorization, the local self-administrations need to work together with the local representative of the state (*Icra numayendeliyi*), district administrations (*Icra hakimiyetti*) and the State Property Committee, which manages the cadastral system.

The local self-administrations are formally comparably independent from other state administrations as they are elected by the village population. The committee of local self-administration consists of 5-19 members for 5 year period, and out of this committee a head of local self-administration is appointed (Law "On status of local self-administration"). Only formal control is exercised by the Ministry of Justice. The local self-administrations manage their own budget, which is derived mainly from land taxes and income from the sale of household plots as well as renting of arable land and village pasture. In addition, every self-administration receives a support from the state based on the number of citizens in their administrative area. Nevertheless, most local self-administrations struggle even to pay the salary of their staff and have only very limited funds.

"Village pasture land" is a land category fixed by law and designated to the common use of villagers' livestock. By law, pasture land cannot be sold or transferred into other uses, but it can be rented out if sufficient common village pasture remains for the use of villagers. Renting out pasture land is a sensitive issue in the villages since it reduces the grazing area available for local livestock. In the case study villages Keremli and Plankend renting out of pasture territory was no question since all stakeholders saw that the pasture area is not even enough for local livestock. In Atabey, the villagers

exert pressure on the local self-administration not to rent out pasture although the administration would see it as an opportunity to generate income for their budget.

The actual management of common pasture (i.e. decisions on grazing management, stocking rates, and eventually improvement and resting) is placed by law in the hands of the local residents, but no further provisions are made. Thus, interviewees from local self-administrations formulated clearly that they can only make suggestions for management, but the final decisions have to be made by the villagers themselves.

According to the “Land Code” of Azerbaijan, all land users are obliged to use their land sustainably, which should be controlled by the state. Monitoring of land use is the task of the land inspectors working in each district under the control of the State Property Committee. However, asked directly for routines on monitoring of erosion, no protocol or routines became available. Land inspectors seem to just visually appraise large-scale, quickly emerging problems, e.g. land slides or digging of soil by machinery. One land inspector also stated clearly the problem with erosion on village pastures:

“If the damage is made by one person, it is rather easy. The person doing the damage will be found and fined. But if the damage is done by a group, e.g. a village population, it is difficult since no one can be blamed as a single person for it” (Land inspector in one of the case study village districts).

Pasture use by the local village population

Sedentary livestock keepers from the village: Most households in the Azerbaijani case study villages possess few cattle and sheep grazing nearly year-round on the village pasture with a stall-feeding period in winter. The households organize herding mainly according to the labor availability among household members and according to their preferences. There are several organizational possibilities for keeping cattle and sheep on the village pasture: (1) common herding, (2) individual herding, (3) pay someone to herd the livestock or (4) letting the livestock roam freely without supervision. With common herding, approx. 7-30 households of the same neighbourhood or street join their livestock and share the herding duties by setting up turns. The villagers have developed detailed rules for their common herds, including rules for joining and leaving the group, organizing the turns, monitoring of performance of herding and sanctions in case of non-fulfillment of herding duties. Households herding individually or leaving their livestock roaming freely have various reasons to do so. Households letting the cattle roam freely state that they do not have time to go to the turns of a common herd, do not want to pay or do not have money to pay for herding. Individual herding is mainly practiced if households have comparably much livestock and male labor within the household.

Mobile and semi-mobile herders resident in the village normally have a greater number of sheep. They use the village pastures temporarily, but spend the summer and/or winter months on distant summer and/or winter pastures. Households owning a larger number of animals have self-interest to leave the village pasture as fodder might not be sufficient for their livestock and at the same time, there might be social pressure and a commonsense understanding that they cannot stay with their livestock on the village pastures. However, mobile herders need access rights to pastures located elsewhere, which are increasingly difficult to obtain.

Mobile herders use village pastures only temporarily during the spring and autumn movements of their herds for several days to maximum some weeks. The stopover on the village pasture is used for acclimatization for the livestock, for selling animals, preparations for the further migration and veterinary checks. No mobile livestock keepers were found in Keremli and Atabey, although there might be wealthy households from the village owning mobile livestock keeping farms. From Plankend, one household verified to have a mobile sheep farm using distant summer and winter pastures, and several households from the village are partners in cooperative mobile farms.

Semi-mobile herders may use the village pasture during summer (May to October) but move to other pastures during the winter. This type of livestock keeping can be found with at least 3 households from Keremli and 9 households in Atabey. To stay on the village pasture in summer is feasible for larger livestock owners only if there is enough fodder available on the village pasture to support larger herds. The other type of semi-mobile herders uses other pastures during summer, but stays with their livestock in winter in the village. In winter, the livestock is mainly stall fed and uses the pasture for moving around only on snow-free days. This livestock keeping type is widespread in Plankend as the village pasture of Plankend is particularly small. Herders noted that livestock is better fed on the summer pastures.

Pasture management rules

Local pasture management has no written rules, but is evolving with the actual grazing practices of villagers. Regularities in grazing practices were seldom perceived and stated as “rules”. Villagers reported on few common access rules, which are: (1) areas in the vicinity of the village were reserved for the grazing of young stock, (2) hay meadows and fields must not be grazed until after the harvest, but are grazed favorably in autumn. Apart from these general rules, villagers distinguish grazing areas with local names and choose grazing locations according to seasons and weather conditions. However, it was stressed that choosing grazing locations, even in common herds, was upon the individual decision of the herder. There seems to be nearly no communication among the villagers, even within common herds, about grazing locations. Thus, in none of the case study villages a differentiated spatial grazing management exists.

In Keremli and in Plankend attempts for improving pasture condition and implementing management measures were made which were until 2016 unsuccessful. In Keremli, interviewees thought about ways to reduce grazing pressure by setting incentives for reduced livestock possessions of villagers or sending livestock to the summer pastures. There were also ideas to improve grazing management by introducing a system of alternate grazing areas, e.g. by an agreement among villagers and the use of electric fences. However, none of the ideas was discussed in a villagers’ meeting. In Plankend, villagers are particularly unsatisfied with the condition of the village pasture. Several attempts for improving the pasture management were already made by the self-administration in cooperation with the local representative of the state. Meetings were held to convince villagers to rest the whole pasture area for one year. However, few villagers could not be convinced to leave the pasture area during summer. Most interviewees noted that the total protection of the village pasture and use as hay meadow is the only solution for improving the condition of their village pasture. This would revive regulations already existing during the Soviet period. However, villagers and administrations reported that no common agreement could be found.

Rights of mobile livestock keepers resident elsewhere

Mobile livestock keepers resident elsewhere access and/or use village pastures in spring and autumn during their seasonal migrations between summer and winter pastures. In Azerbaijan, there is a system of official routes for mobile livestock managed by the state, with intermediary veterinary and police posts checking documents. The migration from winter pastures to summer pastures takes 7-10 days in the Ganja-Gasach region, but herds may be actually on the road for a longer time.

The Azerbaijani case study villages experience different levels of mobile herd traffic and grant mobile herds from elsewhere different levels of rights to their village pasture: Keremli is not located at an official road for mobile herds but at a popular bypass towards the summer pastures of Dashkesen district. There is a veterinary post and a resting place of 70 ha located at the southern border of the village territory. According to villagers, 200 to 300 herds passing the village each season while it should be approx. 50 herds according to official numbers of the veterinary post. The relation between local villagers and mobile herders is dominated by conflict. Local villagers state that mobile herders damage their fields and hay meadows, may steal or take accidentally local livestock and diminish the fodder basis of local livestock by grazing the village pastures. Thus, according to the villagers, mobile herders may pass the village pasture territory, but do not have the right to graze and stay for longer than the time needed for passing the village territory.

Atabey is not located at a road for mobile herds and according to villagers only few herds pass by the village each season. No conflicts or actions to prevent resting of mobile herds were reported. While the villagers strongly oppose renting of the village pasture territory during the summer season, the self-administration rents out pasture and stubble fields to mobile farmers in autumn with the agreement of villagers.

Plankend is located at a major road for mobile herds leading to the summer pastures of Gedebey district. In the middle of Plankend village, there is stable remaining from the Soviet period which is used by mobile herds as a resting place. Villagers accept that mobile herds are passing the village and stay in the stable in the center of the village for 1-2 days. There were no problems reported about mobile herds entering fields and hay meadows. Mobile herds from owners coming from other villages are not reported to do prolonged stopovers since there is not enough fodder on the village pasture. However, most villagers see it as problematic that local mobile herds use the village pasture for an extended stopover before going to the summer pastures in spring. Some of the herds are reported to stay up to 25 days for their preparation to go to the summer pasture. Villagers blame the stopovers of the local mobile herds for the bad quality of the village pasture.

“Here on the village pasture there is not enough fodder because of the mobile herders. The local mobile herds stay here for 20-25 days. After they are gone, the grass will not grow again since it is already dry summer” (Villager from Plankend)

There was an open conflict with one owner of a large mobile herd from the village in spring 2016. Villagers reported the prolonged stay to the local administration, which convinced the herder to move on.

4.2. Stakeholders in pasture management in Georgian case study villages

In the Georgian case study villages, actual practices of livestock management are similar to the practices in Azerbaijan, however, the legal framework for common pasture use differs substantially.

Administration and legal rules for common village pastures

In Georgia, the spatially smallest administrative unit is the community (*temi*), who is represented by the community self-administration (*munitsipalitetis tsarmomadgenloba*). The head of the community self-administration is appointed by the district administration (*gamgeoba*) and has only very limited decision rights regarding local issues and no responsibility in land management. In contrast, district administrations have comparably far-reaching self-administration rights.

Georgia is still reorganizing its framework for land rights and ownership, however, no special attention is given to land in common use, i.e. pastures or roads for pastoral mobility. From 2005 to 2008, pasture land was in the process of being transferred to district administrations. Thus, many pasture areas were registered as district property in the public registry. However, this process was stopped and since 2010 responsibility for pasture lands was transferred to the Ministry of Economy and Sustainable Development. District property registrations were annulled; however, no actions were taken to register pasture lands as state lands (Beckmann, 2014). Interviewees in the case study villages expected that pasture lands will be subject to privatization to individuals or cooperatives via auction in the near future (similar to arable land), while there are no provisions how common lands accessible for a village community should be dealt with. In 2015, administrative responsibilities and legal rules were still unclear.

In none of the three Georgian case study villages the community self-administration or district administration involves significantly in pasture management issues. However, in Arashenda, upon initiative of the community self-administration the local households collected funds to buy part of the land used as village pasture in an early stage of the privatization process (before 2001). However, due to the perturbations of the privatization process villagers, including representatives of the self-administration, were not sure if they still have legal rights to this pasture territory (Co⁴ Baseline Study team, 2015).

Pasture use by the local village population

Sedentary livestock keepers from the village: In Georgia, also smallholders are the main users of common village pasture with a greater focus on cattle keeping compared to the Azerbaijani villages. As in Azerbaijan, herding can be organized in different forms: (1) common herding in turns, (2) individual herding, (2) paid herding and (4) letting animals roam freely without supervision. Rules and organization of the common herds are similar in Azerbaijan, although neighborhoods (*samezoblo*) play a greater role in the organization of common herding issues, particularly for cattle. In Gombori, cattle herds are strictly organized according to neighborhoods, and each common cattle herd has a common grazing itinerary and grazing territory. Letting the livestock roam freely without supervision is practiced mainly in Shakhvetila, a particularly remote village where livestock mainly grazes in the forest territory.

Mobile and semi-mobile herders resident in the villages are rare, only Arashenda village is the home of one large livestock owner migrating with 3,000 sheep between summer and winter pastures. He uses the village territory for a stopover in autumn for 1-2 weeks. Moreover, in Shakhvetila village households are sending their livestock to winter and summer pastures and receive an amount of cheese in autumn. They may help the mobile pastoralists during the seasonal migration, but the livestock does not pass the village or uses common pastures of Shakhvetila village.

In the vicinity of Arashenda, there are sedentary cattle farms in privatized former kolkhoz stables. The owners of the stables are partly villagers, but many farms are rented to cattle keepers resident

elsewhere. The sedentary cattle farms use the common pasture territory since the farms do mainly comprise only the buildings but no pasture territory.

Pasture management rules

As for Azerbaijani villages, there are no written down rules for pasture management in the Georgian case study villages, but interviewees stated as a general rule that it is forbidden to enter fields and hay meadows. However, no further detailed rules for village pasture management became apparent. In Arashenda, the community self-administration reported that a grazing itinerary is being implemented but no further information or documents became available. In Gombori, neighborhoods and common herding groups partly felt responsible for their common infrastructure and organized common cleaning works of access roads to the pasture.

Interviewees showed in many cases their discontent with the pasture quality, with the main problem being forest regrowth, particularly in Gombori. As livestock numbers decreased strongly in the transition period, the pasture territory reforests, which decreases the grazing area left for today's livestock. In the past, neighborhoods also organized common pasture care works cutting down woody vegetation but according to the interviewees this practice does not continue.

Rights of mobile livestock keepers resident elsewhere

In general, the migration infrastructure for mobile herds in Georgia lacks regulation as veterinary controls are not implemented properly and official migration roads are sometimes blocked by private land. Only a part of Shakhvetila community territory is located on a migration road for mobile livestock. Passing herds may rest in the riverbed, and no conflicts on access and grazing of mobile livestock were reported.

Arashenda is located on a popular bypass of a migration road and approx. 10 mobile herds pass by the village each season. There have been violent conflicts with mobile livestock keepers as villagers denied them access to their village territory. The main reasons for denying access are that villagers are afraid of diseases transferred by mobile, infected livestock and (to a lesser extent) that mobile livestock reduces the fodder basis for local livestock.

In Gombori, part of the abundant common pasture territory is leased out to a herder from elsewhere, although few people in the village know about this. Few mobile herds passing Gombori in autumn do not pose problems since it is rather welcomed that mobile livestock grazes harvested hay meadows or stubble fields.

4.3. Property rights bundles held by stakeholders

In table 3 the framework of property rights bundles is applied to the de facto situation in the case studies on pasture management in Azerbaijan. Sedentary and mobile livestock keepers resident in the village and also mobile livestock keepers resident elsewhere have strong access rights. However, withdrawal rights might be gradually restricted: Sedentary livestock keepers have a legally secured, general right to withdrawal. While mobile livestock keepers resident in the village enjoy an equally general right in Atabey and Keremli, this right is restricted temporally in Plankend. In the case of mobile livestock keepers resident elsewhere, temporally restricted withdrawal rights are offered only in Atabey, while in Keremli and Plankend withdrawal rights are generally denied.

On the choice level for management and exclusion decisions, relevant stakeholders are defined by law as the village community, including sedentary and mobile livestock keepers, although in practice mobile livestock keepers might enjoy a more limited right. However, the local self-administration has an important role as the facilitator of collective action, i.e. to organize common meetings, make suggestions and to prepare decisions. Rights of alteration are only enjoyed to a limited extent by the local self-administration according to the legal framework. Alienation rights, i.e. to transfer choice and operational level rights to somebody else are not held by any stakeholder, since the choice level rights of villagers are solely determined by residence in the village and not transferable. The analysis showed no significant deviations in property right bundle allocation between the de jure and de facto situation. Rather, the relevant laws and decrees set a legal frame, which is filled by decisions of the local villagers.

Table 3 De facto property rights bundles in common village pasture management in Azerbaijani case study villages

Bundle of rights	Parliament	Local self-administration	Sedentary livestock keepers	Mobile livestock keepers resident in village	Mobile livestock keepers resident elsewhere
Access			x	x	x
Withdrawal			x	(x) ¹	(x) ¹
Management		(x) ²	x	x	
Alteration		(x) ²			
Exclusion		(x) ²	x	x	
Alienation					

¹: right is partly restricted in some case study villages

²: facilitating role in preparing decisions

The distribution of rights in pasture management, particularly on the choice level, is very different in the Georgian case study villages (Table 4). Sedentary and mobile livestock keepers resident in the village enjoy strong traditional access and withdrawal rights, but on legal level the situation is unregulated. De facto access and temporary withdrawal rights might be granted (in Gombori and Shakhvetila) or denied (in Arashenda) from the local users to mobile livestock keepers resident elsewhere. Thus, on the choice level sedentary livestock keepers enjoy de facto management and exclusion rights although this is not legally fixed. The community self-administration might participate in and facilitate decisions (as e.g. in Arashenda), but has no factual and legal decision rights. Rights to alter land use and to transfer rights to others are held by “the state”, that means the Ministry of Economy and Sustainable Development and the parliament. In case the legal privatization of pasture resources is implemented, all property rights will be held by a single user or user group. Thus, the situation in Georgia shows strong deviances of the legal, unregulated situation aiming at privatisation and the de facto collective management of the common village pastures.

Table 4 De facto property rights bundles in common village pasture management in Georgian case study villages

Bundle of rights	“The state”	Community self-administration	Sedentary livestock keepers	Mobile livestock keepers resident in village	Mobile livestock keepers resident elsewhere
Access			x	x	(x) ¹

Withdrawal			x	x	(x) ¹
Management		(x) ²	(x) ²		
Alteration	x				
Exclusion		(x) ²	(x) ²		
Alienation	x				

¹: right is partly restricted in some case study villages

²: de facto rights, no legal basis

5. Discussion

In the paper, property rights bundles held by stakeholders for pasture use and management in Azerbaijani and Georgian villages were analyzed. The study for Azerbaijani villages is based on qualitative interview data, while the information for Georgian villages is based on a rapid rural appraisal study. Both approaches yielded comparable information and are appropriate for obtaining data for in-depth institutional analyses. However, especially for Georgian case study villages a greater depth of data collection would have led to more detail in the analysis.

The analysis revealed the strong differences in the legal framing of common pasture use for the Azerbaijani and Georgian cases. For the Azerbaijani cases, a reasonably good fit between actual common management practices and assignment of rights and duties by law is provided as law enables the collective management by the village population with facilitation by the local self-administration. Assigning management to the lowest local administrative unit assures that local problems can be solved on local level.

In contrast, in the Georgian cases the unregulated legal situation leads currently to a huge administrative gap leading to insecurity for the pasture users (see also Raaflaub & Dobry 2015). If in Georgia the privatization of pasture resources is implemented as planned, the situation will worsen as legally no space for common management as practiced by the smallholders in the village is provided. As auctions are planned to take place electronically despite many villagers do not have computer and internet access, there are concerns that auctions will be mainly decided in favor of urban investors while villagers lose access to resources in their vicinity. There are first signs of protest against the privatization of common resources in form of letters to district administrations and collections of signatures (Z. Bregvadze, pers. comm.).

Actual herd management practices differ only slightly between Azerbaijani and Georgian cases, which suggests that they are based on practical limitations of the smallholder farming system (e.g. shortage of herding labor forcing cooperation) and probably common heritage or exchange relations due to the spatial vicinity dating back to the Soviet or pre-Soviet period. Especially in mobile herding, cross-boundary migrations of herds were a common practice during the Soviet period (Didebulidze, Bregvadze, & Imnadze, 2015). The organizational forms found in common herding suggest that villagers are able to design and enforce rules for collective action. However, a spatial grazing management occurs in none of the case study villages, despite this might be crucial to improve the pasture condition in both countries. Similarly, no actual pasture care measures are implemented, despite attempts for pasture resting were noted in one of the Azerbaijani villages and collective pasture care methods seemed to be implemented in Georgian villages during the Soviet period.

A closer look at the regulation of access and withdrawal rights for mobile pastoralists reveals that their rights strongly depend on the abundance of village pasture resources. This is visible especially

when comparing the Azerbaijani cases: mobile pastoralists resident elsewhere have access rights everywhere, but strongly restricted withdrawal rights in Keremli and Plankend, the villages with few pasture area, while they can obtain withdrawal rights for the autumn season in Atabey. Mobile pastoralists resident in the village itself have undisputed withdrawal rights in Atabey and partly in Keremli, while withdrawal rights are temporally strongly restricted in Plankend. For the Georgian cases, the relation between withdrawal rights and resources abundance is less visible as especially Gombori and Shakhvetila have comparably abundant pasture resources. That withdrawal rights are adjusted to the abundance of resources clearly shows a regulatory mechanism for the sustainable management of common resources (Ostrom, 1990).

On the theoretical level, the framework of property rights bundles of Schlager and Ostrom (1992) helped particularly to identify the different rights held by the stakeholders and particularly the differences in the administrative frame of pasture use and management between the Georgian and Azerbaijani cases. However, the logic revealed in the application to pasture management suggests that the category “alteration” added by Galik and Jagger (2015) would be better placed after the “exclusion” category since alteration rights seem to have a stronger impact on resource management. Alteration rights in land management would imply changing the land category in legal terms, which is in Azerbaijan and Georgia – and probably in many other countries – more severely restricted by legal regulations than exclusion rights. We could also show that the distribution of property rights bundles between the various stakeholders, particularly for administrative bodies is more complex and requires further detailed description based on the data.

6. Conclusion

In the paper, common pasture management by smallholders in Azerbaijan and Georgia was analyzed comparatively drawing on the framework of property rights bundles of Ostrom and Schlager (1992) and its alterations (Galik & Jagger 2015).

It was shown that the legal framework for common pasture management differs substantially in both countries: while in Azerbaijan management and exclusion rights are placed legally in the hands of the village population, in Georgia legally no space for common pasture management on village level is provided since pastures should be privatized in the near future.

Despite the differences in the legal framework, actual practices of pasture management by smallholders are similar as different herding forms, common and individual herding, coexist on the village pasture areas. Control is exercised by the villagers with regard to access and withdrawal rights of mobile pastoralists from the village itself and from elsewhere. Especially between the Azerbaijani case studies withdrawal rights of mobile pastoralists vary with the abundance of pasture resources, pointing to regulatory mechanisms towards the sustainable management of pasture resources. Nevertheless, in none of the villages, spatial grazing management or pasture care measures are successfully implemented and many interviewees stated that the condition of their village pasture is unsatisfying.

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