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THE RACE FOR LEASING RIGHTS

Pasture Access and Institutional Change During
Post-socialist Reforms in Azerbaijan

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The Race for Leasing Rights

Pasture Access and Institutional Change During Post-socialist Reforms in Azerbaijan

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Abstract

Within the context of transition and pasture reform in Central Asian and Caucasian countries our study focuses on the pasture reform in Azerbaijan. The pasture reform in Azerbaijan has received little attention in scientific literature although it displays a rapid emergence of individualised rights for pasture plots, which is an exceptional development in this region. Using empirical case study evidence we analyse the implementation and outcomes of the reform process for pastoral land in the context of the macroeconomic development in Azerbaijan and in comparison to pasture reforms in other post-socialist transition countries. We apply the evolutionary theory of property rights to explain and analyse the exceptionally rapid emergence of individual property rights for pasture in Azerbaijan.

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1 Introduction

The post-socialist reform processes for pastoral land have received less attention than agricultural reforms on arable land. While for arable lands and stationary farming systems the institutional dimension of reforms is well researched with case studies (Milczarek 2002; Hanisch 2007; Schlüter 2007) and in a comparative way (Bezemer 2002; Pejovic 2003; Hagedorn 2007), for pasture reforms mainly single case studies prevail (Kerven 2003a; Fernandez-Gimenez & Batbuyan 2004; Schillhorn van Veen et al. 2004; Farrington 2005). Apart from the existence of case studies, the comparative analysis of reform processes for pastoral land between countries in the Central Asian and Caucasian region is underdeveloped (some comparative work is done in Kerven 2003b; Kerven et al. 2011; Kerven et al. 2012). This observation is especially striking because permanent pasture resources constitute 64 % of the land resources in Central Asia (FAOSTAT 2011).

In addition, the resource characteristics of pasture, which are different from the ones of arable land, have potential effects on the governance structures emerging in post-socialist reform. This is already acknowledged in the transition literature and the need for comparative research was identified (Swinnen & Heinegg 2002). In fact, most case study research on post-socialist rangeland reforms explicitly mentions the special resource characteristics (exceptionally clear is Banks (2001) or Robinson and Whitton (2010)): Pasture land used by mobile pastoralists has common pool characteristics as evident in the non-excludability of other users and the extractability of private benefits (Ostrom et al. 1994). In addition, due to the environmental variability and unpredictability of rainfall, the exclusion of others may also be undesirable as optional access to only occasionally productive areas is needed (Scoones 1994; Fernandez-Gimenez & Allen-Diaz 1999). It was shown that pastoralists living in these environments profit from flexible regulations for reciprocal access to rangeland resources (van den Brink et al. 1995).

This paper contributes to the relatively scarce literature about pasture reforms in post-socialist transition countries by focussing on pasture reform in Azerbaijan. Using the theoretical framework of institutional change and property rights, it provides an empirical case study, which places the emergence of individual property rights within the broader context of economic development in Azerbaijan. Apart from that, it links the case study from Azerbaijan to information about pasture reforms from other post-socialist countries.

While Azerbaijan shares many common characteristics with other countries in the Central Asian and Caucasian region, some features differ and are likely to influence the reform

process. The most important common characteristic among countries in this region that enables comparisons is the presence of traditional mobile pastoralism which was transformed by socialist governance structures since the 1920s. Among Central Asian and Caucasian countries Azerbaijan has, besides Kazakhstan and Turkmenistan, the highest GDP growth rates, which are based mainly on revenues from oil export (World Bank 2012).

While for Azerbaijan some accounts on agricultural reforms in general are available (Kaneff & Yalcin-Heckmann 2003; Yalçin-Heckmann 2005; Lerman 2006; Lerman & Sedik 2010), pastures used by mobile pastoralists are nearly invisible in the transition literature despite permanent pasture covers 32 % of the land resources of Azerbaijan (FAOSTAT 2011). There is some valuable anthropological work on pasture use in Northern Iran (Tapper 1979a; Tapper 1979b) as well as a body of nearly inaccessible Soviet literature focussing on improvement of pasture use (e.g. Aliyev et al. 1965).

In the case study we apply theories of the emergence of property rights on economic frontiers (Anderson & Hill 1990), which is in the tradition of the economic theory of property rights (Demsetz 1967; Bromley 1991). In frontier regions property rights develop rapidly from open access regimes to more clearly defined rights regimes, as private property, by consecutive processes of settlement, land improvements and infrastructural development, which are associated with rapidly changing values of land. The application of this theory to the pasture reform in Azerbaijan is justified as in the first years after the breakdown of the Soviet Union pastures were virtually depopulated due to lack of livestock and transport means and were subsequently repopulated during the recovery of the economy. The repopulation of pastures happened in a rapid manner unequalled in other transition countries. Therefore, our study provides an extreme case regarding the development following pasture reform, which finally led to the emergence of individualised rights for pasture.

The second section reviews more closely the literature on pasture reforms and in Central Asian and Caucasian countries and presents related statistical information. It is followed by accounts on the theoretical and methodological background. The results of the case study are presented in section 4, subsequently followed by discussion (section 5) and conclusion in section 6.

2 Pastures in transition – a review of the literature

All post-socialist land reforms share the starting point of socialist property regimes, which allows the comparison of cases from Central Europe to Eastern Asia (Verdery 2004). Under

socialist property regimes the productive assets, including land, belong to “the citizens” while the state acts as administrative agency. However, various rights are distributed to other agents leading to a “hierarchy of overlapping rights” (Sikor & Muller 2009). For example, the state as the ultimate administrator of land can grant management rights to collective or state farm managers. In turn, they can grant rights to farm workers to use individually household plots and other assets. As a consequence of these overlapping rights, control problems arise, and additional regulations are needed to curtail the misappropriation of collective resources. On the other hand, people can develop a perception of quasi-ownership to land, e.g. for the household plots, as over time the distinction between having only use rights and having ownership becomes blurred (Verdery 2004).

In the transition period most states opted for a far-reaching privatisation of land and the creation of individual farms. A review of post-socialist agrarian reforms shows a quite mixed picture of outcomes when measured in privatisation rates and agricultural output (Csaki & Lerman 1994; Lerman et al. 2004). Despite the ambitions to create a farming sector dominated by individual farms following the western European example in many countries, a considerable share of cooperative farms persisted (Griffin et al. 2002; Sikor 2006). In case privately owned farms were successfully created, problems with small farm sizes and persisting poverty of the rural population occurred (Lerman 2006).

The individualisation and restructuring process for pasture is distinct from arable land for all Central Asian and Caucasian countries. Developments in the pastoral economy that influenced pasture tenure reform are the decline in livestock numbers in the transition period and the emergence of new forms of pastoral organisation after the breakdown of collective farms. Livestock numbers decreased during the transition period in all countries leading to a much lower demand for pasture land than before. This resulted in a large scale abandonment of remote pastures in Kyrgyzstan, Kazakhstan and Tadjikistan, which only starts to reverse in the last years (Behnke 2003; Kerven et al. 2003; Farrington 2005; Undeland 2005; Robinson et al. 2008; Baibagushev 2011; Dörre & Borchardt 2012).

Regarding herding structures during the Soviet period state and collective farms prevailed, which also ensured transport, water and external fodder supply as well as veterinary services. During transition herders reorganised along family lines or neighbourhood and friendship partnerships. This reflects the strong economies of scale prevalent in mobile herding and also revives structures of the pre-Soviet organisation of herding (Kerven et al. 2003). Despite this, higher shares of individual herders either by necessity or choice are observed, e.g. in Kyrgyzstan (Farrington 2005) or in Mongolia (Fernandez-Gimenez & Batbuyan 2004).

Especially in Kyrgyzstan and Tajikistan herding units are reported to struggle with insufficient size and lacking market access resulting in low productivity and subsistence orientation of production (Kerven et al. 2011; Qonunov 2011).

Resulting from low livestock numbers a contraction of the mobility of pastoral herds is reported for Central Asian countries during the initial phase of post-socialist transition. Especially poor households lack sufficient livestock and transport means for a mobile lifestyle and decided to herd their small livestock numbers near their home villages (see e.g. for Kyrgyzstan Farrington (2005) or Tadjikistan Qonunov (2011), Vanselow et al. (2012)). The overall decrease in mobility leads to the overexploitation of easily accessible pastures, while remote pastures are underused (Dörre & Borchardt 2012; Vanselow et al. 2012). This trend only starts to reverse in the last years with the accumulation of livestock by wealthy households reviving a more mobile lifestyle in order to ensure the fodder provision for their large herds (Kerven et al. 2003).

The state of the pastoral economy is also reflected in statistical information about the pastoral sector allowing for comparisons between Central Asian and Caucasian transition countries. Table 1 presents information about pasture resources, livestock numbers and a ratio of pasture resources to livestock in 2008. Permanent pasture is in all Central Asian and Caucasian countries the prevailing agricultural land use. After the breakdown of livestock numbers in most countries during the first years of transition, the current degree of restocking of pasture areas varies. The average growth rate of small ruminant numbers between 1995 and 2008 indicates that there has been a dynamic development in the livestock sector in Turkmenistan, Mongolia and Azerbaijan, while Kazakhstan and Kyrgyzstan have low and on average negative growth rates in livestock numbers. The ratio of permanent pasture resources to livestock numbers measured in hectare (ha) per Tropical Livestock Unit (TLU) gives a rough estimate to which extent pasture resources are utilised. The results show that Azerbaijan has a relatively small pasture area available per livestock unit, while the ratio is especially favourable for Kazakhstan and Mongolia. However, with increasing aridity on the large-scale climatic gradient from west to east in the Central Asian and Caucasian region the pasture area needed per livestock unit is likely to increase.

Table 1: State of the pastoral sector in Central Asian and Caucasian transition countries in 2008.

Country	Cover of permanent pastures		Livestock numbers			Average growth rate of small ruminant numbers	Ratio permanent pastures: livestock
	1000 ha	% of agricultural area	Small ruminants (heads)	Cattle	TLU ¹	% (1995-2008)	ha per TLU ¹
Armenia	1 244	71	637 101	629 146	599 280	0.2	2.08
Azerbaijan	2 669	56	8 109 713	2 212 800	3 281 543	4.5	0.81
Georgia	1 940	77	797 100	1 031 000	932 670	0.3	2.08
Kazakhstan	185 000	89	16 080 000	5 840 900	7 596 675	-2.3	24.35
Kyrgyzstan	9 374	87	4 251 816	1 168 030	17 26 386	-1.2	5.43
Mongolia	114 887	99	38 331 700	2 503 400	9 543 890	5.1	12.04
Tajikistan	3 856	82	3 798 430	1 702 540	2 036 591	2.9	1.89
Turkmenistan	30 700	94	18 274 900	2 157 700	5 273 255	8.7	5.82
Uzbekistan	22 000	83	12 625 000	7 458 000	8 118 500	1.9	2.71

Source: Data compiled from FAOSTAT (2011), ¹: TLU: Tropical livestock unit, 1 TLU = 0.75 cattle or 0.2 small ruminants (FAO 1999).

As the pastoral sector might be influenced by the national economic development, we present in Table 2 economic indicators of Central Asian and Caucasian transition countries for 2008. The Real GDP as well as the Real GDP per capita is highest in Kazakhstan, Azerbaijan and Turkmenistan. The economic indicators in these three countries are enhanced especially by high revenues from oil export (ESCAP 2010). For Azerbaijan and Kazakhstan this is also reflected in the low Value added in the agricultural sector. In Azerbaijan and Turkmenistan the GDP growth rates are exceptionally high. In contrast, Kyrgyzstan, Tajikistan and Uzbekistan show under-average Real GDP and GDP per capita figures and high contributions of the agricultural sector to the GDP.

Table 2: Economic development indicators in 2008 for Central Asian and Caucasian transition countries

Country	Real GDP	Real GDP per capita	GDP growth	Value added per sector in % of total value added		
	Billion 2005 US\$	2005 US\$ per capita	% change per year	Agriculture	Industry	Services
Armenia	7	2 192	6.9	17.4	44.5	38.1
Azerbaijan	25	2 758	10.8	6.2	69.4	24.4
Georgia	8	1 834	2.3	10.2	21.5	68.4
Kazakhstan	71	4 530	3.3	5.4	41.5	53.1
Kyrgyzstan	3	574	8.4	28.8	19.1	52.1
Mongolia	3	1 127	8.9	22.3	38.0	39.7
Tajikistan	3	428	7.9	23.2	30.3	46.5
Turkmenistan	12	2 424	10.5	22.6	41.9	35.5
Uzbekistan	18	658	9.0	26.2	30.4	43.4

Source: ESCAP (2010); ESCAP (2012).

Regarding the reorganisation of pastoral land tenure most Central Asian and Caucasian countries opted in the first decade of independence for a partial individualisation of pasture use which includes access and management rights. Leasing land is possible in Kyrgyzstan, Tajikistan and Kazakhstan while Mongolia and Turkmenistan opted for the allocation of campsites or management rights to pasture plots, respectively. However, even in the cases where leasing land is possible, few pastures have actually been leased out (Kerven 2003b). The legal framework for individualisation led in many cases to unintended, negative outcomes, such as insufficient adoption of formal procedures and the development of different *de facto* regulations for land use or land grabbing (Kerven et al. 2011; Kerven et al. 2012).

While discussing these consequences pasture reforms, authors draw on one fundamental argument against privatisation: the common pool resource characteristics of vast pasture areas as well as the unreliability of rainfall, which makes exclusion and the delimitation of boundaries costly and even undesirable. Therefore, some authors have argued for a governance approach relying on fuzzy boundaries of pastures and group tenure (e.g. Fernandez-Gimenez 2002; Undeland 2005; Sternberg 2008; Crewett 2012). In contrast, common property regimes with clearly defined spatial and social boundaries are unlikely to emerge as they may be unsuitable to vast pasture resources (van den Brink et al. 1995). In addition, especially for Kazakhstan and Kyrgyzstan, it is argued that transaction costs of land leasing and registration are very high compared to the low value of remote and arid pastures (Behnke 2003; Schillhorn van Veen et al. 2004; Undeland 2005; Crewett 2012).

In response to that criticism, in Kyrgyzstan pasture access regulations were altered again in 2009. So-called grazing committees at community level are now responsible for pasture administration (Kerven et al. 2012). However, authors again criticise the approach for not addressing the governance problem causing the failure of the tenure approach (Crewett 2012) and for building on misconceptions of the pastoral society (Jacquesson 2010).

For the Caucasian states Georgia and Armenia information focussing on pasture reform is lacking. Regarding agricultural reform in general, Georgia and Armenia introduced as early as 1992 a far reaching privatisation of land and other agricultural assets (Lerman 2006).

In Mongolia, which experienced a strong increase in livestock numbers during the transition period, pasture access is regulated by the allocation of campsites rather than pasture. It is possible to use campsites on a basis of individual or group leaseholds under the leadership of one person, which is *de facto* implemented in most parts of the country (Fernandez-Gimenez & Batbuyan 2004). Turkmenistan is on a very slow transition path and decided to reorganise livestock keeping within the existing pre-transition structures. Reforms include the devolution of daily management over livestock to individual herders in a form of leasehold pastoralism, but neither livestock nor pasture are completely privatised (Lunch 2003; Behnke et al. 2005).

In case the allocation of pastoral land to individuals is implemented, several authors observe a distribution of pastures in favour of wealthier households (Behnke 2003; Fernandez-Gimenez & Batbuyan 2004; Robinson et al. 2008; Kerven et al. 2012). This reflects the greater ability of wealthier households to deal with administrative procedures as well as their higher capital endowments as mobile herding requires a sufficiently large herd, access to transportation and sufficient labour power. Poorer people who are not able to bear the costs for land lease or registration use common pasture under informal agreements with local authorities for mobile and stationary forms of herding.

3 Theoretical framework and methodology

3.1 Rights to pastoral land and the evolution of property rights

A property right is defined as a social relationship between one person and others with respect to another object or place and offers varying degrees of security over a benefit stream from a resource (Bromley 1997). Property rights are a result of the rules and governance structures and provide direct incentives for resource management to the users (Barzel 1997). One distin-

guishes four broad categories of property rights regimes: open access, common, state and private property.

The governance structures and rights regimes may be influenced by the characteristics of the resource concerned. Pasture resources in arid areas, like the rangelands under investigation here, are characterised by low stocking and population densities which lead to high exclusion costs of other herders. Therefore, rangelands are classified as common pool resources (Ostrom et al. 1994), which invite a non-exclusionary property regime. In fact, rangelands used by traditional mobile pastoralists are overwhelmingly often managed in common property regimes or regimes with less clearly defined boundaries. Modelling experience substantiates this observation: if land quality and rainfall are sufficiently low and rainfall variability is high, nonexclusive property rights are beneficial (van den Brink et al. 1995). The resulting access to larger areas enables pastoral opportunism, which is an economically beneficial and risk minimising herding strategy given the environmental conditions in rangelands (Galaty & Johnson 1990; Lane & Moorehead 1994; Sandford 1994). The transformation to private rights, i.e. enclosures, in traditional pastoral common property regimes is often associated with land use changes to stationary herding systems or arable agriculture (e.g. Lesorogol 2003). These developments are mostly seen critical as enclosures leads to rangeland fragmentation and have adverse distributional effects (Banks 2003; Beyene 2010). However, from a theoretical point of view, most scientists agree that also common pool resources can be sustainably managed under each property regime as long as regulations are fitted to the specific resource and its users (Berkes 1996; Bromley 1997; Grafton 2000; Vatn 2005). For rangelands, this becomes apparent in modern, market oriented “ranching” systems (Galaty & Johnson 1990) in developed countries where rights to pastoral land even in low rainfall areas are mostly private. However, also in those systems the large ranch sizes are not able to buffer the remaining environmental variability, and, besides forage, ranches rely on external fodder inputs. In some cases, solutions for reciprocal access to grazing land are developed, e.g. with the agistment system in Australia (McAllister et al. 2006).

Regarding the development of property rights regimes, the evolutionary theory of property rights is influential. It predicts the emergence of clearly defined and exclusive property rights depending on land value, which is in turn a function of the distance to markets (Demsetz 1967; Bromley 1991). On sites far away from the market the marginal benefits reaped from the land do not justify the marginal costs of defining and enforcing individual rights. In these cases open access, common property or state property regimes would arise. According to theory, individual rights emerge inevitably once the land value rises due to changing relative

prices or the development of infrastructure. The dependence of property rights on land value can clearly explain processes of frontier settlement, like during the 1870s in the US (Anderson & Hill 1975; Anderson & Hill 1990), the rapid development and disappearance of rights during the American gold rush (Umbeck 1977) or ongoing settlement in the Brazilian Amazon (Alston et al. 1999). However, the development of more and more exclusive rights is governed by power and the interaction of political and local processes and is by no means smooth (Umbeck 1981; Alston et al. 1999).

While individualised rights arise, the moment occurs when formerly public land is up for grabs. Economists have shown that the resulting “race for property rights” can lead to premature utilisation of land and depletion of rents (Anderson & Hill 1990; Angelsen 1995). According to Anderson and Hill (1990) it would be socially efficient to use the land when the accumulated discounted net benefit is maximised. This is the case when the land is used as soon as land rents become positive. If land is used earlier, negative rents from the first period of usage would reduce the total value of the resource. However, when the definition and enforcement of property rights is taken into account, usage takes place earlier since competition occurs between different individuals.

Anderson and Hill (1990) also distinguish between different methods of disposing the public domain: (1) “speculating” when plots are sold by the government in auctions with no residency requirement, (2) “squatting”, which leaves the land to the person, who first invests time to live on that land and then can purchase it for a minimum price and (3) “homesteading”, when a person has to live and cultivate the land to obtain rights. They compare these methods regarding their economic consequences. They show that under squatting and homesteading rents are depleted since settlers expend time and efforts to establish property rights to their land. Under “speculating”, the authors state that no rents are depleted since with the sale just rights are exchanged for money, which could be used by the seller. However, they admit in a footnote that this may be different under rent-seeking behaviour of officials.

3.2 Case study methodology

The study follows a qualitative approach due to the explanatory aim of research and *ex ante* limited information about pastoralism in Azerbaijan (Yin 2003). The mobile pastoralists in Azerbaijan use the high mountain ranges of the Greater and Lesser Caucasus in summer and dry foothills during winter. Summer pastures are located above 1,700 m a.s.l. and are grazed between June and September. Winter pastures are situated in semi-deserts and steppes be-

tween 0 and 700 m a.s.l. and are grazed from October to May. The winter pastures utilised by mobile pastoralists comprise 1.7 million hectares or 20 % of Azerbaijan's land area, while summer pastures are estimated to cover 0.6 million hectares (Mamedov 2003).

We conducted qualitative research in two mobile pastoralism linkages in Azerbaijan consisting of corresponding winter and summer investigation areas. The eastern system links winter pastures in Gobustan (Absheron and Gobustan district (*rayon*)) with summer pastures in the Greater Caucasus (Shahdag region, Guba/Gusar district). The western system links winter pastures in the Jeiranchel region with summer pastures in the Lesser Caucasus (Gedebey region, Gedebey/Dashkesen district). We selected study sites to cover core regions of mobile pastoralism on the largest possible east-west gradient. Figure 1 depicts the location of summer and winter pastures in Azerbaijan and the study sites.

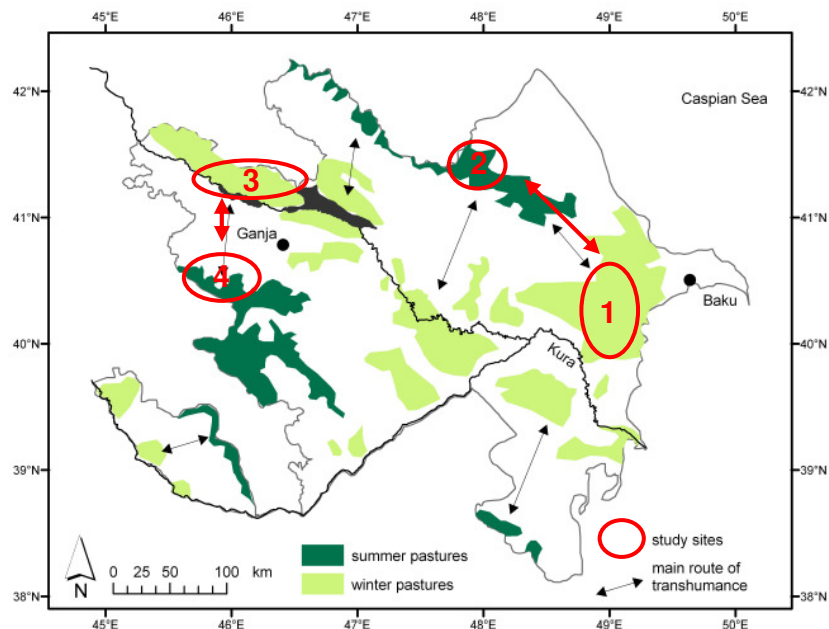


Figure 1: Pastures in Azerbaijan and study sites (1: Gobustan, 2: Guba, 3: Jeiranchel, 4: Gedebey)

Map source: Aliyev (1965)

Field work took place over five periods of one to three months in 2007 and 2008 and covered all months except January and February, when access to the pastures is especially difficult. Collecting information was an iterative process in which the literature and the statements of different interview partners were cross-checked. We conducted semi-structured interviews with representatives of the national level pasture administration (State Land and Cartography

Committee (SLCC)) and officials in 7 district administrations and 6 municipalities, as well as with 37 farm managers. Regarding regulations for pasture use, we discussed the same issues with representatives of administration and herders.

These qualitative inquiries showed that institutions for pasture use as well as farm organisation were strikingly similar in all study sites. Therefore, data from the four study sites is analysed in combination. Furthermore, we gathered in-depth information about lease contracts on four key farms in the eastern system with the largest possible differences in social background and organisational structure (see information about differences between traditional herders and absentee entrepreneurs in the results section). During visits in each field period at these farms an atmosphere of trust developed in which sensitive questions could be discussed and information from other interview partners could be validated.

In addition, we analysed statistical information from different sources to depict the economic situation in Azerbaijan (e.g. State Statistical Committee of Azerbaijan 2008; FAOSTAT 2011). Information from two ethnological studies helped to elucidate the historical dimension of mobile pastoralism in our study areas (Klug 2008; Salzer 2008).

4 Results

4.1 Historical information on mobile pastoralism in Azerbaijan

Due to its geographically central location between the Europe and Asia, the territory of modern Azerbaijan came during the centuries under the influence of many different cultures, among them in their temporal succession: Turk, Arab, Mongolian, Persian and Russian peoples and cultures. This shaped until now the self-perception of Azerbaijanis as bearing heritage of many different cultures and civilisations (Dragadze 1996). During the 18th and 19th century Azerbaijan was the object of conflict between the Russian and the Persian Empire. The conflict was settled in 1828 with the division of the Azerbaijani territory into Southern Azerbaijan, which was assimilated by the Persian Empire (nowadays Iran), and Northern Azerbaijan, which became one of the Caucasian satellite states of the tsarist and later socialist regime (Baberowski 2003).

Mobile pastoralism is one among various traditional occupations of Azerbaijani peoples. The combinations of household activities which comprised mobile and stationary forms of herding as well as agriculture, gardening and trade were spatially highly different according to the environmental circumstances and social heritage of the peoples in the particular area

(Baberowski 2003). For our eastern study areas ethnological research found that pastoralists originated from lowland and mountain villages. The traditional migration pattern included grazing on summer pastures in the Greater Caucasus, on autumn and spring pastures in the foothills, as well as on winter pastures in the semi-desert of the Kura-Arax lowlands. Due to the location of Azerbaijan along the Silk Road also long-distance trade belonged to the occupations of the lowland pastoralists. While winter pastures have been in individual or clan ownership, summer pastures traditionally had to be rented from the local mountain population (Klug 2008; Salzer 2008). Whether traditional ownership of winter pastures in our study region was individual or clan-based, is particularly interesting but could not be clarified. Tapper (1979a; 1979b) describes for a culturally close pastoral society from Southern Azerbaijan individualised ownership of pastures.

Under tsarist and socialist influence several attempts were made to suppress nomadic movements. Especially devastating were the collectivisation campaigns in the 1920s and 1930s. According to Baberowski (2003) pastoralists were forced to stay during summer in the lowlands where animal survival was threatened due to lacking water access and malaria. The campaigns led to resistance among pastoralists and a strong decline in livestock numbers. Moreover, with the introduction of irrigated agriculture for large-scale cotton production the winter pastures for mobile pastoralists were significantly reduced. After abandoning the devastating attempts to suppress mobility totally, pastoralism was reorganised in collective herds which migrated regularly between summer and winter pastures. However, Baberowski (2003, p. 685) states, that collective farms in Azerbaijan were mostly “socialist in their form, but traditional in their content” implying that traditional organisational patterns of the Azerbaijani society were not destroyed, but persisted under a socialist cover.

4.2 Socio-economic development in Azerbaijan since 1991

In Azerbaijan economic reforms began later than in other transition countries due to the conflict with Armenia in Nagorno-Karabakh. The period between 1991 and 1996 is characterised by an institutional vacuum, political instability and war, leading to inflation as well as a decline in production and consumption. However, after 1995 reforms were implemented rapidly (Lerman & Sedik 2010). The country benefits from the exploitation of its oil reserves, which fuelled economic growth of over 10 % per year between 2002 and 2008 (State Statistical Committee of Azerbaijan 2008). Despite the encouraging economic indicators, the country still suffers from insufficient institutional reform aimed at advancing the business environ-

ment. Furthermore, Azerbaijan is characterised by poor indicators for democratic freedom and control of corruption (Lerman & Sedik 2010).

While the growth rates in the oil sector by far exceed the ones in all other sectors, agriculture contributes a declining share to the GDP despite moderate output growth (State Statistical Committee of Azerbaijan 2008). Nevertheless, the voucher privatisation of arable land and assets is considered as a surprising success in terms of equality and contribution to rural poverty alleviation (Dudwick et al. 2005). However, the poor business environment still contributes to investment deficits and re-scaling problems among small-scale producers (Kaneff & Yalcin-Heckmann 2003; Thurman 2004). While the employment in agriculture remains constant at 40 % of the working population, average agricultural wages are with 115 AZN/month (140 US\$/month, 1 AZN = 1.22 US\$, August 2008) low compared to the national average of 274 AZN/month (334 US\$/month, data from 2008). Two thirds of output in the agricultural sector is produced on arable land, which is located mainly in the country's irrigated lowlands. Nearly one third of the gross output of agriculture accrues to livestock production (State Statistical Committee of Azerbaijan 2008).

During the recovery of the national economy the pastoral sector received direct and impressive incentives from the overall economic development: With the increasing incomes in the society the demand for high-value consumption products like meat grew more than for other food products. Azerbaijani people traditionally favour sheep meat, which is the main product of the pastoral economy. Furthermore, local meat production profits from consumers' preferences who value local slaughtering and purchase of live animals (Economist Intelligence Unit 2011).

On the supply side of the meat market livestock numbers underwent rapid changes during the transition process: from 1990 to 1996 livestock numbers dropped rapidly as livestock was sold and consumed to a great extent during the recession, but the numbers significantly recovered afterwards. In 2006, 7.6 mln small ruminants were registered in Azerbaijan while in 1989 the figure was 5.7 mln, which is the highest number reached prior to transition (State Statistical Committee of Azerbaijan 2008). As the development of livestock numbers in mobile pastoralism is not covered separately in statistics, the information provided here also includes data from stationary types of livestock keeping.

Despite this growth of livestock numbers, the prices for sheep and goat meat have risen relative to the price index for animal products as shown in Figure 2. In contrast, the prices of other livestock products, such as wool and milk, show a below-average growth rate.

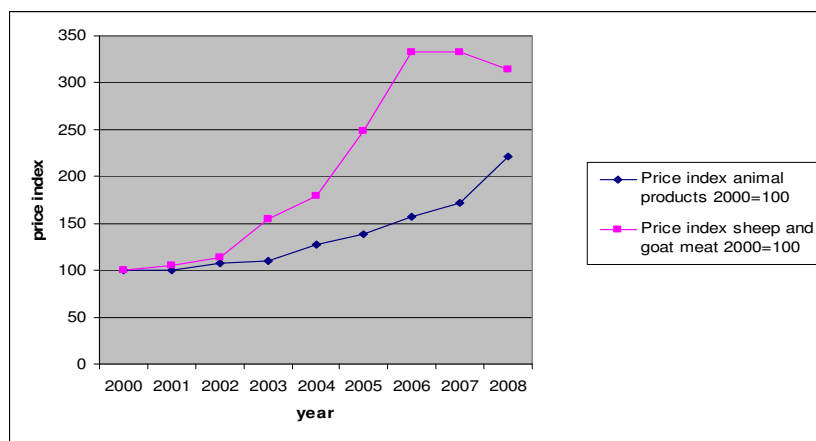


Figure 2: Development of price indexes for livestock products in Azerbaijan

Source: Compilation based on data from State Statistical Committee of Azerbaijan (2008)

Despite the booming economic environment, mobile pastoralists have retained traditional use patterns. The herding households migrate with their livestock in a fairly regular pattern between the same summer and winter pasture sites. Animals are driven by foot while women, children and household belongings are transported by truck. On summer pastures tents are used, and winter pastures have simple stone houses and stables for all livestock. Nearly every family engaged in herding possesses a house in a village located near summer or winter pastures or in central towns.

4.3 The reform process on pastures in Azerbaijan

In the following we depict the different phases of the pasture reform process, which were identified and abstracted during the data analysis of case study material. The phases are as follows:

- The decline of mobile pastoralism in the first years after decollectivisation (approx. 1991-1999)
- Declaration of formal rules for pasture leasing and the immediate consequences (approx. 2000-2003)
- Participation of absentee entrepreneurs and the intense allocation process (approx. 2004-2006)
- The end of the allocation process (approx. 2007/2008)

4.3.1 *The decline of mobile pastoralism in the first years after decollectivisation (approx. 1991-1999)*

The starting point of the transition process in our study sites is the large pastoral collective or state farm existing during the Soviet period. Farms kept mostly sheep for wool production while milk and meat products played minor roles. The management unit was a herding unit of 1,000 to 1,500 ewes, which were herded by four to five shepherds under the leadership of a head shepherd. Each herding unit used a summer and a winter pasture with fairly clearly defined boundaries, which was owned by the state or collective farm. A collective or state farm consisted of four to 30 herding units.

The breakdown in the pastoral economy began in late 1980s with the division of state farms and their conversion to smaller collective farms. Between 1990 and 1996 livestock numbers decreased dramatically as animals were sold to satisfy consumption needs. In 1996 the first privatisation laws were adopted (Law “On land reform”, issued 16.07.1996), and the livestock and machinery were distributed to the employees of collective farms while pastures remained under the administration of the collective farm. In the distribution process of livestock the criteria for calculating the share of animals received by each employee were age, duration and status of employment (Kaneff & Yalcin-Heckmann 2003). According to information from interviewees, only people in higher ranked positions in the collective farms (directors, veterinaries and head shepherds) received considerable shares of livestock.

In those years pastoralism declined dramatically. Most people did own only a few animals which could be herded easily on the common pasture of their home villages. For conducting mobile pastoralism the herds needed to be large enough in order to pay off the long migrations. Most of the early entrepreneurs who continued mobile herding during that time were head shepherds or leading personnel of the former collective farms. They received enough livestock to form herds of sufficient size and had experience with organising the herding units. Other shepherds in most cases did not possess enough livestock and lacked knowledge to manage herding units. However, also at this time people with few livestock were employed as shepherds by the early entrepreneurs. As shepherds could bring their own livestock, this employment provided for them an alternative to herding their animals on the common village pasture.

The use rights for the pasture of a collective farm were *de facto* distributed among the persons interested in utilising them based on verbal agreements; though, there were much more pastures available than interested entrepreneurs. During the decline of pastoralism between 1991 and 1999 the *de jure* property rights for pasture land were with the remaining

structures of collective farms, of which some administrative structures were still in place while some parts like livestock and machinery were already distributed and dissolved. The body of state administration that took over the responsibility for pasture at a later stage was under construction at that time. As pastures were nearly depopulated and officials of collective farms lacked transport means, no control was exercised and competition between users was absent. Verbal agreements between officials of collective farms and users that allowed using the pasture for free were the most advanced regulations used. Interview partners also reported that the mere occupation of free farms for one season was a common practice. Therefore, *de facto* pastures were under an open access regime as the resource value for the collective farms was too low to justify the enforcement of *de jure* property rights.

4.3.2 Declaration of formal rules for pasture leasing and the immediate consequences (approx. 2000-2003)

In 2000 property rights to land were reorganised based on the “Land Code” (issued 25.06.1999). The privatisation of arable land and meadows took place, while all pasture resources remained under state control. For newly established pastoral farms it became possible to lease pastures from the state. Before looking at the first stages of the allocation process, we introduce the newly-created state agencies and the *de jure* regulations pertaining to pasture use as they are influential for the development in the next years.

At the national level the *State Land and Cartography Committee (SLCC)* became responsible for pasture land. The Committee centrally registers pasture lease contracts, prepares maps for pasture plots and performs other monitoring functions at national level. The actual allocation of lease contracts is exercised by the district administrations and the *municipalities* (Belediye). The municipalities control pastures situated near villages, while in more remote areas the *district administrations* are responsible.

The formal rules for leasing pastures were in most aspects identical for both, the district administrations and the municipalities. Legal prescriptions refer to the decree “Rules of Allocation and Use of Pastures, Commons and Hayfields” in the “Resolution of the Cabinet of Ministers of the Azerbaijan Republic No. 42 of March 15, 2000”. Central to the leasing process were the requirements for legal claims to pasture land. Legally qualified applicants had to prove livestock possession by registration of livestock with the municipal administration. Furthermore, the size of leasable pasture was calculated from the number of livestock possessed by the leaseholder. For each hectare of winter pasture, 1-4 small ruminants were prescribed, for summer pasture 4-8. After approval of the application a lease

contract and a map of the leased pasture was prepared and centrally registered by the SLCC. It was prescribed that this process should not take any longer than one month.

The leaseholder received a contract, normally for a period of 15 years. The fees in district administration contracts were fixed by the SLCC and range from 0.34 to 1 AZN per hectare depending on the quality of the land (information from 2007/2008). Municipalities could decide themselves about the level of fees as long as they were above the prices for district administrations' pastures. The interviewed persons in the municipalities stated that prices varied according to the quality of the land and whether it was leased to a villager or herders from other villages. While villagers paid between 0.5 and 2 AZN, outsiders were requested to pay up to 6 AZN per hectare in 2007/2008. Lease prices with district administration remained constant since 2000, while the prices for municipalities' pastures significantly increased from the legally fixed minimum prices to the 2007/2008 levels.

It is also interesting to note what was not included in the legal regulations for pasture use: The decree did not prescribe any fees for administrative procedures which meant that it was free of charge. Furthermore, no minimal size of leasable pastures was prescribed. A herder with e.g. 60 sheep could apply for leasing 60 ha of winter pasture. As we will see later, the pastures leased are much larger – although no regulation prescribed a minimum size.

After these regulations were issued and published, the allocation process of leasing contracts began only slowly. Recalling the situation on the pastures during this time, this is understandable. As only few people were engaged in mobile pastoralism and thus the value of pasture land was low, the pastures could be accessed for free or with reliance of verbal agreements. Most herders contracting shortly after 2000 described the leasing process as unproblematic. They obtained their official lease contracts with the help of relatives working in administration. These relatives had the necessary information and were used to the interaction with other administrative agencies. The great majority of herders were legally qualified for leasing pastures as they already engaged in mobile herding and possessed registered livestock. As pasture seemed abundant and herd growth was necessary, the officially prescribed key for calculating pasture size was not utilised. Rather, the leasable sites were based approximately on the size of pastures of the former herding units, which is 500 to 1,500 hectares. Some herders were even able to lease several empty pastures in expectation of further herd growth. Other herders did not see the necessity to initiate a leasing process consuming time and effort at that time as they could still occupy pastures for free or based on verbal agreements.

Meanwhile, the overall economic situation had begun to change. The overall economic development due to the exploitation of oil reserves in Azerbaijan resulted in increasing wealth in the society and a rapid increase of prices. We showed that the price development for sheep and goat meat exceeded the growth rates of the Price index for animal products (section 4.2). With increased overall consumption the demand for livestock products grew more than for other food products. In Azerbaijan, due to cultural reasons sheep meat is preferred, especially locally slaughtered meat bought as live animals. This is the main product of the recent pastoral economy, which cannot be substituted by imports. On pastoral farms the high prices for lamb meat changed the production goal from wool to meat and led to a high profitability of sheep production. As herders faced continuously profitable production, they invested in building up larger herds. Therefore, pastures became gradually repopulated.

As a result of these developments, the increase in meat prices and higher livestock numbers, the value of pasture resources rose. This resulted in competition for unoccupied pastures which were from the beginning settled in favour of the possessor of a lease contract by the administration. Even the last herder now realised that the possession of a lease contract is the precondition for secure access to pasture land in the future. Along with a high value of pasture resources, the enforcement of leaseholders' rights against administration and other herders also led to a high security of the property right associated with a lease contract. In addition, the lease fees for pasture land were nearly negligible compared to other costs of herding as the rates were not changed since 2000 despite the rapid increase of consumer prices. These favourable conditions, low lease prices and security of property rights, accelerated the increase in value of pasture resources and further fuelled demand.

4.3.3 Participation of absentee entrepreneurs and the intense allocation process (approx. 2004-2006)

The allocation process was further accelerated by the participation of “absentee entrepreneurs”. These persons were in search for investment possibilities and did not intend to engage with their personal time in sheep production. They set up and control farms but do not reside on the pastures themselves. Instead, their farms are led by an employed manager or head shepherd. Some of these entrepreneurs occupy high ranks in administration or public service

or are businessmen¹. Table 3 displays information about the occupation of absentee entrepreneurs from the case study regions.

Table 3: Occupations of absentee entrepreneurs as stated in interviews with them or with their employees

Occupation	Gobustan (study site 1)		Jeiranchel (study site 3)	
	Individuals	Owned farms (total number)	Individuals	Owned farms (total number)
Own business (shop owners, lawyers, doctors)	5	5	2	9
Public service and regional administration employees (judges, police, district administration)	5	9	3	4
National level administration	2	5	1	3
No other occupation (retired)	3	3	1	1

Absentee entrepreneurs differed in their motivation for livestock keeping and in their social background from the herders introduced before, who had been already during Soviet times engaged in mobile livestock keeping (henceforth called *traditional herders*). While the latter rely almost completely on herding for their household income, the absentee entrepreneurs stated that their main household income stems from other activities. They were rather interested in sheep farming because of capital investment opportunities and considerations of spreading risk among different investments. Sheep can be easily converted into cash value and, therefore, represent considerable sums of financial capital. As one ewe was worth 100 AZN (122 US\$) in 2008, sums built up rapidly in larger herds. Absentee entrepreneurs regarded sheep farming as a relatively secure activity in comparison to investment in financial markets.

Furthermore, cultural aspects might have played a role for their motivation to engage in sheep farming as in Azerbaijan possessing much livestock is traditionally equated with wealth. However, absentee entrepreneurs did not mention this motivation in the interviews themselves; rather it was raised by their employees when talking about absentee entrepreneurship.

The high profits from sheep production, the nationwide growth of livestock numbers and the interest of absentee entrepreneurs led to increased competition for the pastures available

¹ Absentee entrepreneurs were rarely available as interview partners. Information about them and their farms was provided mainly by their employees, sometimes with the approval of the entrepreneur. Three absentee entrepreneurs were interviewed personally.

for leasing. However, the legal regulations for the leasing process did not prescribe any mechanism in case of competition between applicants. As mentioned in the preceding sections, in the first years of the allocation process, since 2000, pasture leasing was described as relatively easy if people relied on friends and relatives for organising the formalities. In the later years of the allocation process applicants reported about payments and purposeful use of social networks while the success of their application was not guaranteed. Some herders reported that they paid unofficial “fees” of 300 to 500 AZN for contracts with the municipalities in the Guba region. As confirmed by herders and administration representatives, payments were made for the issuing of maps in the Gedebey region although the amount of payments was not specified by our interview partners. An absentee entrepreneur who leased 2,000 ha pasture for future investment in Gobustan reported in 2007 a recent payment of 15,000 US\$ for his pasture lease contract. In contrast, some traditional herders did not succeed in obtaining a lease during that time. They found themselves unable to make high payments and lacked social network ties to the respective administration to ease the formalities. Asked for the actual rule behind these outcomes, herders repeatedly mentioned: “you need friends or family in administration to obtain lease contracts” or “you need a lot of time and money for pasture leasing”.

4.3.4 The end of the allocation process (approx. 2007/2008)

By 2008 livestock numbers in Azerbaijan rose to levels never reached before while sheep farming remained very profitable. The allocation process of lease contracts was nearly finished in our study sites. Nearly all pastures were under contracts; only on summer pastures under the responsibility of municipalities verbal agreements persisted in some instances.

In table 4 the pattern of contract allocation in Gedebey area is depicted. Qualitative information from other administrations interviewed proved that the same pattern of contract allocation happened in each district. However, only the administration in Gedebey provided detailed figures. The table shows that until 2004 nearly no contracts were issued although it was possible according to formal rules, while between 2005 and 2007 all contracts were distributed rapidly. In 2008 no free sites were available although people applied for pasture land.

Table 4: Number of contracts issued each year in Gedebey district (study site 4)

Year	2000	2001	2002	2003	2004	2005	2006	2007	2008
Number of contracts	0	1	0	0	0	13	38	16	0

In 2008, all pasture administrations interviewed reported that free plots were rarely available while interested parties were still more than abundant. However, on some pastures still very small herds grazed, which are not profitable due the high overhead costs of mobile herding (see for a detailed economic analysis of mobile pastoralism Neudert and Allahverdiyeva (2009)). Interviews revealed that on such farms the owners lack capital to set up a profitable livestock enterprise, but expect to earn money by other occupations in the next years, which they are willing to invest on their farm in the future. These pastures were virtually secured for future investments in livestock keeping.

But how can new entrepreneurs enter into mobile pastoralism in the future? They will need to take over pasture lease contracts from former leaseholders since nearly all pasture plots are occupied. Official rules prescribe that on expiry of the contract a leaseholder has preferential right of renewal. He has also the right to present a successor if he wishes to terminate his contract. Up to the end of our field work only few transactions of this kind did occur. However, from this limited evidence we expect that a new entrepreneur is likely to make agreements with a leaseholder (and payments) for the favour to present him as a successor for his lease contract.

5 Discussion

We described the pasture reform process in our case study regions in Azerbaijan from 1991 to 2008, in which between approx. 2004 and 2006 a rapid allocation of the limited pasture resources took place. Concurrently, the economic growth, increasing prices for livestock products and a countrywide growth of livestock numbers suggest that the value of pasture resources rose dramatically. The rapid growth in demand for pasture resources fuelled a “race for leasing rights”, which was even further accelerated by low lease prices, the development of secure property rights for pasture plots and the participation of absentee entrepreneurs. During the different stages of pasture reform different types of property regimes could be observed: At the beginning open access dominated which was only slightly regulated by informal agreements. In the course of the firstly slow and then increasingly rapid allocation process highly exclusive, individualised rights to clearly defined parcels of pasture land arose,

which were secured by the possession of lease contracts and a registration by the land cadastre.

It should be noted that the phases of pasture allocation as described are abstracted from case study material. In reality, these phases, especially the increasing pace of allocation, the growing demand for pasture resources and the participation of absentee entrepreneurs, do not have a clear beginning or end, but happened in one region earlier or later between the clearly distinguishable beginning of the allocation process in 2000 and the situation found in 2008.

The allocation process of pastures was governed partly by formal rules, which prescribed the allocation of pastures according to a first-come-first-serve principle. In the early stages of the allocation process these rules were by and large implemented. However, information deficits at the side of herders and eventually in administration may have limited the smooth allocation. In the later stages of the process, when it became clear that the demand of pasture land by far exceeded supply, informal rules for a “selection” of potential leaseholders by the administration developed. Lacking formal regulations for cases of competition between prospective leaseholders and low transparency of the decision process within the responsible administration opened the door widely for rent-seeking behaviour of officials. According to these informal rules, decisive factors for a successful leasing process were personal networks, social status and material wealth. This process led to a redistribution of rents resulting from the increasing value of pasture resources.

Regarding the theoretical implications, the development described is consistent with the evolutionary theory of property rights (Bromley 1991), where the “distance to markets” can be equated here with “countrywide economic development”. Nevertheless, the emergence of individualised access to pastures is striking given the common pool characteristics of pasture land (Ostrom et al. 1994), which could have hindered the development of individual property rights. We could conjecture that, besides economic pressures, the possible existence of a pre-Soviet tradition of individualised land ownership might have played an important role (Tapper 1979b). However, a closer analysis of this topic is beyond the scope of the paper.

Besides its rapid pace, the allocation process led partly to a depletion of rents which is characteristic for a “race for property rights”. The general mode of disposing pasture land in Azerbaijan could be described as “homesteading” according to Anderson and Hill (1990) where rents are partly depleted due to investments of labour before the land rents become positive. The depletion of rents with “homesteading” efforts partially persisted in the later stages of the distribution process on pastures secured for future investment as resources are expended to sustain economically unviable farms. In addition, the later stages of the allocation

process in Azerbaijan were greatly affected by rent-seeking behaviour of officials, which was also mentioned as rent-depletion by Anderson and Hill (1990). The different types of allocating land and their economic consequences also lead to policy recommendations for the allocation of pastures in Azerbaijan. The allocation by a first-come-first-serve principle (“homesteading”) has been designed probably without anticipating the rapid increase in demand. In 2009 there were plans to change the allocation principle to an auction of pasture resources to the highest bidder. This seems sensible as with this “speculating” option the depletion of rents is minimised, and the state increases the extraction of rents. This principle would also fill the gap in the formal regulations for the selection of leaseholders, which was governed in our case study by informal, non-transparent regulations involving corrupt behaviour. However, according to our data the proposal comes too late as the phase of the intense distribution of pastures is already completed.

From an equity perspective we also showed that the “race for leasing rights” in Azerbaijan led to strong distributional consequences. However, due to the interest of “traditional herders” already in early phases of pasture reform, a lease grabbing of wealthy investors did not have such a devastating effect on the availability of resources for them like it could have had under direct competition between individuals from the two groups. Causes for the adverse effects were lacking formal regulations in case of a competition between users, which should have given priority to traditional pasture users.

Compared to the information available from other Central Asian and Caucasian countries the allocation process in Azerbaijan was extremely rapid and led to individualised property rights, while in other countries either no individual rights were enabled by legislation (e.g. Mongolia and Turkmenistan) or, under existing legislations for individual rights, the distribution of pasture plots was only partly implemented due to low livestock numbers and the resulting low value of remote pastures (e.g. Kazakhstan, Tajikistan and Kyrgyzstan (Behnke 2003; Robinson et al. 2008; Kerven et al. 2012)). Nevertheless, problems that are prevalent until today in these countries occurred also as intermediate stages of the reform process in Azerbaijan, e.g. the collapse of livestock mobility due to lacking transport means, de facto open access to remote pastures, lacking information of users about pasture lease, use of remote pastures by predominantly wealthy herders with large livestock possessions, prime access and lease of the best pastures by early and/or wealthy leasers. Our study states that the economic development in Azerbaijan played a major role in accelerating the repopulation of pastures, the revival of pastoral mobility and the implementation of individualised lease for pastures.

Our findings suggest that the failure of tenure approach e.g. in Kyrgyzstan or the lacking implementation in Kazakhstan may be partly related to lacking economic interest of pasture users and low livestock numbers. The resulting low value of pasture resources makes according to the property rights theory the delimitation and enforcement of boundaries unnecessary. In this situation even low transaction costs of pasture leasing may prevent herders from initiating the leasing process. Therefore, if the root cause of the lacking adoption of the tenure approach is a currently low value of pasture resources, the situation might change and *de facto* individual property rights might be established in the future in other Central Asian and Caucasian countries, as well. An important side condition might be the cultural preferences for pasture use in the country concerned. For Mongolia a strong opposition of users against the tenure approach is stated (Fernandez-Gimenez 2002), which prevented an increasing individualisation of land tenure and required the adoption of a different institutional approach for pasture use. As Kazakhstan and Turkmenistan experience a comparable economic situation and high GDP growth rates like Azerbaijan (World Bank 2012), we would especially in these countries expect similar developments. However, for Kazakhstan the effects of economic growth on increasing the value of pasture resources might have been levelled until recently by the vastness of pasture resources. Information about the cultural preferences for individual or common pasture use in Kazakhstan is to our knowledge lacking. For Turkmenistan qualitative information is especially scarce, so recently increasing pressures on pasture resources might be still undocumented in the scientific literature.

The comparisons between Central Asian and Caucasian countries indicate that besides the countrywide economic growth, cultural factors and the national abundance of pasture resources may have played a role in shaping the recent *de facto* property rights for pasture resources. This is consistent with general findings on causal factors identified for shaping institutional outcomes (Ostrom 1990; Agrawal 2003). For Central Asian and Caucasian countries a complete and in-depth cross-country overview of the emerging regulations and the contributing factors might lead to additional insights but is here beyond the scope of the analysis. The limited review presented here already indicates that an extensive comparative analysis also calls for additional case studies in countries currently underrepresented in the literature about pastoralism in Central Asian and Caucasian countries.

6 Conclusion

In this paper we depicted the process of pasture reform in Azerbaijan which happened in a very rapid manner after the year 2000. The reform resulted in the implementation of individualised pasture lease rights and the nearly full allocation of available pasture resources. We found the rapid allocation process related to the growing value of pasture resources and to increasing demand for livestock and livestock products. The analysis showed that the economic growth fuelled by the exploitation of oil reserves has played a decisive role for the trajectory of the pasture reform process in Azerbaijan.

This result is in line with the evolutionary theory of property rights but somewhat surprising with regard to the common pool characteristics of pasture resources. We also identified signs of a depletion of rents during the allocation process, which is characteristic for a “race for property rights”. Further research should investigate the role of historical pre-Soviet property rights for pasture resources regarding the emergence of individualised property rights.

The paper also attempted a comparative view of current reform outcomes among Central Asian and Caucasian transition countries. It became evident that the emergence of individualised rights and the rapid allocation of pasture resources in Azerbaijan are exceptional in this geographical region. An important insight is that an insufficient adoption of a tenure approach in other countries might be hindered by the low value of pasture resources, which might increase in the future. The influence of this economic aspect seems underestimated in the literature about Central Asian and Caucasian pasture use. In contrast, as we have shown the common pool characteristics of pasture resources might not completely hinder the implementation of individualised lease. As a policy recommendation this finding calls for formal regulations of pasture use which are able to adapt to both, a common use of pasture resources as well as the gradual hardening of pasture plot boundaries while allowing in all cases for the mobility of herders.

For future research many hypotheses for a comparative analysis could be generated from our results regarding the role of pasture administration, the influence of pre-Soviet cultural heritage and last but not least of economic growth. A more detailed review of the existing literature complemented by additional recent case studies may yield further insights in the possible paths of transition and institutional change for pasture resources.

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