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# Promises and realities of community-based pasture management approaches: Observations from Kyrgyzstan

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## Abstract

The development discourse maintains that community-based approaches are generally equitable, sustainable, and legitimized strategies for the management of natural resources. It remains frequently unnoticed that the policies and legal frameworks designed to regulate such local governance approaches oftentimes are externally initiated and top-down in nature, and frequently not adapted to local demands and capacities. Significant differences between the goals of such interventions and the lived reality and associated unintended effects were often concealed within the debates. A similar indication can be stated for Kyrgyzstan's pasture law, which demands that local communities are fully responsible for the management of pasturelands.

The recent innovation in pasture law has not comprehensively resulted in the desired outcomes on the ground. Based upon a comparison of Kyrgyzstan's pasture-related legislation with the impacts of its implementation in the walnut-fruit forest region located in the south-west of the country, this article points out that community-based pasture management in local practice appears to have resulted in hybrid institutional arrangements comprising aspects of the existing formal legislation and local-specific informal regulations. Simultaneously, case-specific circumstances, particularly the constellation of uneven power holders and interest-driven players and their interactions, as well as the respective socio-economic conditions, highly influence the resource management performances on the ground. The actual outcomes do not necessarily correspond to the requirements of the formal legislation. They can even contradict the requirements of the formal legislation and generate subsequent problems.

At a first glance, due to the assumed high participation of the immediate users and the belief in their supposedly intrinsic interest in eco-friendly resource use, community-based natural resource management (CBNRM) approaches seem to have a great potential for creating economic, social, and ecologically sustainable development at the local level. However, the risk of failure is high if the whole approach rests on an apolitical understanding of communities as being homogenous and tensionless groups of social organization and on an idealized image of their ecological awareness. A consistent development strategy that goes beyond the mere definition of unspecific goals has to take the community-specific power relations and the respective socio-economic conditions into consideration. It is also necessary to consider the local needs and costs for CBNRM and the opportunities for its implementation, in order to ensure the adequate representation and participation of all interested resource users within the management bodies and the decision-making processes. If requested, appropriate support should also be provided to communities in need, to assist the transition to the envisaged new regime. Taking these aspects into consideration, Kyrgyzstan's approach for a community-based pasture management could become a more successful and broadly accepted instrument to empower the people at the local level and to enable comprehensively sustainable resource management practices on the ground.

**Keywords:** Natural resource management; Decentralization; Community-based development; Pastoral production systems; Post-socialist countries; Central Asia; High mountain regions

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## Background

The development discourse maintains that community-based approaches are generally equitable and egalitarian, efficient and comprehensively sustainable, and consequently highly legitimized strategies for the management of natural resources. It remains not widely recognized that the policies and legal frameworks designed to regulate such local governance approaches are sometimes externally initiated and top-down in nature and not adapted to actual local demands and capacities. Consequently, significant differences between the requirements of such interventions and the practical reality and associated unintended effects have often been concealed within the debate. However, ignoring empirical evidence can lead to a repetition of mistakes already made and can hamper finding solutions to urgent societal challenges. Based on observations of recent developments in Kyrgyzstan, this article shows that top-down introduced regulations that demand local communities be comprehensively responsible for the management of natural resources have not necessarily lead to the desired results and practices on the ground. This paper argues that the local implementation and performance of new management regimes is highly influenced by case-specific circumstances, particularly by the engagement of interest-driven players with different levels of power whose interactions are affected by hybrid and frequently conflicting institutional arrangements, and the respective socio-economic conditions. Utilizing examples from Kyrgyzstan's walnut-fruit forest region, this paper critically addresses some specific observed features of local community-based pasture management performances. The paper cautions against the overriding narrative that community-based natural resource management (CBNRM) is intrinsically 'good'. Rather, it argues that CBNRM should be conceptualized not as a normative but rather as an analytical concept for which further dissection and differentiated investigations of singular cases are needed. Power asymmetries between the actors and their competing interests are involved in both the negotiation and implementation processes; the impacts of their actions and the effectiveness of the corresponding socio-economic and institutional conditions are all important factors to be considered. By including these, this research contributes empirically-based insights into the open research question of what are 'the effects of decentralizing the power to allocate and manage pasture resources from national and regional state authorities to local communities' (Kerven et al. 2012: 368).

## Community and CBNRM - persistent narratives, inconsistent results

In view of the diverse unintended effects stemming from development efforts, such as on-going socio-economic stratification and pauperization processes in

numerous countries of the Global South in the course of the 1980s - also known as 'the lost decade of development' (Esteva 1992: 12), it has become evident that the promotion of natural resource-related private-property regimes 'in a climate of free market mania and structural adjustment' (Li 1996: 505) did not automatically lead to the desired goals: prosperity for the entire population, effective management practices, and sustainable usage of natural resources on the ground. Many donors, policy makers, and development agencies following for many years, from a neoliberal perspective, the largely accepted 'development narrative[s]' (Roe 1991) of the 'invisible hand' (Smith 1776 [2007]), and the 'tragedy of the commons' (Hardin 1968) started to promote community-based property and management approaches for natural resources (Li 1996: 501-505; Agrawal and Gibson 1999: 631; Blaikie 2006: 1943). On the one hand, such a 'construction of flanking mechanisms in civil society' (Castree 2008: 142) can be seen as a further, neoliberal informed withdrawal of the state from societal arenas (Castree 2008: 142-143; Wilson 2013: 66). On the other hand, this measure can be interpreted as a turn away from 'market-led environmental governance' (Castree 2008: 138), which took place against a broadening international debate on 'sustainable development' (e.g. Agenda 21). This discourse emphasized the crucial role of government decentralization, the devolution of responsibilities for natural resource management to local communities, and community participation within governance and decision-making processes (Leach et al. 1999: 225; Wilson 2013: 67-68, 83-86). In this regard, communities as the pivot point of the paradigm were commonly seen as small, homogeneous, and traditional entities bounded to specific territories (IUCN et al 1991: 57; Kumar 2005: 277; Cox et al. 2010: 6) that 'are in harmony with the environment and demonstrate long established patterns of sustainable and equitable use of resources' (Li 1996: 503). Initially, the development institutes' shift towards local governance of natural resources was appreciated within academia and backed by the evolving development discourse without reservation. CBNRM was largely perceived as being a promising alternative to the neoliberal dogma and a liberating paradigm with emancipatory potential for comprehensive sustainable development (e.g. Korten 1986; Perry and Dixon 1986; McKay and Acheson 1987; WCED 1987; Berkes and Farvar 1989; Bromley and Cernia 1989; IUCN et al 1991; Ghai and Vivian 1992; Kumar 2005: 277). In the course of this undifferentiated attribution, the term CBNRM became a shibboleth for 'good governance', intrinsically fulfilling all demands of the relevant societal spheres ranging from social equity, political legitimacy, empowerment and participation in decision-making processes, economic efficiency, and self-sufficiency, as well

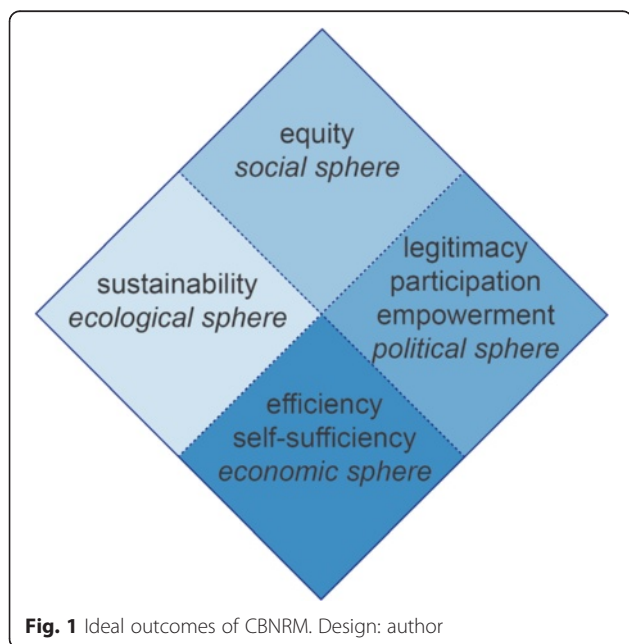
as ecological sustainability (Fig. 1). Against the background of such an ideal image, it is not surprising that its proponents also saw CBNRM as a strategy that would be highly welcomed by local communities.

The question is, however, were these assessments tenable or overly optimistic? In other words, were the outcomes and results of CBNRM just taken for granted and the ambivalent results on the ground ignored? Against the background of the idealized image of community and CBNRM, and ambivalent and even problematic results, a growing number of social scientists treated the ‘universalist claims’ (Agrawal and Gibson 1999: 630) of both concepts as being based on unreliable generalizations and suggested more political and analytical approaches (e.g. Jere et al. 2000; Campbell et al. 2001; Shackleton and Campbell 2001; Shackleton et al. 2002; Arntzen et al. 2003; Blaikie 2006). A central critique was that such undifferentiated representations did not pay attention to conflicting interests and relationships within the communities themselves, as well as between the communities and other social entities and actors. Regarding the presupposition that local communities are more interested in sustainable natural resource usage than the national or private management bodies (Twyman 2000: 323) and that they have ‘a greater understanding of, as well as a vested interest in, their local environment and are thus seen as more able to effectively manage natural resources through local or “traditional” practices’ (Twyman 2000: 324), several scholars noted that a mandatory correlation between community-based resource management and sustainable resource utilization does not exist (e.g. Uphoff 1998: 4; Agrawal and Gibson 1999: 635; Kumar 2005). Other scholars stressed the escapist character of the

prevalent orthodoxy that the mere introduction of CBNRM would re-establish the supposedly balanced and stable natural conditions and pointed out that natural environments per se are characterized by disequilibrium and spatiotemporal variability (e.g. Leach et al. 1999: 226, 228). Finally, by presenting local examples from different parts of the world, representatives of the critical academic debate showed that the abilities and restrictions of communities to conduct natural resource management are in fact highly dependent on the communities’ positionality within the hierarchical administrative system of the society, and the unequal distribution of power and competences within this multi-level network, as well as within the communities themselves (e.g. Li 1996; Leach et al. 1999; Twyman 2000; Earle 2005; Geißel 2007). Instead of following a simplified understanding of communities as tensionless and homogenous social units, and community-based approaches as a panacea for previous failures in natural resource management, the critics argued for more differentiated and scrutinized analyses of singular cases under specific consideration of the interactions, interests, and enforcement opportunities of the actors involved in the resource-related negotiation processes and activities, as well as the respective corresponding socio-historical and institutional contexts (e.g. Blaikie et al. 1997; Leach et al. 1999; Agrawal and Gibson 1999: 629, 630-636, 640; Turner 1999: 164; Twyman 2000: 323-331; Mosse 2001; Agrawal and Gibson 2001: 1-31; Kumar 2005; Blaikie 2006: 1944-1946, 1952, 1953; Kerven et al. 2012: 375).

It is striking that against the background of such substantial discussions and debates, the concepts of community and CBNRM are still treated differently within the natural resource management-related interventions of international development organizations and national agencies and academic evaluations of these initiatives (Blaikie 2006: 1942, 1943-1944; Shamsiev et al. 2007: 63-65; Jacquesson 2010; Kerven et al. 2012: 374-375). While the former ‘pervasively use the halo of “community” with impunity to legitimize’ (Kumar 2005: 277) particular development interventions, the latter continually point to the shortcomings and negative effects of oversimplified and ‘romanticized’ (Earle 2005: 248) conceptualizations of local groups of social organization (e.g. Kerven et al. 2012: 368, 374-375). Blaikie remarks that CBNRM has become a ‘fashion, in a catwalk of fashions – community development, micro-credit, farming systems, livelihood approaches and so on’ (2006: 1952 citing Edwards 1999) in development, which should have “something in it for everybody” (2006: 1954, quotation marks in the source).

After a brief description of the analytical perspectives and the methods applied in the research, this paper will focus on how the implementation of a new legislation does not necessarily lead to the desired efficient and



**Fig. 1** Ideal outcomes of CBNRM. Design: author

sustainable practices on the ground. It will point out that Kyrgyzstan's pasture law is an example of external interventions in local affairs, which often do not tie in with the respective conditions, and which can generate unintended effects or even do harm, if they were applied in combination with far-reaching policy recommendations, such as the creation of new management bodies (Li 1996: 505; Agrawal and Gibson 1999: 635; Earle 2005: 249, 254, 255; Blaikie 2006: 1953–1954).

### **Addressing communities and CBNRM from a critical perspective**

The argumentation in this paper is grounded by crucial assumptions about the characteristics of local communities and CBNRM. First, communities are seen as generally being made up of multiple actors with often differing interests. Secondly, these players operate as local implementers of externally introduced and developed policies and programs. Finally, these activities are affected by asymmetric power relations, local-specific socio-economic conditions, and hybrid institutional arrangements which comprise aspects of the formal legislation and informal regulations.

### **Analysing local management practices focusing on actors, interactions, and institutions**

One focus of the analysis, therefore, rests on the actual pasture stakeholders and their asymmetrical power relations. Additionally, the stakeholders' pasture management- and utilization-related interactions are considered. A further division of these 'interfaces' (Blaikie 2006: 1954) into the negotiation of rules, their implementation, and the resolution of conflicts arising from the interpretation and application of these arrangements is necessary to understand the lived local resource management in depth (Agrawal and Gibson 1999: 637, 638). Attention is also dedicated to the institutional arrangements that frame and impact the interactions of the interest-driven actors (Fig. 2).

Such a systemized approach can provide deeper and more detailed insights into factual CBNRM performances than studies that are based on an essentialist concept of communities as being small, homogeneously structured, and harmonic units with intrinsically shared norms that enable them to effectively manage resources sustainably.

### **Field research**

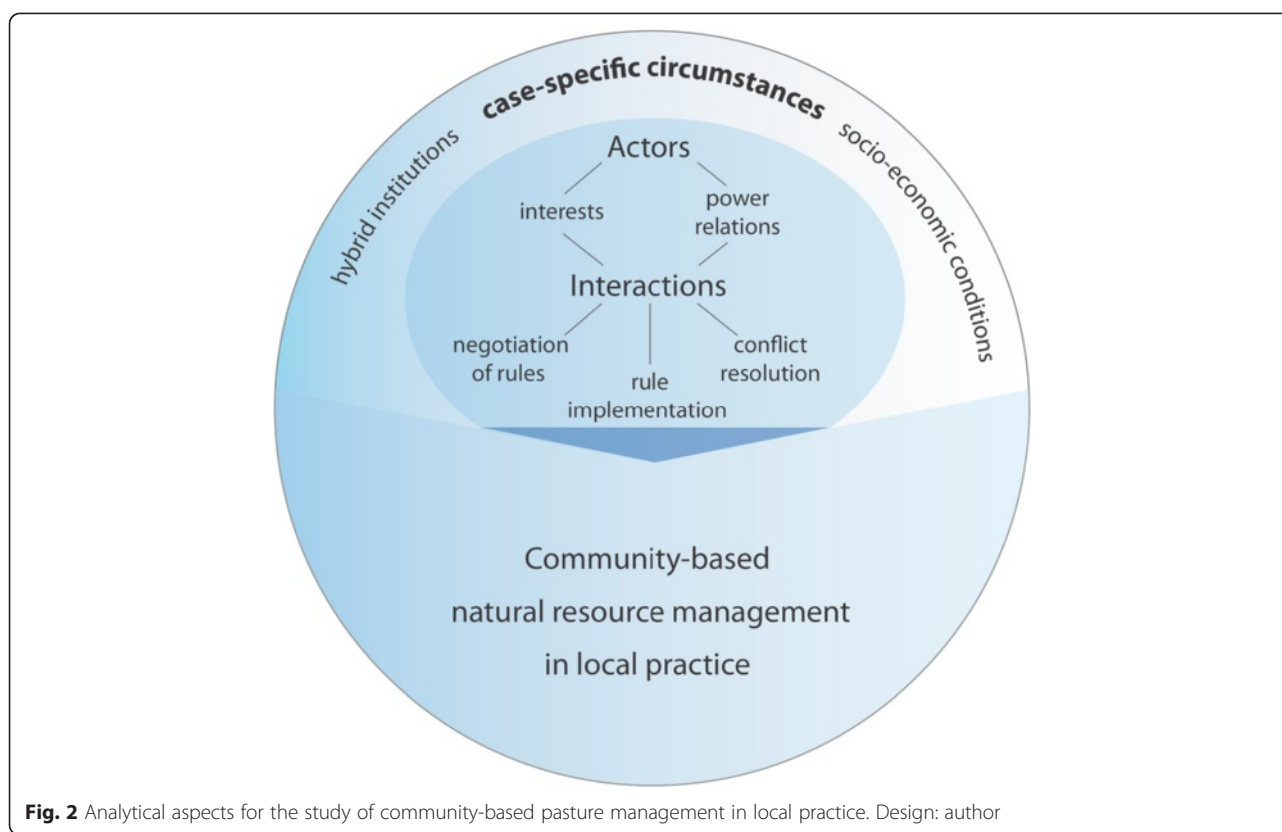
The data of this study was collected during several field campaigns in southwestern Kyrgyzstan between April 2007 and April 2014. A combination of different methods was applied. More than 30 expert interviews with representatives of governmental and non-governmental organizations delivered diverse assessments of the shifting legislation regulating pasture management, access, and utilization.

The selection was based on the expectation that these organizations were or are directly involved in relevant issues comprising the conceptualization of the regulations and their implementation or that they could deliver a substantial assessment of the pasture management situation in Kyrgyzstan. The selection included national organizations like the Pasture Department of the Ministry of Agriculture, Water Resources and Processing Industry (MAWPRI); the State Design Institute for Land Management; the State Agency for the Registration of Real Property Rights; the State Agency on Environment Protection and Forestry under the Government of the Kyrgyz Republic - shortly State Forestry Agency; the legal project called Legal Advice to Rural Citizens (LARC); and international organizations such as the World Bank. The pasture-related legislation was reviewed with critical consideration of its central contents, particularly regulations of management including utilization, monitoring, and conservation, as well as ownership and allocation of usage rights. Additionally, ten conversations and two group interviews with members of the local and district authorities in the study region were conducted. These interviews were especially important to obtain official opinions about the implementation of the pasture legislation, resulting problems, and the specifics of the community-based pasture management in the research area.

The knowledge gained through these interviews helped to prepare extended visits to several settlements and pastures, where resource management and utilization practices were systematically explored utilizing diverse empirical methods. Seventy guided interviews with pasture users and representatives of the identified management authorities such as local forestry enterprises and pasture user committees delivered important primary data, as well as contextual background from diverse perspectives. These key informants were identified directly during excursions to the pastures and settlements, as well as on the recommendation of previously interviewed respondents. The interview guidelines covered topics such as entitlements and their allocation, utilization forms, the negotiation of regulations and their implementation, management responsibilities and practices, and conflict resolution. Observations and mapping of the daily routines and the environs on selected spring-autumn and summer pastures helped to illuminate the social organization and everyday management of pastoral practices. The aim of this mixed approach was to gain varied data for the comparison of the CBNRM-related legal requirements with the reality on the ground.

### **Rehashing well-known paradigms - Kyrgyzstan's shifting pasture legislation**

By reviewing the shifting legislation of pasture management in post-Soviet Kyrgyzstan, one can get the impression that



history repeats itself. In the course of the country's shock therapeutic transition from a command economy to capitalism, and contrary to the shifted mainstream of the international development discourse in the 1990s, the introduction of land regulations characterized by explicit market mechanisms was demanded by leading international funding agencies such as the World Bank and the International Monetary Fund (IBRD 1993: 132-133; Bichsel et al. 2010: 257). Kyrgyzstan, as a recipient country that depended structurally on external funding, subsequently became the first reform state in Central Asia in terms of privatization and the commodification of land titles, agricultural infrastructure, and services (Delehanty and Rasmussen 1995; Dekker 2003). This step corresponded with the rehashed neoliberal structural adjustment measures imposed by external donors. In this regard, the government's resolution 'On the procedure of providing pastures for lease and use' (ROPLU) introduced in 2002 based upon the advice of the World Bank can be seen as a late but consequential attempt to fill a perceived legal gap. This gap arose in the course of the dissolution of collective and state farms and their end as the main agricultural players during Soviet times, and the replacement of the previously centrally planned utilization regime in the 1990s with a system of commoditized private pasture lease titles, and hierarchical pasture management structures. Two formal procedures were designed to allocate pasture

entitlements in the form of leases for up to 10 years: via auctions and via provisions to local communities for communal purposes and to economically vulnerable people for their individual needs (par. 4, 7). Regarding the first procedure, the resolution joined seamlessly with the call for 'building institutions for markets' (IBRD 2002 and legally privileged wealthy actors. However, for several reasons, the legislation did not work as expected. First, the division of management responsibilities according to the pasture's spatial category between the local, the district, and the province level proved to be impractical mainly due to the lack of different assets (finances, personnel, technical equipment, know-how) within the responsible administrations. Second, the auction process designed proved to be complicated, cost-intensive, and also impractical as potential pasture users were to perform several successful acquisitions at the same time to obtain usage rights for all seasonal pastures required for a complete annual grazing loop. Therefore, the formal auctions were the exception rather than the rule. On the other hand, the ambitious mechanism of pasture allocation to communities and individuals, following the idea of social responsibility, was also rarely applied. Instead, informal allocation practices in which interpersonal power relations and informal payments play an important role became the custom, resulting in the stronger

economic actors gaining better access to more desirable pastures than the poor.

In the end, ecologically harmful usage practices remained widespread. The lack of assets due to the economic crisis and the disruption of seasonal migration patterns led to an overexploitation of easily, and oftentimes even openly, accessible winter, spring, and autumn pastures that were predominantly located close to settlements. Many remote summer pastures instead became under-used. Additionally, short-term utilization oriented towards extraction maximization persisted due to the legal uncertainty of resource access obtained in informal ways and the inability of people to turn to legal recourse. Consequently, the regulation unintentionally worked in opposition to ideas of ecologically sustainable pasture use and the balance of competing socio-economic interests within the communities. Instead, the regulation partially stimulated socio-economic stratification processes within the rural communities and resulted in ecologically harmful usage practices (IBRD 1995: 37-38; ROPLU 2002; Undeland 2005: 26-27, 31-35; Shamsiev et al. 2007: 57-65; IBRD 2008: 22-23; Kerven et al. 2011: 18; Steimann 2011: 207; Kerven et al. 2012: 372; Crewett 2012: 268; Dörre 2012: 134-137).

Against the background of these experiences, international development and donor agencies such as the United States Agency for International Development (USAID), the World Bank (IBRD), the German Gesellschaft für Internationale Zusammenarbeit GmbH (GIZ), the United Nations Development Programme (UNDP), and others, as well as national bodies, programs, and organizations such as the MAWPRI, the semi-governmental Community Development and Investment Agency (CDIA), local initiatives, and individual parliament members realized that Kyrgyzstan's legal regulations for pasture management urgently need reform (MAWPRI, unpublished document; USAID 2007: 3-4; Shamsiev et al. 2007: 63-65; respondent BV 2009; Bussler 2010: 22-23). The reconnection of the management responsibilities and their delegation towards a strengthened local level, a more equal and transparent allocation of usage rights, as well as a new tariff schedule and a transformed tax revenue investment system were seen as the reform's main goals. While workshops, round table discussions, and parliamentary commissions were dedicated to developing suggestions for the general features and specific regulations of the new approach, several pilot projects funded by international donors and development organizations worked to implement corresponding ideas on the ground to gain experiences and understandings about the consequences of the new approach countrywide. Finally, after long and intense parliamentary debates on different bills prepared by the Pasture Department of the MAWPRI and members of parliament, the new and

until today valid law 'On Pastures' was introduced in 2009 (PD MAWPRI n.d.g.; Zheenbekov and Maliev n.d.g.; CDIA, unpublished document; Shamsiev et al. 2007: 63-65; Bussler 2010; Steimann 2011: 202; PD MAA, GIZ, CAMP Alatoo, unpublished document). Generally speaking, the new legislation banned auctions of leasing contracts and private pasture titles. It also rescaled the responsibility for pastures and control over pasture management from superior province *oblast'* (Russian) and district *rayon* (Russian) state administrations to local communities. From a neoliberal perspective, promoted under the cloak of the supposed strengths and potentials of CBNRM, this measure corresponded to a further withdrawal of the state and a shifting of the administrative expenses and management costs from higher governmental levels to local authorities (Liverman and Vilas 2006: 330). Even if the state administrations at the province and district tiers did not always comply with their duties in pasture management and allocation before the introduction of the new law because of a structural lack of resources such as knowledge, personnel, financial, and physical capital, they were at least legally responsible for pasture management and allocation. With the new regulation, however, the responsibility shifted to the local level, leaving local bodies with no leverage left to call the state for support in regard to pasture management issues. From the perspective of local administrations with their structural lack of assets, the new situation therefore became, at least temporarily, more difficult than it was before.

The authorities of local municipalities *aiylnye okrugi* (Russian) were now entitled, but not obliged, to delegate the power of pasture management and utilization to the so-called 'associations of pasture users' (APUs) *ob"edinenie pastbishhepol'zovatelei* (Russian), which should represent the users of the pastures of the respective territorial entity. Annually, these associations must elect 'pasture committees' (PCs) *jaiyt komitety* (Kyrgyz, Russian) as their executive bodies, which consist of representatives of the respective group of pasture users, deputies of the representative body of the local community *aiyl kenesh* (Kyrgyz), and the head of the executive body of the respective local authority *aiyl okmotu* (Kyrgyz). A PC formally can act independently from the state and officially has several responsibilities such as the development and implementation of community plans for pasture utilization, monitoring of the condition of respective pastures, issuing documents that entitle people to use the respective rangelands, composing the payment schedule, and collecting (and managing) fees. A 'pasture ticket' *pastbishshnyi билет* (Russian) is acquirable by paying a defined sum that is calculated from the kind and the amount of the animals an individual has. It replaced the previous area-related lease system (LKROP 2009 art. 2-6, 15; Steimann 2011: 207; Dörre and Borchardt 2012: 316). In addition to the user's personal data, the

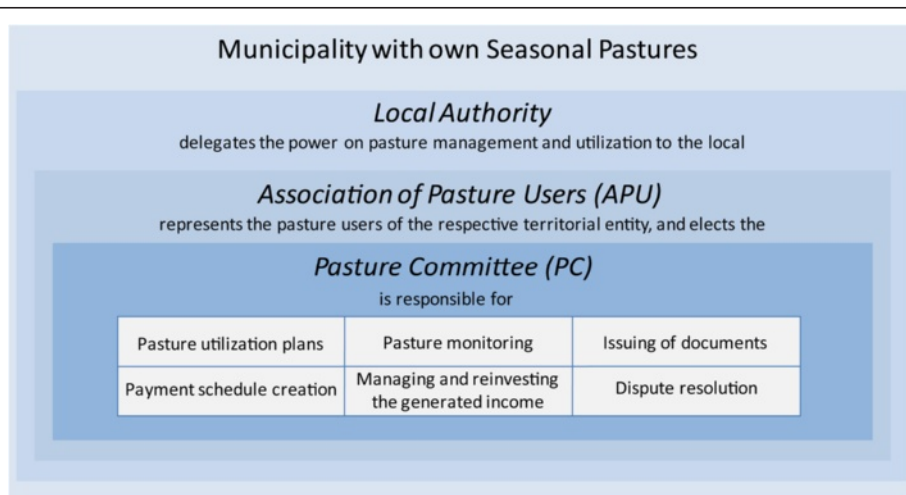
document should contain the name, location, and area of the respective pastures, specifications on their carrying capacity, the actual kind and amount of animals permitted to graze, the spatiotemporal migration schemes, and the fee imposed by the PC (SF PT 2009). According to articles 6 and 11 of the law, the PCs are also responsible for the settlement of disputes concerning the usage of pastures and for the reinvestment of the generated income into pasture maintenance, related infrastructure, and the improvement of the resource management (Fig. 3).

Compared to the advanced international discourse on natural resource management, this new regulation can be seen as a delayed application of the community-based approach after the failure of the previous market-oriented attempt to legally solve Kyrgyzstan’s socio-ecological pasture-related problems. At first glance, the idea looks concise and reliable due to the envisaged joint control held between the pasture users and the PCs in terms of annual elections and supervision of usage practices and fee collection. This impression of a successful attempt is supported by positive reports, which note that more than 450 PCs have been established across the country. However, the question arises as to why additional funding is being allocated by international donors still years after the implementation of the law, if the mere introduction of CBNRM was seen as the solution of the rangeland-related problems (e.g. IBRD 2013; Jafarova 2013; Ivashhenko 2014). Alternatively, the question can be asked if and how community-based pasture management performances differ from the demands of the legislation.

A short review of some scientific papers recently published on pasture management in Kyrgyzstan provides some hints about the reasons for the ambiguous results following the law’s implementation. The arguments are strikingly similar to the critical assessments of CBNRM approaches mentioned above. Jacquesson (2010) points out

that the understanding of the proponents of the new regulation relies on misleading and simplified assumptions about the hierarchical structures of local institutions. Kerven et al. (2012) remark that the establishment of standardized PCs ‘seem to be influenced by rather simplistic ideas’ (374) and that the existing power asymmetries between the pasture users as well as their competing interests were not recognized enough (375). Crewett (2011) also observed that the APUs were by no means egalitarian. Often-times, the organizations and respective decision-making processes were dominated by older and wealthier male pasture users. Dealing with the broader topic of community development, Earle remarks that it would be ‘unwise to believe that respected members of the community necessarily act outside of local power struggles’ (2005: 255). Power asymmetries have to be recognized as a characteristic feature of social groups and organization. Dörre and Borchardt (2012) provided examples of when local management organizations were unable to fulfil their duties due to a structural lack of knowledge, financial, and physical assets.

Another far-reaching, at present increasingly debated, but so far unsolved challenge of the formal legislation is the fact that the regulation is valid only for pastures that are located on lands that belong to local municipalities (communal lands) or on ‘national land reserve’ (NLR) areas *gosudarstvennyi zemel’nyi zapas* (Russian). The law is not applicable for grasslands of the so-called ‘national forest fund’ (NFF) *gosudarstvennyi lesnoi fond* (Russian), which is defined as those areas that are covered by forests and which were assigned to the state-owned forestry sector (FCKR 1999 art. 7). The main management responsibility for these lands resides with the State Forestry Agency and its local branches, the state-run forest enterprises *lesnye khozyastva* or *leskhozy* for short (Russian). This circumstance contributes directly to the fragmentation of the sphere of stakeholders and indirectly to the persistence of



**Fig. 3** Pasture management system according to the Law ‘On Pastures’ 2009. Design: author

diverse pasture-related socio-ecological challenges in the walnut-fruit forest region (or ‘nut forest region’ for short) and beyond (Dörre 2012: 136-141). When the ‘nut forest region’ is mentioned in this paper, the term is not restricted to the area covered by forests. It stems from a broader understanding that includes the adjacent mountain, rangeland, and cultivated areas. Settlements and other spatial features are also recognized as parts of the nut forest region.

**Study area**

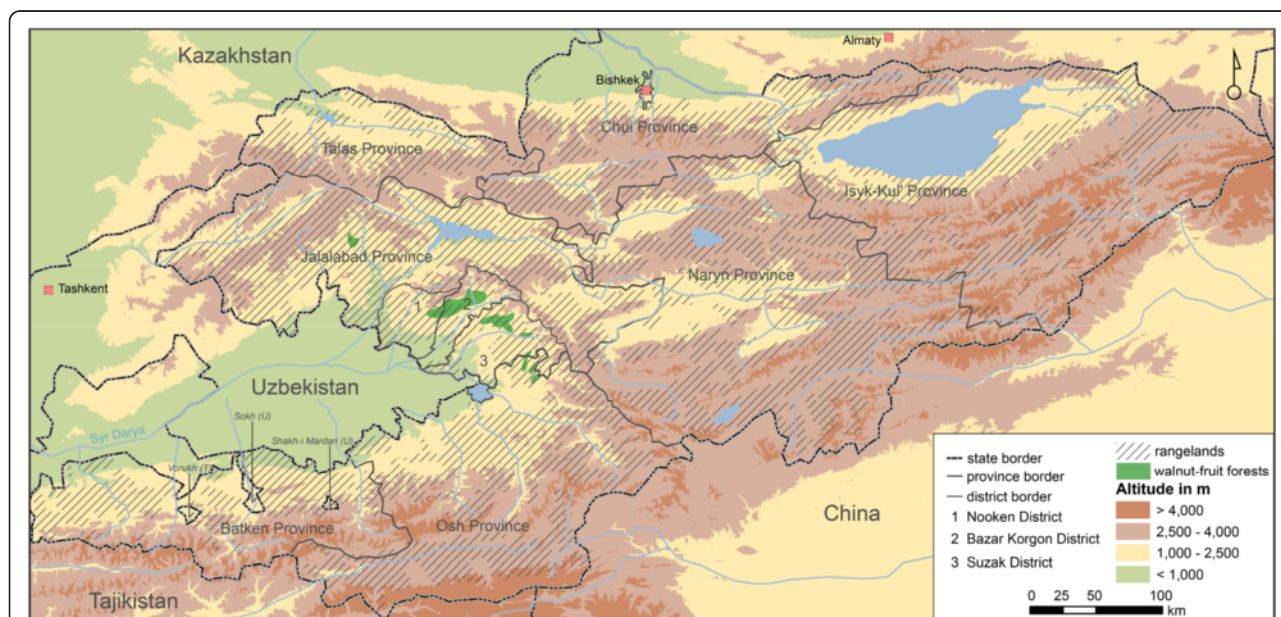
**The nut forest region - a peculiar area for several reasons**

Kyrgyzstan is a mountainous, landlocked, and strongly continental, climate-wise, country in Central Asia. It was formerly one of the poorest Soviet Republics, and the post-socialist transition led to degraded political and economic relations with other successors of the USSR, the rupture of important transfer payments from the former centre, and a temporary decline of the national economy. Many people coped with this situation by creating new livelihood strategies. In this regard, the access to nature-based resources became essential for survival, especially for people in rural areas (Steimann 2011; Dörre and Borchardt 2012; Schmidt 2012; Dörre 2014). Rangelands, therefore, constitute an important resource. They cover more than nine million hectares or around 90 % of all agricultural lands (SAEPFUGKR and UNDPKR 2007: 17-20; FAOSTAT 2009; ADB 2010: 123-125) (Fig. 4).

Since Central Asia, in general, and Kyrgyzstan, in particular, is characterized by sparse wood cover, the walnut-fruit forests represent a peculiar feature not just

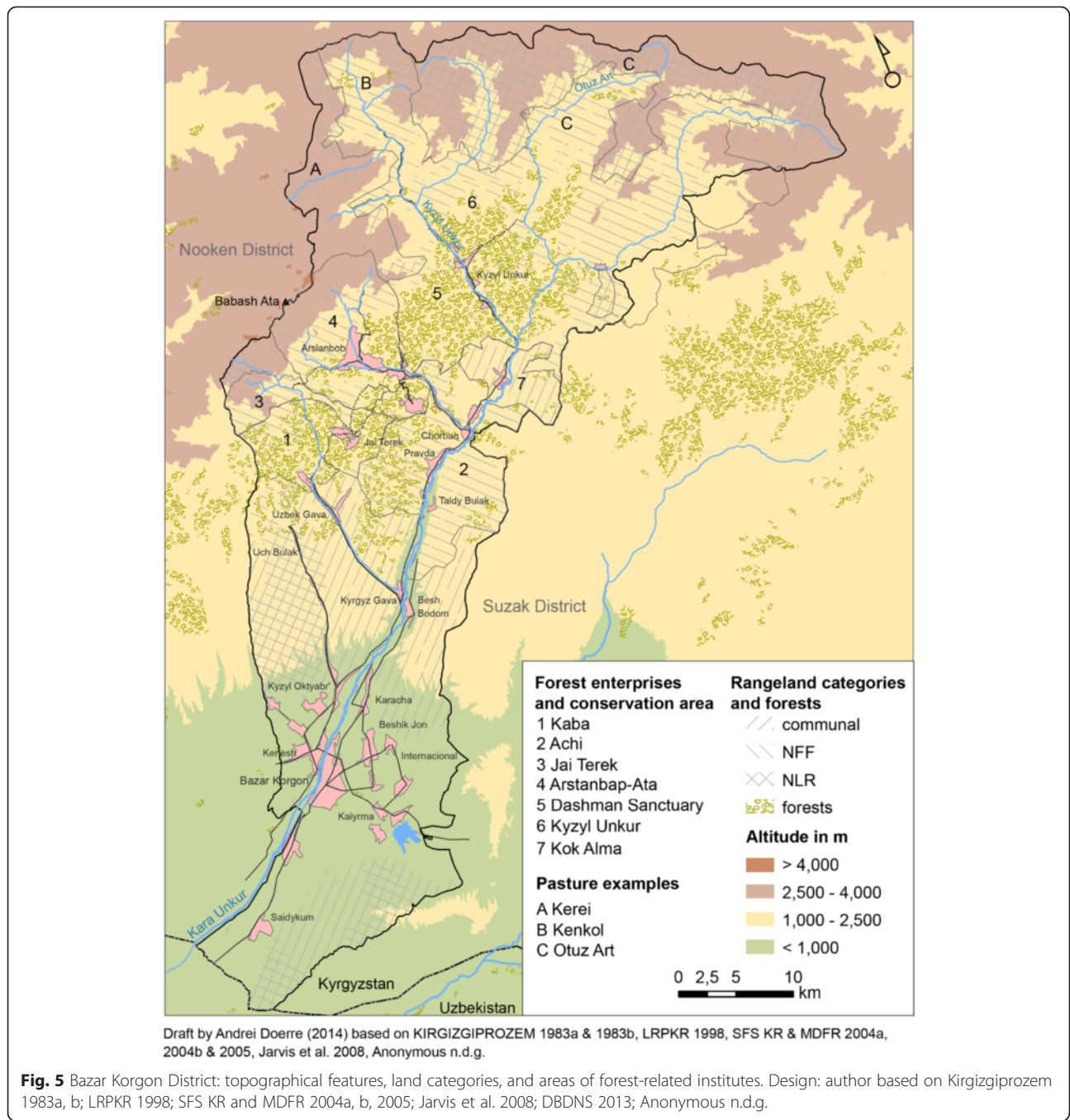
of the country but also of the whole region. The forests form three important forest massifs, which are located at the slopes of the Chatkal and the Fergana Ranges of the western Tien Shan at altitudes between 1,100 and 2,000m. The largest, named ‘Kugart-Arstanbap’, is distinguished by a remarkable biodiversity. It stretches within the *oblast’* Jalalabad from the Nooken *Rayon* in the west to the Suzak *Rayon* in the east. About 300 km<sup>2</sup> are situated within the Bazar Korgon District (Musuraliev 1998: 5; Venglovsky 1998: 73; Gottschling et al. 2005: 86-87, 91-92, 96-97; Griza et al. 2008: 31, 45-46; Borchardt et al. 2010: 257) (Figs. 4 and 5).

With more than 50,000 people living within and around the forests, the area is one of the most densely populated parts of the country. While the collection of walnuts can be seen as the most important natural resource-related income strategy for many local households in the region, pasture-based livestock and agriculture is also important economically for individual households, as well as for the regional economy (Schmidt 2013: 298-315; Dörre 2014: 173-175, 280-281, 307-308). The study area constitutes the part of the nut forest region that is located within the boundaries of the Bazar Korgon *Rayon*. The district itself covers an area of about 2,020 km<sup>2</sup>. The elevation of the district steadily climbs up from the southern parts lying lower than 1,000 m to high peaks of over 4,000m in the north. In general, the district’s pastures are of local and regional importance. Since their usability depends on the availability of water and edible plants for the animals, specific spatial features have a significant influence on



**Fig. 4** Kyrgyzstan: selected physical features and distribution of rangelands and walnut-fruit forests. Design: author based on AS KSSR and SC KSSR PPB 1982; Jarvis et al. 2008; Griza et al. 2008: 32; ADB 2010: 122; NSC KR 2010





the pasture’s seasonal usability, in particular altitude, exposure, and the existence of water sources. Spring and autumn pastures, *jazdoo* and *kyzdoo* (Kyrgyz), respectively, are found predominantly in the district’s south, below the forest belt, and at shorter distances from settlements than the summer pastures. Most of them are communal or ‘national land reserve’ lands (Figs. 5 and 6).

Summer pastures, *jailoo* (Kyrgyz), are mainly located in the northern section of the *rayon* above the forests, up to

3,500 m. Even if many of these *jailoo* are part of the ‘national land reserve’, wide areas remain ‘national forest fund’ pastures, where the application of community-based management approaches as outlined in the new pasture law is not envisaged (Figs. 5 and 7). Several *leskhoz*y and a conservation institute are legally responsible for the management of the NFF territory and its resources. Even if these organizations are much smaller and economically weaker than they used to be in Soviet times, they remain



**Fig. 6** Communal spring-autumn pastures, south of the Bazar Korgon District close to the settlement of Beshik Jon. The barns in the middle of the image were already built in Soviet times for a collective farm, which was privatized after 1991. The mountain range at the horizon has the highest peak of the district, the Babash Ata with 4,424 m. Some important summer pastures are located at its slopes. Photograph: author

important players for the regional economy, as well as local pasture management.

The existence of the two main land categories of NLR and NFF within the nut forest region has to be considered, since this circumstance is the legal reason for the simultaneous application of different pasture management approaches in close proximity to one another.

### Community-based pasture management performances in the nut forest region

The following two examples draw a differentiated picture of community-based pasture management performances in the nut forest region. The first case represents a basically functioning management regime executed by a PC. Among some promising features, some obstacles also impede the



**Fig. 7** The *jailoo* Otuz Art ('Thirty Passes', Kyrgyz) of the NLR land category; north of the Bazar Korgon District. The upper, woodless parts of pastures like Otuz Art (letter C in Fig. 5) are mainly used for the grazing of horses and sheep. The lower lying, partially tree-covered areas visible in the middle of the image belong to the NFF. They were generally used for cattle herding and bee keeping. Photograph: author

implementation of sustainable management in terms of social equity, political legitimacy, empowerment and participation in decision-making processes, economic efficiency, and self-sufficiency, as well as ecological sustainability. The second case is a pilot project for a user-based management of forest fund pastures. Due to the unsatisfactory results, a closure of the project was imminent in 2014. Both cases show that management practices actually resulted from local-specific circumstances, rather than representing the ambitious imagination of a successful and harmonious CBNRM.

#### **A basically functioning community-based pasture management**

The summer pasture Kerei is located between 2,800 and 3,500 m and covers nearly 20 km<sup>2</sup> within a mountainous valley that stretches from its lowest in the east to the upper parts in the west (letter A in Fig. 5; Kirgizgiprozem 1984). In the 1980s, this pasture belonged to the collective farm '60 years of October,' which was specialized in breeding fine-fleeced sheep for the production of high-quality wool. While the headquarters of this *kollektivnoe khozyastvo* or *kolkhoz* for short (Russian) was located in the settlement of Sovetsk (nowadays Kenesh) in the south of the district, most of its winter stables and professional shepherds were based in Uch Bulak in the west of the *rayon* (Kirgizgiprozem 1983b; SAJO 1997; respondents SKh 2007 and TM 2008) (Fig. 5). Nowadays, both settlements belong to the local municipality of Kenesh, which was established on the territory of the former collective farm. After the farm's liquidation in the early 1990s and the subsequent distribution of the animals and production facilities, the former *kolkhoz* members had to develop new income strategies. A few herders continued to use the Kerei *Jailoo* as private entrepreneurs. Five of six user households that were met on Kerei during the research were former farm herders or descendants of former farm herders. They still practiced the same spatio-temporal migration patterns between the spring-autumn pastures located close to Uch Bulak and the summer pasture, which were already established in Soviet times. Additionally, the herders used the pasture with the same intensity as in Soviet times and regularly changed the location of their campsites within each pasture section to protect the vegetation cover from damage (respondents SKh 2007 and TM 2008). In 1997, the district's administration officially allocated the pasture to Kenesh Municipality (RABK BDPC 1997). This status was backed by an amendment to the existing pasture law, which assigned non-forest fund pastures that were used by Soviet collective farms to the municipalities that had been created on the territories of the respective farms. It was also supported by a state act that allocated unlimited tenure rights for a number of pastures to the local administration of Kenesh (LKROP

2009 (2011) art. 3.2; SAAULTR 2012; respondent KJ 2013). Since Kerei *Jailoo* belongs to the NLR land fund, the new pasture law requiring a community-based management is officially in effect there.

Soon after the introduction of the new law, the local administration used its right to delegate the pasture management responsibility to a user-based body (LKROP 2009 art. 4.2), and the newly created APU elected the first PC in Kenesh Local Municipality in 2010. Conforming to the law, in 2013, the committee consisted of 21 members including representatives of the municipality's APU, deputies of the *aiyl kenesh*, and the head of the *aiyl okmotu*. The head of the PC, the *tor aga* (Kyrgyz), a former employee of the collective farm, and the accountant *bukhgal'ter* (Russian) were the only employed members of the committee. Two years after its creation, the cash-strapped *jaiyt komitet* was provided with a separate office within the local administration's building to support its activities with workspace for organizational tasks and public consultation hours. Despite this important facility, the PC had no noteworthy technical equipment like a computer for data management or outdoor gear such as tents and off-road cars to visit its distant pastures or update its database. Due to this reason, the PC still relied in large part on documents, information, and experience from Soviet times, such as the professional knowledge of its members, as well as geo-botanical pasture evaluations and fodder botanical maps from the 1980s to calculate the possible grazing intensities and mobility patterns. Therefore, such as in Soviet times, the equation of one livestock unit with one unit corresponding to one horse or cattle, or five sheep or goats, respectively, per hectare was still applied for Kerei *Jailoo* by the PC as well as by the users (respondents SKh 2007, TM 2008, and KJ 2013). Despite these obstacles, the management results for Kerei *Jailoo* seem to be promising. According to the PC's inventory and the respondents interviewed on the pasture, the access to the *jailoo* was still under control of the PC and the users themselves and possible for pasture users from Kenesh Local Municipality only. Just six herders received grazing rights for an area of 463 ha in 2012. This is not more shepherds than during Soviet times. They officially registered 463 livestock units (66 horses, 123 cattle, and 1,380 sheep) and therewith obeyed the stated grazing intensity threshold (PC APUK, unpublished document).

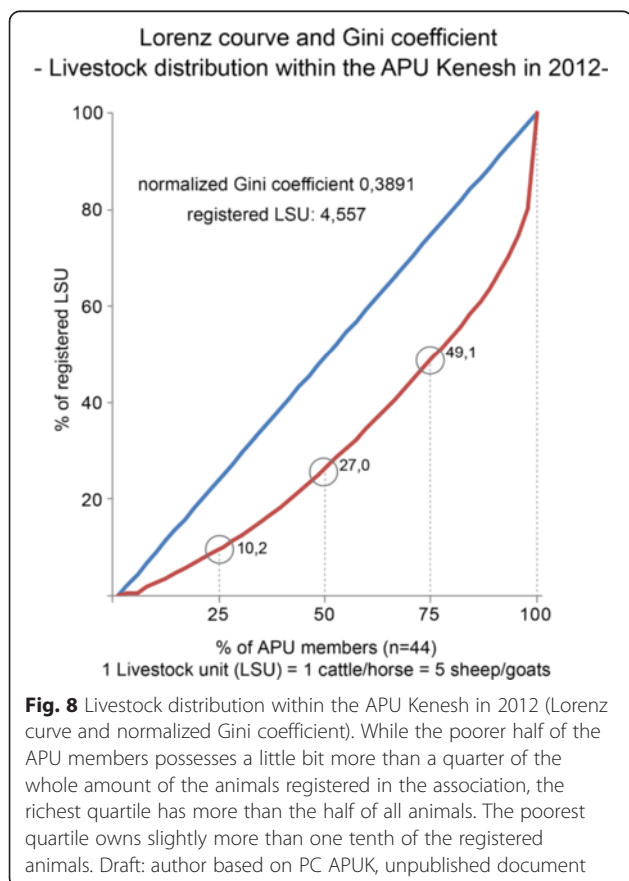
In addition to its own pastures, the administration of the Kenesh *aiylnyi okrug* also rented several grassland plots belonging to the 'national forest fund' from the *leskhoz* 'Kyzyl Unkur' to provide its members with sufficient pasture grounds (CLPKU-KLM 2013; respondents KJ 2013 and EA 2013/2014). Historically, these plots were also used by the former *kolkhoz*, yet not for sheep, but predominantly for cattle grazing (Kirgizgiprozem 1983b). A. Unabaev, a

shepherd from the settlement Kyzyl Oktyabr' of the Kenesh municipality and member of the respective APU for the past several years, officially used 124 ha of the Kenkol *Jailoo* as summer pasture and registered, according to his pasture tickets, 110 livestock units in 2011, 124 livestock units in 2012, and 129 livestock units in 2013 (letter B in Fig. 5; respondent AU 2013). From his point of view, the official contract between the forestry enterprise and the local municipality facilitates his utilization practice since he only has to apply for grazing rights at the PC which acts as the mediator between him and the *leskhoz*, as the actual owner of the pasture (respondent AU 2013). This saves him time and money.

Generally, the PC of the Kenesh Local Municipality issued pasture tickets to 59 individuals in 2012, all of which were APU members. Forty-four of them registered 4,557 livestock units for the grazing on the municipality's pastures in the same year (respondent KJ 2013; PC APUK, unpublished document). The ownership distribution of these animals is characterized by inequalities. While the smallest amount owned by a member was 26 units, the largest share represented 901 units. A normalized Gini coefficient of nearly 0.4 and the characteristic Lorenz curve progression depicted in Fig. 8

illustrate the remarkable livestock property disparities within the APU of the Kenesh Local Municipality.

The APU's socioeconomic stratification in terms of the uneven livestock distribution can be seen as a first indication of the social inequity within the organization and the respective community, though not a proof of it. It is also interesting to note that according to the district administration nearly 10,900 livestock units officially existed within the municipality (RABK 2012). The difference of more than 6,000 livestock units between this official number and the number that was registered within the PC's pasture ticket system led initially to two conclusions: First, not all animals belonging to APU members were registered as grazing animals. It is officially accepted that not all dairy cows and calves are registered as animals visiting the pastures, since it is a common practice in the study region to keep cows within or close to the settlements during the lactation period for the purpose of daily milking. The second preliminary conclusion was that not all livestock owners were members of the pasture user association, and their animals therefore were not inventoried by the APU. The people interviewed confirmed both explanations, but only the second explanation is important for the topic discussed in this paper. In contrast to the already quoted shepherds using the summer pastures of Kerei and Kenkol, several interviewees, some of them APU members, assessed the APU and its PC as a complicated and ineffective management construct. Some even went a step further, describing them 'unnecessary' institutions, which can be easily avoided by making individual, less complicated, quick, and spontaneous arrangements with other pasture-owning organizations. Depending on the location and the legal status of the respective pasture, these organizations can be neighbouring local authorities and their APUs for communal or 'national land reserve' pastures or forest enterprises such as the *leskhoz* 'Kyzyl Unkur' for the grasslands of the 'national forest fund'. Another accusation put forward against the APUs in the study area and their PCs was assumed misappropriations of funds. However, the proof of such a breach of trust was not provided. Nevertheless, according to the interviewed pasture users and forestry employees, many livestock owners regularly choose the unofficial way to purchase undocumented utilization rights informally (respondents AU 2013, DE 2013, EA 2013/2014, LO 2013, and MA 2013). On the one hand, this circumstance means that non-members are being excluded from decision-making processes within the APUs and cannot directly influence the management strategies of the PC and its members. On the other hand, however, it shows that not all pasture users see the APU as the legitimate organization to represent their pasture-related interests. It is also a sign that the APU, its PC,



and the respective members are too weak to demand membership from all pasture users of the municipality. Consequently, in addition to the social sphere, a deviation from the ideal outcomes of CBNRM is also evident in the political sphere.

Another central obligation of the PCs is to issue pasture tickets before the beginning of the seasonal migration in spring. The payments for these documents should constitute a financial backbone of the committee's budget. In 2012, the planned earnings from pasture utilization corresponded to around 60 % of the APU's official budget of approximately 900,000 KS (1.00 US\$ = 47.37 KS, 31 December 2012). By the end of the year, however, only around 50 % of the pasture ticket holders had paid their fees, and less than a quarter of the expected total had been collected. Similar problems were reported for 2013 (PC APUK, unpublished document; respondent KJ 2013). This unsolved problem further hints at the deficient empowerment of the responsible management body. The *tor aga* and the *bukhgal'ter* are often unable to fulfil their duty to claim financial contributions from pasture users. The peer-group pressure resulting from social relationships between the management staff and its customers, who are at the same time relatives, neighbours, friends, and former colleagues, impedes the designated implementation of the formal regulation. Therefore, the lack of financial assets can be seen not only as an effect of the APU's weakness and narrowed capacity to act but also as a reason for its weakness and narrow capacity to act. The lack of funding contributed to a situation where external support became structurally necessary and unavoidable. Formally, the organization should function without external intervention. However, in the end, more than a quarter of the budget was contributed by the World Bank via CDIA (respondent KJ 2013; PC APUK, unpublished document). According to the statement of the head of the Pasture Department of the MAWPRI at a conference on pasture management in June 2015 in Kyrgyzstan's capital Bishkek, such payments were by no means singular cases, but necessary for most PCs in the country. It can be seen, therefore, that the ideal image of CBNRM in terms of economic self-sufficiency is also not being met.

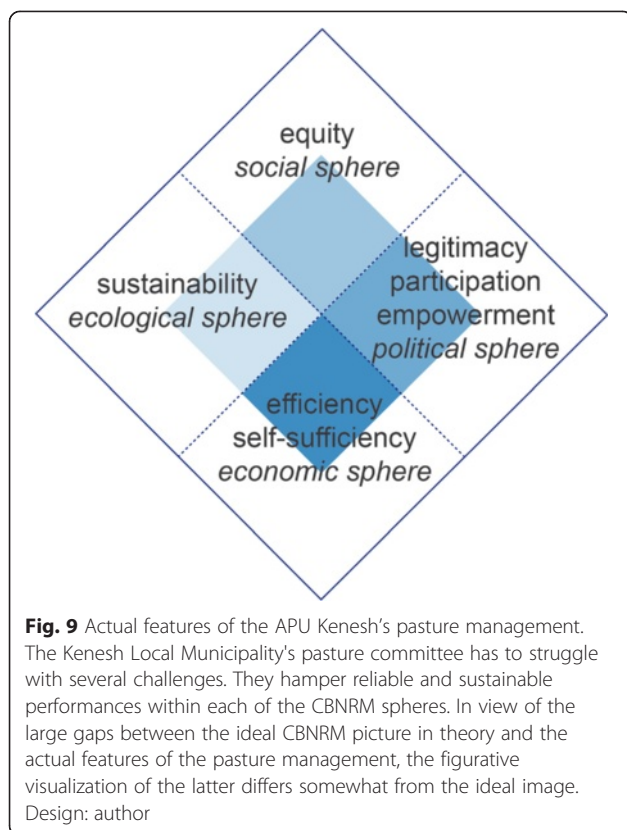
According to article 7.2 of the law, specified 'plans on management and utilization' including, among other things, detailed maps, the respective carrying capacity, as well as detailed development and reconstruction concepts have to be developed for each pasture of the municipality (LKROP 2009). However, the structural lack of physical assets, finances, and staff of the PC Kenesh is also displayed in its inability to systematically update the limited and outdated knowledge about the pastures' natural conditions available. As was mentioned before, the PC for instance still relies on Soviet material to calculate the possible grazing intensities. During the time of research, the equation of one livestock

unit per hectare was applied not only for the mentioned Kerei *Jailoo* but also for all summer pastures of the municipality without temporal variation and spatial exception. It is questionable if such an undifferentiated approach corresponds to the spatiotemporal variability of the pastures' natural conditions. The APU's scarce funds were spent instead mainly on the reconstruction of roads to the pastures, payments for renting NFF grasslands, and staff-related expenditures such as wages and social security contributions (respondent KJ 2013; PC APUK, unpublished document). It is evident that in regard to the practical usage of the municipality's pastures in terms of spatiotemporal utilization and grazing intensity, as well as the vegetation conditions, the PC plays only a secondary role due to its narrow capacity to act. Regarding the Kerei *Jailoo* example, Dörre and Borchardt (2012: 320) argue that in the course of the herders' sustainable utilization practices such as extensive grazing and frequent campsite changes resulting from their knowledge and experience, the ecological conditions are not negatively impacted by animal husbandry. Consequentially, it can be stated that for this specific case the users' ecologically sustainable activities compensate for the fact that the PC has been virtually absent in this field.

Bringing the findings of the first example together, it can be seen that the pasture management of the APU Kenesh's PC works, but at a rather basic level. The organization's fifth anniversary in 2015, the functioning annual elections of the PC staff, and the growing number of registered members (already 98 in 2013) can be evaluated as promising signs for the association's future work. Nevertheless, several challenges hamper reliable and sustainable performances within each of the discussed CBNRM spheres. In view of the large gaps between the ideal CBNRM picture in theory and the actual features of the pasture management, the figurative visualization of the latter differs somewhat from the ideal image presented before (Figs. 1 and 9).

#### **Overstrained community-based pasture management organizations**

Otuz Art is a valley with vast summer pastures lying on NFF, as well as NLR lands that together cover more than 20 km<sup>2</sup> (letter C in Fig. 5). During Soviet times, its grasslands were also used predominantly by collective farms based in the district's south (Kirgizgiprozem 1983b). The herders came mainly from Bazar Korgon and surrounding settlements, as they do today. While the NFF grasslands lying between 1,700 and 2,800 m represent predominantly the south-western parts of the valley and are part of the 'Kyzyl Unkur' *Leskhoz*, the plots located on NLR areas are found mainly in the north-east at an elevation ranging from 2,000m up to 3,300m, which belong to the Beshik Jon Local Municipality (Figs. 5 and 7; RABK



BDPC 1997; SFS KR and MDFR 2004c: survey map nos. 1, 2, 3, 4, 6, and 9; LKROP 2009 (2011) art. 3.2). The following example looks at a pilot project on the user-based management of the Otuz Art's NFF pastures, where the new pasture law is not in effect.

The 'Kyzyl Unkur' *Leskhoz* is one of six state-run forest enterprises, which are responsible for the utilization and conservation of the forest resources of the district. Like other state-run companies, the *leskhoz* suffered from severe job losses and budget cuts after 1991. The number of employees dropped from a three-digit number in the late 1980s to under 30 in 2014. In 2011, the *leskhoz* and the administrations of several municipalities of the Bazar Korgon District signed lease contracts for the first time for nearly 13,000 ha of the 17,000-ha rangelands, which belong to the *leskhoz*. The idea behind the devolution of responsibilities for certain NFF grasslands to local communities was to create a win-win situation, which, on the one hand, absolves the forest enterprise of cost-intensive management duties and provides it with secure earnings from user fees. On the other hand, the livestock owners' application for usage rights would be simplified and the resource management responsibility transferred to the immediate resource users. The agreements have been prolonged annually so far and define the geographical limits and possible period of pasture utilization, as well as the rights and the duties of the

contract partners. In this regard, the municipalities of Beshik Jon and Bazar Korgon obtained usage rights and management responsibilities for pasturelands located within the Otuz Art Valley. The annual usage period was always defined as being from May 15 to September 15, due to ecological reasons. Among other things, the *leskhoz* has to provide the land plots agreed on and basic services such as access to water sources and veterinary services for the pasture users. The company's rights encompass the supervision of usage practices, the imposition of fines for forbidden and ecologically harmful practices, and the expulsion of non-paying pasture users. The PCs, as the executive body of the APU, have to ensure that the APU members follow the existing laws and the rules agreed to in the contract. They also have to pay the fees on time and contribute to the maintenance of the infrastructure (respondent EA 2013/2014; SCLPKU n.d.g.). However, the results of the pilot project have been disappointing so far. The forest enterprise complains about diverse ecologically harmful practices conducted by the pasture users, such as grazing on forested areas, overstocking, goat keeping, exceeding the grazing period, and the felling of living trees (Fig. 10; respondent EA 2013/2014).

Additionally, the *leskhoz* complains about a lack of disciplinary measures and insufficient contributions to the maintenance of infrastructure through the responsible PCs, along with remarkable outstanding usage fees from its contract partners. Therefore, the forest enterprise management was thinking seriously about the abolishment of the bilateral agreements (respondent EA 2013/2014). The PCs' unsatisfying management performance can be explained again by the insufficient legitimacy of the contracts as legally binding within the respective communities and the pasture committees' lack of human, technical, and financial assets; legitimacy; and, consequently, power to fulfil its duties.

Regarding the first point, it has to be mentioned that the contracts were introduced at the instigation of the State Forestry Agency Department in Jalal-Abad, and signed by the heads of the forest enterprise and the pasture committee, respectively. Substantial discussions of the contracts' contents and collective agreement on its contents did not take place within the forest enterprise or within the APU meetings (respondents EA 2013/2014, KB 2013, and TM 2013). At the same time, many pasture users see no incentive in being represented by a PC and feel no obligation to follow the imposed rules. Many sign individual contracts with *leskhoz* staff members instead. These staff members are structurally underpaid and often use the oral agreements for informal income generation, such as not intervening to prevent forbidden practices in order to obtain informal payments (respondents MA 2013, LO 2013, KB 2013, and TM 2013). Since the Beshik Jon and Bazar



**Fig. 10** Ecologically harmful practices on NFF pastures. Different forms of ecologically harmful activities were practiced by local and non-local pasture users (clockwise, beginning with the upper left image): a) the use of forest clearings as pasture camps can damage the forest floor, b) animals grazing in the forest hamper its natural rejuvenation, c) the keeping of goats has severe impacts on the vegetation cover, and d) the felling of living trees for fuel wood pushes deforestation processes. Photographs: author

Korgon Local Municipalities' APUs and PCs do not have any leverage to demand membership and support from the pasture users of their respective municipalities, they appear to be rather weak in terms of legitimation.

Regarding the second point, both PCs lack sufficient staff and the technical and financial assets necessary to control the pasture utilization practices of their members (respondents KJ 2013, KB 2013, and TM 2013). Additionally, since the accessibility of the pasture's upper parts depends on several crossings of the Otuz Art River, the structural lack of capital has an even worse impact than in the first example of the Kenesh Local Municipality. During Soviet Times, several bridges over the strong and swift river were erected and maintained by the collective farms. Nowadays, most of these bridges are broken (Fig. 11).

Generally, the permanent damage of crucial infrastructure makes the approach to distant grazing grounds particularly difficult and sometimes even dangerous - a problem that can be observed in many regions of the country, according to the conference statement of the head of the Pasture Department of the MAWPRI (June 2015). In the case presented here, it was reported that every year several people and many animals lose their lives. In 2014, the reconstruction of the bridges was still pending since it was a cost-intensive investment that had

to be done mainly by the users themselves. Hence, more and more herders decide to utilize other *jailoo* that are easier and more safely accessible. There is a serious risk that these alternative pastures will be overused in the future, while Otuz Art's upper rangelands will stay underutilized. Thus, in the long term, both can be lost as grazing grounds due to vegetation degradation and scrub encroachment, respectively. Consequentially, the PCs applied for a grant from the regional administration and international donor agencies for bridge rehabilitation, but the problem remained unsolved at the time of research (respondents TM 2013 and KB 2013/2014). These observations show that the user-based management of forest fund pastures of the Otuz Art Valley deviates even more than the first example, from the ideal of CBNRM presented in the introduction.

### Conclusion

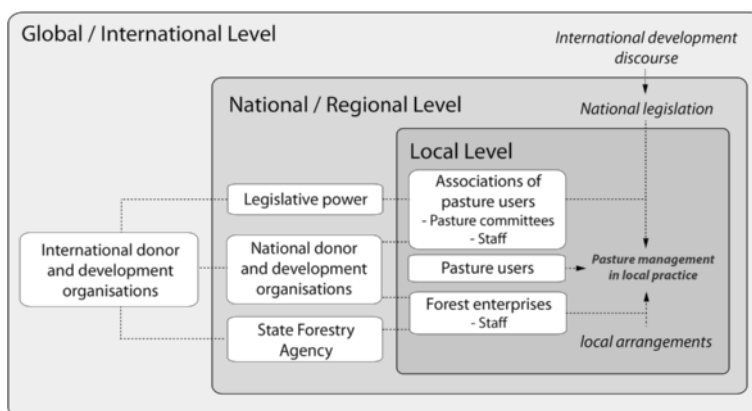
This paper has sought to explain the differences between the demands of top-down introduced community-based management approaches for natural resources and the realities on the ground. It has been argued that normative concepts often are based on romantic and idealized understandings of 'communities' as being intrinsically harmonious entities and their eminent ability to establish



**Fig. 11** Broken bridge (not) crossing the Otuz Art River. During Soviet Times, several bridges over the strong and swift river were erected and maintained by the collective farms. Nowadays, most of these bridges are broken. Every year several people and many animals lose their lives. In 2014, the reconstruction of the bridges was still pending since it was a cost-intensive investment that had to be done mainly by the users themselves. Photograph: author

comprehensively sustainable management strategies. By looking at two local pasture management examples, it can be seen that the local performance of natural resource management is in fact dependent on the local acceptance and legitimacy of the official regulation, the relations and interactions of the actors involved in the respective resource-related spheres, as well as the local socio-economic and institutional conditions. The examples

illustrate that external management approaches can lack acceptance, if the contents and regulations are not produced in collaboration with the target audience itself. The structural lack of personal, technical, and financial assets has additionally weakened the local management bodies, undermined their authority and thus their power to negotiate and perform within the pasture-related negotiation and implementation of



**Fig. 12** 'Landscape' of the pasture governance in Kyrgyzstan's nut forest region. National legislations for natural resource management are strongly influenced by international discourses. However, local management practices actually represent hybrid constellations of different aspects of the official regulations and informal local practices, rather than representing the ambitious demands of the respective legislation. Draft: author based on Lama and Job (2014: 241)



rules, as well as the resolution of conflicts, or, shortly, within the whole 'governance landscape' (Lama and Job 2014: 241). While in such a context local management organizations can be heavily dependent on external support, individual resource users can see gains as they are able to enforce their specific interests, even if they contradict the goals of the management bodies in charge. Hence, the resulting pasture management as locally practiced in the case study areas can be seen as hybrid constellations of different aspects of the official regulations on the one hand and informal local practices on the other hand. At the same time, the assessment of the APUs' and their PCs' performances depends on the expectations of the respective observer, and if the formal legislation, or other concepts of CBNRM are used as the basis of valuation. In the cases presented here, the agendas pursued by the involved actors were unevenly implemented depending on the power of the respective proponents (Fig. 12).

The challenge of uneven access to pastures based upon the socio-economic status of individual users as well as the question of to what extent the access of different socio-economic groups has changed with respect to the situation under the former regulation were not explicitly addressed by this study. These research gaps should be addressed by future research.

Evaluating the latest developments in Kyrgyzstan's pasture land governance, in terms of winning and losing, it can be seen that the state stands on the winning side because it acted according to the international development discourse and withdrew from the societal arena of natural resource management, and externalized the respective administrative costs to the local level. Consequentially, the state gained a good reputation among international donor and development organizations for the devolution of natural resource management responsibilities to local communities. In contrast, some local authorities and newly-created pasture user associations seem to be overburdened by the new responsibilities and consequentially can be evaluated as being on the losing side of this development. Nevertheless, there are also promising and even successful examples of convincingly empowered local bodies, whose pasture management performances contributed to partially or comprehensively sustainable development processes within the respective local communities (e.g. Bussler 2010: 46). It would be very interesting to see in detail what factors determined these successes and how emerging challenges were addressed by these successful community-based pasture management organizations.

These observations lead to the conclusion that a consistent strategy that goes beyond the mere definition of undifferentiated goals should take the local-specific needs, potentials, and restrictions of CBNRM more solidly into consideration, to ensure the adequate representation and

participation of the resource users within the decision-making bodies. Such an approach will enable the resource users to create regulations that are adjusted to the respective local-specific circumstances. In this regard, the strategy should also include the provision of specified financial, technical, and educational support for the transition period to the new regime, when requested by the respective management bodies. Ignoring empirical evidence and local circumstances can lead to a repetition of the often mistake of implementing theoretically sophisticated approaches that, finally, fail on the ground.

## Sources

### Interview respondents

The names of the respondents were changed to secure their anonymity.

AU 2013. A. Unabaev, pasture user from Kenesh Municipality. Interviewed 18 July 2013.

BV 2009. B. Voltovaev, lawyer 'Legal Advice for Rural Citizens' (Bishkek). Interviewed 7 July 2009.

DE 2013. D. Erkinov, forester of the Kyzyl Unkur Forestry. Interviewed 17 July 2013.

EA 2013/2014. E. Anarbaev, Kyzyl Unkur Forestry. Interviewed 17 July 2013 and 20 April 2014.

KB 2013/2014. K. Botshoroev, pasture committee of the association of pasture users of the Bazar Korgon Municipality. Interviewed 21 July 2013 and 22 April 2014.

KJ 2013. K. Julmatov, pasture committee of the association of pasture users of the Kenesh Municipality. Interviewed 19 July 2013.

LO 2013. L. Orusbekov, pasture user from Bazar Korgon Municipality. Interviewed 17 July 2013.

MA 2013. M. Alimkulova, pasture user from Beshik Jon Municipality. Interviewed 17 July 2013.

SKh 2007. S. Kharatov, former shepherd of the *kolkhoz* '60 years of October' (Bazar Korgon District). Interviewed 14 July 2008.

TM 2013. T. Murgunov, pasture committee of the association of pasture users of the Beshik Jon Municipality. Interviewed 21 July 2013.

TM 2008. T. Myndykov, former shepherd of the *kolkhoz* '60 years of October' (Bazar Korgon District). Interviewed 11 October 2008.

### Abbreviations

APU: association of pasture users; CBNRM: community-based natural resource management; KS: Kyrgyz Som (currency); NFF: national forest fund; NLR: national land reserve; PC: pasture committee; PC APUK: Pasture Committee of the Association of Pasture Users of the Kenesh Municipality; PD MAA: Pasture Department of the Ministry for Agriculture and Amelioration.

### Competing interests

The author declares that he has no competing interests.

### Author's information

AD is a researcher at the Centre for Development Studies of the Freie Universität Berlin, Germany. In his dissertation, he analysed the shifting human-environmental relations in post-socialist Kyrgyzstan from a political-ecological perspective. His research interests include resource utilization and social development in high mountain regions of Central and South Asia.

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### References

- Asian Development Bank, ADB. 2010. Central Asian Atlas of Natural Resources. Manila: ADB.
- Agrawal, A, and CC Gibson. 1999. Enchantment and disenchantment: The role of community in natural resource conservation. *World Development* 27(4): 629–649.
- Agrawal, A, and CC Gibson. 2001. Communities and the environment: Ethnicity, gender, and the state in community-based conservation. New Brunswick: Rutgers University Press.
- Anonymous (no date given). Map of the preliminary boundaries of the functional zoning of the Dashman State Reserve (in Russian). Scale 1:25,000. No place given. (author's collection).
- Arntzen, JW, DL Molokomme, EM Terry, N Moleele, O Tshosa, and D Mazambani. 2003. Main findings of the review the community-based natural resource management projects in Botswana. IUCN/SNV and CAR: CBNRM Support Programme Paper. Gland.
- As, KSSR Academy of Sciences of the Kyrgyz Soviet Socialist Republic, SC KSSR PPB State Committee of the Kyrgyz Soviet Socialist Republic for Publishing, Polygraphy, and Book Trade. 1982. Kyrgyz Soviet Socialist Republic: Encyclopedia (in Russian). Frunze: Glavnaya Redakciya Kirgizskoi Sovetskoi Enciklopedii.
- Berkes, F, and MT Farvar. 1989. Introduction and overview. In *Common property resources*, ed. F Berkes, 1–17. London: Belhaven Press.
- Bichsel, C, G Fokou, A Ibraimova, U Kasymov, B Steimann, and S Thieme. 2010. Natural resource institutions in transformation: The tragedy and glory of the private. In *Global change and sustainable development: A synthesis of regional experiences from research partnerships*, ed. H Hurni and U Wiesmann, 255–269. Bern: NCCR North-South Swiss National Centre of Competence in Research North-South, University of Bern.
- Blaikie, P. 2006. Is small really beautiful? Community-based Natural Resource Management in Malawi and Botswana. *World Development* 34(11): 1942–1957.
- Blaikie, P, K Brown, P Dixon, P Sillitoe, MA Stocking, and L Tang. 1997. Knowledge in action: Local knowledge and development paradigms. *Farming Systems* 4: 217–237.
- Borchardt, P, M Schmidt, and U Schickhoff. 2010. Vegetation patterns in Kyrgyzstan's walnut-fruit forests under the impact of changing forest use in post-Soviet transformation. *Die Erde* 141(3): 255–275.
- Bromley, DW, and MM Cernia. 1989. The management of common property natural resources. (World Bank Discussion Paper 57). Washington, DC: The World Bank.
- Bussler, S. 2010. Community based pasture management in Kyrgyzstan. A pilot project in Naryn region. Bishkek. GIZ/CAMP Alatau. [http://www.naturalresources-centralasia.org/assets/files/Community\\_based\\_pasture\\_%20management\\_in\\_%20KR\\_EN.pdf](http://www.naturalresources-centralasia.org/assets/files/Community_based_pasture_%20management_in_%20KR_EN.pdf). Accessed 15 May 2013.
- Campbell, B, A Mandondo, N Nemarundwe, B Sithole, W De JonG, M Luckert, and F Matose. 2001. Challenges to proponents of common property resource systems: Despairing voices from the social forests of Zimbabwe. *World Development* 29(4): 589–600.
- Castree, N. 2008. Neoliberalising nature: The logics of deregulation and reregulation. *Environment and Planning A* 40: 131–152. doi:10.1068/a3999.
- CLPKU-KLM Contract for the lease of pastures between the 'Kyzyl Unkur' Forest Enterprise and the Kenesh Local Municipality from April 24, 2013 (in Kyrgyz).
- Cox, M, G Arnold, and TS Villamayor. 2010. A review of design principles for community-based natural resource management. *Ecology and Society* 15(4): 38. <http://www.ecologyandsociety.org/vol15/iss4/art38/>. Accessed 7 Jun 2014.
- Crewett, W. 2011. Decentralized pasture governance in Kyrgyzstan. Challenges for implementation (Paper presented at the conference "Pastoralism in Central Asia: Status, challenges and opportunities in mountain areas. June 13–18, 2011. Bishkek). [http://www.ucecentralasia.org/downloads/2011jun11\\_wocat\\_wibke\\_crewett.pdf](http://www.ucecentralasia.org/downloads/2011jun11_wocat_wibke_crewett.pdf). Accessed 3 Apr 2014.
- Crewett, W. 2012. Improving the sustainability of pasture use in Kyrgyzstan. The impact of pasture governance reforms on livestock migration. *Mountain Research and Development* 32(3): 313–323.
- DBDNS Description of the Borders of the Dashman Nature Sanctuary. Attachment to the Resolution of the Government of the Kyrgyz Republic No 206 from April 17, 2013 "On the Organisation of the Dashman Nature Sanctuary (in Russian). Bishkek (author's collection)
- Dekker, HAL. 2003. Land reform, food security and economic development. A case study in the Kyrgyz Republic. Aldershot/Burlington: Ashgate. Property regimes in transition.
- Delehanty, J, and J Rasmussen. 1995. Land reform and farm restructuring in the Kyrgyz Republic. *Post-Soviet Geography* 36(9): 565–586.
- Dörre, A. 2012. Legal arrangements and pasture-related socio-ecological challenges in Kyrgyzstan. In *Pastoral practices in High Asia. Agency of 'development' effected by modernisation, resettlement and transformation (= Advances in Asian Human-Environmental Research, ed. H Kreuzmann, 127–144. Dordrecht/Heidelberg/New York, NY/London: Springer.*
- Dörre, A. 2014. Naturressourcennutzung im Kontext struktureller Unsicherheiten. Eine Politische Ökologie der Weideländer Kirgisistans in Zeiten gesellschaftlicher Umbrüche (Erdkundliches Wissen. Schriftenreihe für Forschung und Praxis 154). Stuttgart: Franz Steiner Verlag.
- Dörre, A, and P Borchardt. 2012. Changing systems, changing effects: Pasture utilization in the course of the post-Soviet transition. Case studies from southwestern Kyrgyzstan. *Mountain Research and Development* 32(3): 313–323.
- Earle, L. 2005. Community development, 'tradition' and the civil society strengthening agenda in Central Asia. *Central Asian Survey* 24(3): 245–260.
- Esteva, G. 1992. Development. In *The development dictionary. A guide to knowledge as power*, ed. W Sachs, 1–23. London/New York: Zed Books.
- FAOSTAT Food and Agricultural Organization of the United Nations. 2009. ResourceSTAT-Land (updated September 2010). <http://faostat.fao.org/>. Accessed 5 Apr 2011.
- FCRR Forestry Code of the Kyrgyz Republic. Signed by the president on July 8, 1999 (in Russian). Bishkek
- Geißel, B. 2007. Zur (Un-)Möglichkeit von Local Governance mit Zivilgesellschaft: Konzepte und empirische Befunde. In *Local Governance - mehr Transparenz durch Bürgernähe?* ed. L Schwalb and H Walk, 23–38. Wiesbaden: VS Verlag für Sozialwissenschaften.
- Ghai, D, and J Vivian (eds.). 1992. Grassroots environmental action: People's participation in sustainable development. London: Routledge for UNRISD.
- Gottschling, H, I Amatov, and G Lazkov. 2005. Zur Ökologie und Flora der Walnuss-Wildobst-Wälder in Süd-Kirgisistan. *Archiv für Naturschutz und Landschaftsforschung* 44(1): 85–130.
- Griza, E, B Venglovskii, Z Sarymsakov, and G Karraro. 2008. Typology of the forests of the Kyrgyz Republic. A practice-oriented document for the empirical assessment of forests and proper management (in Russian). Bishkek: Intercooperation/Departament razvitiya lesnykh resursov.
- Hardin, G. 1968. The tragedy of the commons. *Science* 162(3859): 1243–1248.
- IBRD International Bank for Reconstruction and Development. 1993. Kyrgyzstan. The transition to a market economy. Washington, DC: The World Bank.
- IBRD International Bank for Reconstruction and Development. 1995. The Kyrgyz Republic. Agricultural Sector Review Vol. II (Report 12989-KG). Washington, DC: The World Bank.
- IBRD International Bank for Reconstruction and Development. 2002. Building institutions for markets (World Development Report 2002). Washington, DC: The World Bank.

- IBRD International Bank for Reconstruction and Development. 2008. Project appraisal document on a proposed grant in the amount of SDR 5.7 million (US\$ 9.0 million equivalent) to the Kyrgyz Republic for an Agricultural Investments and Services Project (March 20, 2008) (Report: 43107-KG). Washington, DC: The World Bank. [http://www-wds.worldbank.org/external/default/WDSCContentServer/WDSP/IB/2008/04/11/000333037\\_20080411010009/Rendered/PDF/431070PADOP096101official0useOnly1.pdf](http://www-wds.worldbank.org/external/default/WDSCContentServer/WDSP/IB/2008/04/11/000333037_20080411010009/Rendered/PDF/431070PADOP096101official0useOnly1.pdf). Accessed 12 Nov 2012.
- IBRD International Bank for Reconstruction and Development. 2013. Kyrgyz Republic - Grant for Pasture and Livestock Management Improvement Project. <http://documents.worldbank.org/curated/en/2013/10/18897677/kyrgyz-republic-grant-pasture-livestock-management-improvement-project>. Accessed 27 Feb 2014.
- IUCN International Union for Conservation of Nature, WWF World Wide Fund for Nature, and UNEP United Nations Environment Programme. 1991. Caring for the Earth: A strategy for sustainable living. Gland: IUCN/WWF/UNEP.
- Ivashchenko, E. 2014. Kyrgyzstan: Pastures – a national idea (in Russian). <http://www.fergananews.com/articles/8311>. Accessed 20 Nov 2014.
- Jacquesson, S. 2010. Reforming pastoral land use in Kyrgyzstan: From clan and custom to self-government and tradition. *Central Asian Survey* 29(1): 103–118.
- Jafarova, A. 2013. World Bank to allocate \$90 million to Kyrgyzstan for pasture development (AZERNEWS, August 13, 2013). <http://www.azernews.az/region/58106.html>. Accessed 24 Feb 2015.
- Jarvis, A, Reuter, HI, Nelson, A, and E Guevara. 2008. Hole-filled Seamless Shuttle Radar Topographic Mission 90m [SRTM 90] data V4: Digital Elevation Database v 4.1. Tiles X50-Y4, X50-Y5, X51-Y4, X51-Y5, X52-Y4, X52-Y5. International Centre for Tropical Agriculture. <http://srtm.csi.cgiar.org/SELECTION/inputCoord.asp>. Accessed 20 Oct 2009.
- Jere, P, K Varela, and B Voysey. 2000. Synthesis study of initiatives in co-management of natural resources in Malawi. Working group on co-management of forest goods and services. Lilongwe, Malawi: National Forestry Policy.
- Kerven, C, B Steimann, L Ashley, C Dear, and I ur Rahim. 2011. Pastoralism and farming in Central Asia's mountains: A research review (Background Paper no. 1). Bishkek: University of Central Asia, Mountain Societies Research Centre.
- Kerven, C, B Steimann, C Dear, and L Ashley. 2012. Researching the future of pastoralism in Central Asia's mountains: Examining development orthodoxies. *Mountain Research and Development* 32(3): 368–377.
- Kirgizgiprozem Kyrgyz State Design Institute for Land Management of the Kyrgyz Socialist Soviet Republic. 1983a. Map of the Bazar Korgon District of the Osh Province of the KSSR (in Russian). Scale 1:50,000. No place given. Kirgizgiprozem. (author's collection)
- Kirgizgiprozem Kyrgyz State Design Institute for Land Management of the Kyrgyz Socialist Soviet Republic. 1983b. Fodder-Botanical Maps of different agricultural farms of the Bazar Korgon Rayon of the Osh Oblast' (in Russian). Scale 1:50,000. No place given. Kirgizgiprozem. (author's collection)
- Kirgizgiprozem Kyrgyz State Design Institute for Land Management of the Kyrgyz Socialist Soviet Republic. 1984. List of the natural fodder grounds of the collective farm '60 years of October' of the Bazar Korgon District (in Russian). No place given. Kirgizgiprozem. (author's collection)
- Korten, DC. 1986. Introduction: Community-based resource management. In *Community management*, ed. DC Korten, 1–17. West Hartford, CT: Kumarian Press.
- Kumar, C. 2005. Revisiting 'community' in community-based natural resource management. *Community Development Journal* 40(3): 275–285.
- Lama, AK, and H Job. 2014. Protected areas and road development: Sustainable development discourses in the Annapurna conservation area, Nepal. *Erdkunde* 68(4): 229–250.
- Leach, M, R Mearns, and I Scoones. 1999. Environmental entitlements: Dynamics and institutions in community-based natural resources management. *World Development* 27(2): 225–247.
- Li, TM. 1996. Images of community: Discourse and strategy in property relations. *Development and Change* 27(3): 501–527.
- Liverman, DM, and S Vilas. 2006. Neoliberalism and the environment in Latin America. *Annual Review of Environment and Resources* 31: 327–63. doi:10.1146/annurev.energy.29.102404.140729.
- LKROP Law of the Kyrgyz Republic "On Pastures" 2009. Amendments to the Law 2011 (in Russian). Bishkek
- LKROP Law of the Kyrgyz Republic "On Pastures". Signed by the president on January 26, 2009 (in Russian). Bishkek
- LRPKR List of Remote Pastures of the Kyrgyz Republic . 1998. Confirmed by decree of the Government of the Kyrgyz Republic no. 775, November 30, 1998 (in Russian). Toktom: Bishkek
- McKay, BJ, and JM Acheson (eds.). 1987. The question of the commons. Tucson, AZ: University of Arizona Press.
- Mosse, D. 2001. 'People's knowledge', participation and patronage: Operations and representation in rural development. In *Participation: The new tyranny*, ed. B Cooke and U Kothari, 16–35. London: Zed Books.
- Musuraliev, TM. 1998. Forest management and policy for the walnut-fruit forests of the Kyrgyz Republic. In *Biodiversity and sustainable use of Kyrgyzstan's walnut-fruit forests*, ed. J Blaser, J Carter, and D Gilmour. 3–17. Gland/Cambridge/Berne: State Agency for Forests and Wildlife, Republic of Kyrgyzstan/IUCN/Intercooperation.
- NSC KR National Statistical Committee. 2010. Population and housing census of the Kyrgyz Republic of 2009. Volume I – main social and demographic characteristics of population and number of housing units. Bishkek: NCR KR.
- PD MAWPRI Pasture Department of the Ministry for Agriculture, Water Resources and Processing Industry. n.d.g. Draft of the law "On Pastures" (in Russian) (author's collection).
- Perry, JA, and RK Dixon. 1986. An interdisciplinary approach to community resource management: Preliminary field test in Thailand. *Journal of Developing Areas* 21(1): 31–47.
- RABK BDPC Resolution no. 236b of the Rayon Administration Bazar Korgon "The borders of the distant pastures are confirmed" on July 2, 1997 (in Russian). Bazar Korgon. (author's collection)
- RABK Rayon Administration Bazar Korgon. 2012. Livestock inventory for the Bazar Korgon District. State of January 1: 2012 (in Kyrgyz) (public posting). (author's collection).
- Roe, E. 1991. "Development narratives" or making the best of development blueprints. *World Development* 19(4): 287–300.
- ROPLU Resolution no. 360 "On Pasture Lease and Use". Confirmed by decree of the Government of the Kyrgyz Republic on June 4, 2002 (in Russian). Bishkek
- SAALTR State Act "Allocation of Unlimited Land Tenure Rights" from July 16, 2012 (in Russian and Kyrgyz). n.pl.g.
- SAEPFUGKR State Agency on Environment Protection and Forestry under the Government of the Kyrgyz Republic, and UNDPKR United Nations Development Programme in the Kyrgyz Republic. 2007. Kyrgyzstan. UNDP: Environment and Natural Resources for Sustainable Development. Bishkek.
- SAJO State Archive of the Jalalabad Oblast'. 1997. Historical information on the collective farm '60 years of October of the settlement Sovetsk, Bazar Korgon Rayon' (in Russian). Stock 452, inventory 1.
- Schmidt, M. 2012. Changing human-environment interrelations in Kyrgyzstan's walnut-fruit forests. *Forests, Trees and Livelihoods* 21(4): 253–266.
- Schmidt, M. 2013. Mensch und Umwelt in Kirgistan. Politische Ökologie im postkolonialen und postsozialistischen Kontext (Erdkundliches Wissen. Schriftenreihe für Forschung und Praxis 153). Stuttgart: Franz Steiner Verlag.
- SCLPKU Standardised contract for the lease of pastures of the 'Kyzyl Unkur' Forest Enterprise (no date given) (in Kyrgyz).
- SF PT Standard Form Pasture Ticket. Approved by Resolution Nö 386 of the Government of the Kyrgyz Republic on June 13, 2009 (in Russian). Bishkek
- SFS, KR State Forestry Service of the Kyrgyz Republic, and MDRF Main Department of Forest Regulation. 2004c. Forest District: Kogoi. Forestry: Kyzyl Unkur. Survey Map. Scale 1: 15,000 (in Russian). Bishkek: SFS KR, MDRF.
- Sfs KR State Forestry Service of the Kyrgyz Republic, and MDRF Main Department of Forest Regulation. 2004a. Project of the Organisation and Development of the 'Arstanbap-Ata' Forestry (in Russian). Bishkek: SFS KR, MDRF
- Sfs KR State Forestry Service of the Kyrgyz Republic, and MDRF Main Department of Forest Regulation. 2004b. Project of the Organisation and Development of the 'Kyzyl Unkur' Forestry (in Russian). Bishkek: SFS KR, MDRF
- Sfs, KR State Forestry Service of the Kyrgyz Republic, and MDRF Main Department of Forest Regulation. 2005. Project of the Organisation and Development as well as the Forestry Register of the Jai Terek Forestry (in Russian). Bishkek: SFS KR, MDRF.
- Shackleton S, and Campbell B. 2001: Devolution in natural resources management: Institutional arrangements and shifts – a synthesis of case studies for Southern Africa (Report to USAID SADC NRM Project no. 690-0251.12). Mimeo.
- Shackleton, S, B Campbell, E Wollenberg, and D Edmund. 2002. Devolution and community based management: Creating space for local people to participate and benefit? (Natural resources perspectives 76). London: Overseas Development Institute.
- Shamsiev, B, Katsu, S, Dixon, A, and J Voegele. 2007. Kyrgyz Republic. Livestock Sector Review: Embracing the New Challenges (World Bank Report 39026). Washington, D.C: The World Bank. <http://www-wds.worldbank.org/external/>

- default/WDSContentServer/WDSP/IB/2007/03/14/000090341\_20070314160221/Rendered/PDF/390260KG0Lives1iew0P09028701PUBLIC1.pdf. Accessed 19 Nov 2007.
- Smith, A. 1776 [2007]. *An Inquiry into the Nature and Causes of the Wealth of Nations*. Edited by S.M. Soares. MetaLibri. <http://metalibri.wikidot.com/title:an-inquiry-into-the-nature-and-causes-of-the-wealth-of>. Accessed 16 Feb 2015.
- Steimann, B. 2011. *Agro-Pastoral Livelihoods and Institutional Transformations in Post-Socialist Rural Kyrgyzstan* (Human Geography Series 26). Bishkek/Zurich: University of Zurich. Making a Living in Uncertainty.
- Turner, MD. 1999. Conflict, environmental change, and social institutions in dryland Africa: Limitations of the community resource management approach. *Society and Natural Resources* 12(7): 643–657.
- Twyman, C. 2000. Participatory conservation? Community-based natural resource management in Botswana. *The Geographical Journal* 166(4): 323–335.
- Undeland, A. 2005. *Kyrgyz Livestock Study. Pasture management and use*. Washington, DC: The World Bank.
- Uphoff, N. 1998. Community-based natural resource management: Connecting micro and macro processes, and people with their environments (Plenary Presentation, International CBNRM Workshop. Washington, DC. May 10-14, 1998). <https://idlbnrc.idrc.ca/dspace/bitstream/10625/30291/5/114507.pdf>. Accessed 21 Mar 2014.
- USAID United States Agency for International Development. 2007. *Pasture reform. Suggestions for improvements to pasture management in the Kyrgyz Republic*. Including a table of necessary legislative changes. Bishkek. USAID Land Reform and Market Development Project. [http://pdf.usaid.gov/pdf\\_docs/Pnadrn532.pdf](http://pdf.usaid.gov/pdf_docs/Pnadrn532.pdf). Accessed 6 June 2013.
- Venglovsky, BI. 1998. Potentials and constraints for the development of the walnut-fruit forests of Kyrgyzstan. In *Biodiversity and sustainable use of Kyrgyzstan's walnut-fruit forests*, ed. J Blaser, J Carter, and D Gilmour, 73–76. Gland/Cambridge/Berne: State Agency for Forests and Wildlife, Republic of Kyrgyzstan/IUCN/Intercooperation.
- WCED World Commission on Environment and Development. 1987. *Our common future*. Oxford: Oxford University Press.
- Wilson, MB. 2013. *Impacts of participatory development in Afghanistan*. Klaus Schwarz Verlag: A call to reframe expectations. Berlin.
- Zheenbekov, SSh, and AK Maliev. n.d.g. Draft of the law "On Pastures" (in Russian) (author's collection).

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