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Political Ecology in High Mountains: the Web of Actors, Interests and Institutions in Kyrgyzstan's Mountains

Matthias Schmidt[1]

Introduction

The varied relief of mountain ranges in its horizontal and vertical dimensions, its wide range of different micro-climatic conditions due to elevation and exposure, its manifold geologic formations and geomorphologic aspects all imply a high diversity of ecological conditions. Mountains contain various minerals and are covered with multifarious floristic structures and different types of forests or grasslands. But such natural entities are appreciated as resources only because of human demand. Humans endow value to minerals, biotic elements or sheer location. They articulate concerns about specific natural products or mountain territories for various aims.

Consequently the heterogeneous nature of mountain ranges can make them into hotspots of diverse concerns expressed by manifold actors. The scope of interests in mountain areas is wide: it includes not only economic or political issues, but also social, cultural, environmental or recreational concerns, and all of them are connected with specific human actors. Admittedly, not only the local mountain population, the 'place based actors', are involved in using mountain territories or natural resources in mountains; also people not living or interacting directly on the spot, the 'non-place based actors' (Blaikie 1985), decide about the exclusion of possible stakeholders or the form of resource management, for example, or demand specific resources or functions of the mountains.

Since natural resources and mountain territories are limited, access, usage and control of them by specific actors are the result of political negotiation processes, in which power positions and power relations are manifested. Environment is thus to be seen as battlefield of diverse concerns, on which various actors fight for power, usufruct rights and influence (Blaikie 1995). Likewise mountains are arenas in which different actors located at, or related to, different scales struggle to enforce their aims.

The goal of the present analysis is to understand how particular land use and land management regimes evolved through the intersection of ecological, political, economic and social structures and developments. With the example of environmental change in a small mountain area in Kyrgyzstan, the degradation of walnut-fruit forests in the Western Tian Shan, I intend to show the varied web of involved actors, their concerns, and the regulating institutions against the background of a historical analysis.

Resource Utilisation and Human-Environmental Relations in High Mountain Research

Until the 20th century mountain regions were mostly characterised as distinct and peripheral islands. Research on mountains concentrated on ecology and physical features.

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The dominating geoecological approach of Troll (1972) sought a greater understanding of the complex interactions of climate, soils, fauna and flora. In particular German geographers engaged in comparative high mountain research (Troll 1975; Uhlig & Haffner 1984; Rathjens 1988) and developed their own classification systems in the 1970s and 1980s. They pointed out specific characteristics of mountain areas such as vertical stratification of utilisation stages (Uhlig 1976; Soffer 1982; Schweizer 1984), high dependence on natural features and resources, low development stage, traditionalism, high mobility, and frequency of common property regimes (Jentsch 1984), or specific settlement characteristics (Grötzbach 1982). The vertical stratification of socio-economic zones was seen as definitive in the mountain context, analogous with the altitudinal zones of the physical geographers. Human geographers interpreted mountains as frontier areas to which humans have to adapt, and as additional resource areas offering specific products and functions to the more progressive forelands (Rathjens 1982). The sometimes simplistic explanations of human adaptation to mountain environments show an environmentally deterministic thinking and were based mainly on a systems approach rather than on detailed studies of human interactions with their environment.

Within the frame of the 'Man and Biosphere' programme, scientific activities in mountain areas were intensified to investigate environmental, economic and cultural processes in the European Alps (UNESCO 1974). The project relies on a systems approach, which assumes that human communities are in balance with their environment and places little emphasis on people and their role as active agents in the environment (Smethurst 2000: 38). Aspects of human impacts on mountains moved to the centre of attention and culminated in the discussion of the Himalayan Dilemma (Eckholm 1975). This theory is not only characterised by ecological ideas and elements of Neo-Malthusian collapse resulting from population increase and limited resources but also simplistic because the mountain farmers are treated as homogenous by ignoring historical, ethnological and socio-cultural distinctions which are relevant for conflict negotiations and power relations, marginalisation and impoverishment (Kreutzmann 1993: 13). Although mountain farmers are seen as active agents, neither their concerns and constraints nor the influence of external agents are taken into consideration. Ives & Messerli (1984) see the "stability and instability of mountain areas" to be in danger from human influence. Population growth, increasing use of marginal land, overgrazing and deforestation were seen as the main harmful activities in developing countries, whereas tourism, recreation, forestry, and the building of roads and dams harm mountains in developed countries (Gerrard 1991: 75). Thus, most mountain studies of this period (cf. Price 1981) rely on methods drawn from the ecological sciences and show the handwriting of the quantitative revolution, with the growth of use of scientific data, modelling and quantification of parameters. Mountain areas are widely seen as closed containers with an in- and an outbox, though this perception of secluded mountain areas was already challenged in 1986 by Allan who criticises the altitudinal zonation model and proposes instead a model incorporating accessibility features taking into account the changing traffic infrastructure. Hewitt (1988: 22) even calls "into question the whole idea of mountain regions as a meaningfully separate area of investigation" because changes in mountains are dependent upon developments, initiatives

and penetration from outside the mountains, which in turn influence the responses of mountain people. The importance of so-called 'highland-lowland interactions' and the integration of mountain regions into the global economy were thus stressed by several authors (Hewitt 1992, Kreutzmann 1993; Ehlers & Kreutzmann 2000).

Mountain regions received specific attention in chapter 13 of the Agenda 21 of the 1992 UN Conference on Environment and Development in Rio de Janeiro. Thus, mountains offer globally important resources such as water, energy, biodiversity, raw materials, wood, agricultural products, or landscape for recreation and tourism. Their importance, especially for the forelands, and the threats towards mountains were stressed (Stone 1992). Sustainable development became the new buzzword of almost all publications on mountain developments. But all areas of concern remain notably sterile and technocratic. This holds true when Winiger (1992) calls for modelling the whole mountain system and the change of human-environment relations, or if we consider the more recent publication "Global change and mountain regions" by Huber et al. (2005) in which only 125 of 650 pages are devoted to human dimensions (of global change in mountains), and political and institutional aspects are the focus of only two of sixty-one chapters. In such publications, humans are seen as calculable factors or elements of a system that can be measured, classified and modelled.

The decade following the Earth Summit can be interpreted as the decade of labelling mountains with terms such as limited accessibility, verticality, fragility and marginality, diversity and human adaptation mechanisms (Messerli & Ives 1997; Jodha 1997 315; Sarmiento 2000). Although the dynamics between humans and their environment were investigated and better understood in many ways, the culture of mountain peoples, political factors and processes within mountain areas and between mountains and surroundings are underrepresented in the mountain literature. For future research and monitoring of mountain areas Price (1999) and Kreutzmann (2001) demand the consideration of economic and social key indicators for mountain regions.

To sum up, there is still a need for mountain studies that include political, economic, cultural, and social dimensions of actors and their environments. Such studies need to include regional, national and international patterns of influence, the importance of mountain regions within national states and within the global economy, population dynamics and mobility, pressure on natural resources and land utilisation (Dikau et al. 2002 84). The consideration of human agents and their political positions, historical evolutions, external interventions and institutional frameworks is a priority issue.

Political Ecology in High Mountains

Political transformations, economic transitions, and penetration of international markets, foreign technologies and values within the recent globalisation processes as well as developments in the social sciences in general and in human geography in particular call for a different perception of mountain areas. The human-environment nexus remains central, while economic development, politics and power relations, livelihood issues and vulnerability (Watts & Bohle 1993; DFID 2000), social and ecological resilience (Adger 2000; Berkes et al. 2003; Berkes 2007) have emerged as particularly salient. Only few theoretical and methodological approaches are "able to understand

these factors as integrated and variable over time, space, scale and specific context" (Nightingale 2003 525). The research agenda of political ecology offers an adequate tool for dealing with such questions. Political ecology is a theoretical framework for analysing shifting, dialectical relationships between social and power relations, autochthonous practices, and ecological processes to allow an interdisciplinary, complex assessment of social and environmental change (Blaikie 1985; Blaikie & Brookfield 1987; Bryant & Bailey 1997; Krings & Müller 2001; Forsyth 2003; Zimmerer & Bassett 2003; Robbins 2004; Neumann 2005).

Political ecology, defined as an interdisciplinary field that combines "the concerns of ecology and a broadly defined political economy" (Blaikie & Brookfield 1987: 21), offers an understanding of the reasons for social and environmental change in mountains. In this notion, environmental change is not only a matter of ecology but is linked with transformations of the political economy and thus connects the local arena of land use with decision makers and processes at regional, national or even global levels. The main premise of political ecologists is that ecological problems are at their core social and political issues, not technical or managerial problems, and therefore demand a theoretical foundation to analyse the complex social, economic, and political relations in which environmental change is embedded (Neumann 2005: 5).

The multi-scalar contexts of political ecology studies are important because human actors, their concerns in specific resources as well as management decisions are incorporated into various scales. Land users or land managers, the 'place-based-actors', are linked by 'chains of causality' with 'non-place-based-actors' (Blaikie 1985; Blaikie & Brookfield 1987) in the wider society who affect them in any way. Property rights, control of, and access to resources were defined, negotiated, and contested at multiple scales. Exploitation of resources by impoverished land owners, for instance, is inextricably linked to political-economic processes operating at superior levels.

To analyse recent patterns of involved actors and concerns in mountain areas, historical analyses of the evolution of institutions, management practices and utilisation strategies are prerequisite. The study of environmental history and environmental discourses provides an understanding of the perceptions of local inhabitants and institutions (Zimmerer 1993: 312). More attention to the dynamic nature of ecosystems and the historical contexts of social, economic and political regime change is necessary. Peet & Watts (1996), Bryant (1998) and many others have tried to theorise the linkages between capitalist development and land management. They figured out how capitalist development and productive relations influence land management regimes at different scales. Only in very rare cases have the relations between the socialist modernisation processes and environmental change been studied (Schmidt 2005a, b; Hartwig 2007).

Social relations, economic practices and access to resources are governed by institutions.[2] Property rights, which should be defined as a bundle of rights, regulate access to and control of resources and land use, and thus the derivation of income from them. They include the right to possess, use, manage, alienate, transfer, and gain income

[2] According to North (1990) institutions include rules, norms and traditions, as well as the organisations who establish, implement and control such regulations.

from property (Schlager & Ostrom 1992). Discourses about ecology, land use and development are constituted, contested and reproduced through various institutions at different levels such as forest services, government planning, development agencies or environmental organisations. Rules, traditions, norms and property rights as well as organisations that enforce such regulations thus have significant implications for the resulting land management practices.

The general transition in most social sciences from positivism to post-structuralism as well as the preference for qualitative analyses needs to be reflected in mountain research, too. The uniqueness of local places, environmental perceptions and response must be taken into account. While environmental orthodoxies such as the Himalayan Dilemma theory reflect an essentially positivist and inferential approach to knowledge creation and explanation, post-structuralist approaches are more interpretative and stress the "individuality of environmental perception, and the injustice or inadequacy of uniform meta-statements which refer to everyone" (Forsyth 1998: 110). Critical realism as a theoretical approach seems to be adequate for dealing with human-environmental relations in mountain areas because it states that environmental processes have an 'external reality' to human experience (Bhaskar 1986; Sayer 1992). This means that ecological processes must be seen as real and external to human experience, but that all knowledge claims about environmental processes are socially constructed. Discourses and contexts within which knowledge about ecology and land use is generated, how "nature" or "mountain systems" are constructed, or how social and economic practices are produced, in particular historical, cultural and ecological contexts must be more closely questioned (Escobar 1996).

Political ecology studies can demonstrate the importance of political, social and economic relations, the evolution of institutions and present institutional arrangements, discourses about land use or environmental protection in analyses of environmental change. The example of Kyrgyzstan's walnut-fruit forests will serve to show the multifarious net of concerns, actors and transformed institutions against the background of significant political transformations.

Kyrgyzstan's Walnut-Fruit Forests: Spatial and Historical Setting

The study area is part of the Tian Shan Mountains and politically located within the Republic of Kyrgyzstan, which became independent in 1991 after the dissolution of the Soviet Union (fig. 1). The mountainous area is characterised by different ecological formations, of which the walnut-fruit forests, located at altitudes between 1000 and 2000 m at the south-facing slopes of the Fergana Range, are the most prominent. Major tree species of these forests, which cover an area of around 25,600 ha (Musuraliev 1998: 5), are walnut (*Juglans regia*), maple (*Acer turkestanicum*) and various fruit-bearing species in their wild form, such as apple (*Malus sieversii*), pear (*Pyrus korshinskyi*), plum (*Prunus sogdiana*), barberry (*Berberis oblonga*), rosehip (*Rosa kokanica*) and sea buckthorn (*Hippophae rhamnoides*) (cf. Gottschling et al. 2005). Steppe vegetation, pistachio groves and arable lands dominate in the areas below 1000 m, while shrubs, alpine mats and grasslands are predominant above 2000 m. The area is situated in the immediate vicinity of the densely inhabited Fergana Valley, one of the main economic

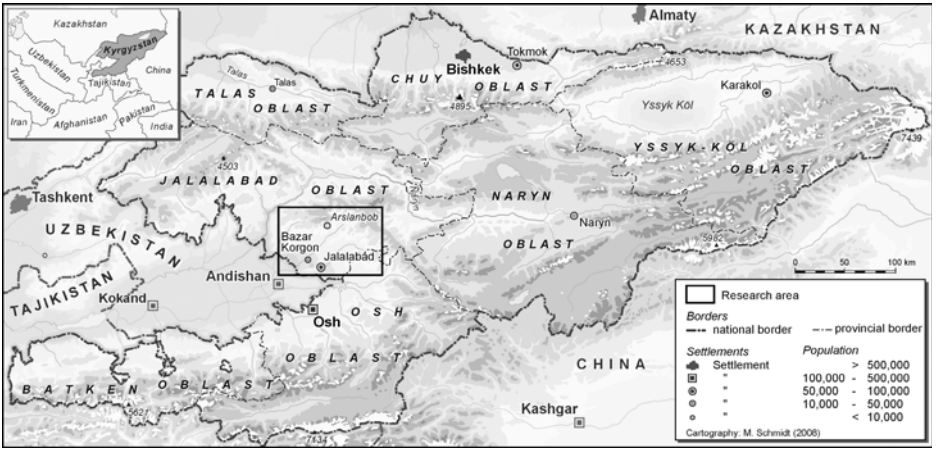

Fig. 1 Kyrgyzstan

areas of Central Asia. Because the ecological formations offer valuable resources such as timber, firewood, fruits, herbs and grass, these natural resources have come into the focus of human concerns at an early stage.

Various sources (e. g., Lisnevski 1884; Korzhinskii 1896) indicate that utilisation of land and forest resources prior to the annexation of the area by the Russian Empire in 1876 was limited to the autochthonous population: nomads and sedentary populations who lived in a couple of small villages, cultivated fields, used the forests and grasslands as grazing grounds, collected fruits and produced charcoal, which was sold on the markets in the Fergana Valley. From 1889 to 1897 an expedition led by Russian explorers inventoried all potential natural resources of the wider Fergana region (Navrockii 1900). Initially, the walnut-fruit forests were highly esteemed not owing to their valuable products such as timber, nuts or fruits but because of their ecological function, especially their positive impact on the hydrology of the region, which was seen as essential for the long-term functioning of the irrigation systems in the Fergana Valley (Rauner 1901). Consequently the Russian administration of the Governor-Generalship of Turkestan prohibited several forest usages such as felling, charcoal production or extension of arable land, and conceded to the local populations only the right to use grazing grounds according to their traditions (Svod zakonov Rossiiskoi Imperii 1892). However, the newly founded forest service noticed the occurrence and high value of walnut burls and assured itself economic profit: at the end of the 19th century already, a considerable number of walnut burls were being traded and exported to Marseilles, France, where they were used for furniture production (Direktor Lesnogo Departamenta 1902).

Apart from the above-mentioned ecological and economic interest in the forests the Russian administration tried to gain political control of the territory and created administrative units. First they established forest farms and thus subdivided the territory according to its utilisation potentials; then they formulated and implemented related property rights. All land and forests were declared to be the property of the Russian Tsar; only houses and their surrounding gardens were declared private property (Svod

zakonov Rossiiskoi Imperii 1892). Since the autochthonous population could not purchase any other land – in contrast to the immigrated Russians – and because they were forbidden to cut wood or to transfer land into arable fields they were in fact ousted from their traditional way of life. The ban on charcoal production meant the loss of additional income, while the limitation of pasturage rights resulted in a decline of winter fodder for their livestock. Capital yields were only realised by the Russian government by selling walnut burls. Another important aspect with regard to environmental change was the increased demand for timber for the construction of railway lines and for Russian settlers who introduced the wooden house to the area where adobe houses were traditionally prevalent. The administration enforced the Russian legal system without consulting the autochthonous population; furthermore, Russians and locals were treated differently by the law. Indeed, the ecological significance of the forests was realised at a very early stage and has remained a kind of environmental meta-narrative up to the present day.

After establishing their power in Central Asia the Bolsheviks continued the forest policy of Tsarist Russia for over a decade before the collectivisation processes at the beginning of the 1930s marked a deep cut in the institutional frame: Kyrgyz nomads were forcibly settled and expropriated of their livestock, while large agricultural state (*sovkhozes*) and collective farms (*kolkhozes*) were established. All land was declared public property (Gosudarstvennyi oblastnyi archiv Jalalabad, f. 126, op. 1, d. 362). During the 1930s and 1940s many institutional changes were implemented (cf. Musuraliev 1998), but the function of the forests as resource areas especially for timber, nuts and fruits became more prominent, in particular when the forests were subordinated to the "Vitamin Industry Union" (*Sojuz Vitaminprom*) (Distanova 1974: 13).

The forced collectivisation, repression and prosecution of so-called *kulaks* – in theory owners of large estates but in practice farmers with just a couple of cows and sheep more than the average, or persons who resisted collectivisation – have led to fear and alienation between population and governmental institutions. Although the forests should have been protected for ecological reasons according to the forestry law of 1921 (Gosudarstvennyi oblastnyi archiv Jalalabad, f. 806, op. 1, d. 32 i 4), the frequent institutional transformations prevented long-term forest management strategies, while the collectivisation process and the difficult time during World War II have led to heedless exploitation of land and forest resources.

In 1945 the Council of People's Commissars declared the walnut-fruit forests to be State Fruit-Forest Reserves with specific regulations for protection and utilisation (Gosudarstvennyi oblastnyi archiv Jalalabad, f. 76, op. 1, d. 18, l. 14; Distanova 1974: 9). A few years later the central authority of the USSR subordinated the walnut-fruit forests to the ministry of forestry and decided to transform the *sovkhozes* concerned into governmental forest farms, the so-called *leskhozes*, which were given the responsibility of carrying out all forestry measures on the local level. The majority of the local population found employment in these forest farms from which they could sustain their livelihood. According to the forest's status as State Fruit-Forest Reserves the general aim of forest management was twofold: first, forest protection by control of usages and realisation of forestry measures, and second, forest utilisation including the

extraction of timber, firewood, nuts, apples, plums and herbs which were sold to other state enterprises. Local households obtained the right to cut grass on specific plots in the forest area to gain winter fodder for their livestock. In the 1960s the Soviet planning system promoted the development of tourism and the establishment of a tourist infrastructure; the area became quickly famous in the region for recreation and leisure.

The Soviet planning institutions justified the ecological relevancy of the walnut-fruit forests by their positive impact on the water cycle necessary for the irrigation system in the Fergana Valley and by the great species variety which could be used for the development of new hybrids and thus for the improvement of nut and fruit plantations elsewhere in the USSR (Gosudarstvennyi Komitet SSSR po lesu 1990 – 1991: 71). In other words, the ecological value of the forests was primarily justified economically, and thus forest protection was considered necessary for economic reasons.

Apart from the official economic value of the forests, the autochthonous population also valued the forests for spiritual reasons: Several sacred places are located in the forests to which people from the wider region pilgrimaged to pray for healing of their ailments or for fulfilment of their desire for children. The party officials tried to stop such pilgrimages and saw these popular beliefs as a serious problem in spite of the atheistic Soviet ideology (Eshimbetov 1962).

Since the central command economy of the USSR prioritized cotton cultivation against other agricultural or forestry efforts in Central Asia people of the whole area, including the walnut-fruit forest region, were forced to work on cotton fields in the Fergana valley. Gathering nuts and fruits was subordinate and brought little economic gain for the collectors. The forced assignments on the cotton fields, the centralistic management and decision finding without consultation and participation of the local population, and the prohibition of practising Islam led to a further alienation between the local population and the regional *nomenclatura*. Over several decades the leading positions in the local administration, party organs and *leskhoze* were filled with ethnic Russians or Europeans which resulted in a feeling of inferiority on the part of the local ethnic Kyrgyz and Uzbeks.

To summarise, various political developments and governmental policies influenced significantly the management and utilisation of the natural resources and thus the immediate interrelation between place-based actors and the environment. Obviously, decisions concerning the natural resources in Kyrgyzstan were reached at national levels and implemented in command style, leading to indifference of the local people with regard to a sustainable resource management. The collapse of the Soviet Union and the independence of the Kyrgyz Republic in 1991, interlinked with tremendous economic and social ruptures, have brought about new fundamental changes in the management and utilisation intensity of land and forest resources. The present web of institutions, actors and their concerns related to the walnut-fruit forests and the surrounding lands will be analysed in the following.

The Web of Actors, Interests and Institutions in Kyrgyzstan's Walnut-Fruit Forests

At first glance, the explanation of the present degradation of the walnut-fruit forests in Kyrgyzstan might be simple: There are just too many people overusing or misusing the forests and other land resources by cutting trees, bushes and shrubs to gain firewood or to extend their meadows or fields, herding their livestock in the forests and harming their rejuvenation, while the governmental forestry farms are not able to control their land or to afforest adequately. It is self-evident that such an essentially Neo-Malthusianian explanation is insufficient and ignores historical and non-place-based developments. Undoubtedly, population numbers in the area have increased significantly over the past decades: the numbers tripled from 1959 till today (National Statistical Committee of the Kyrgyz Republic 2001). But the interdependencies of people living in the area with surrounding land and forest resources, the lack of alternative means for income generation, and the causes of high population numbers are not given facts at all. For an understanding of the present environmental change it is necessary to identify place-based and non-place-based actors, their concerns, and the governing institutions against the historical background.

As was shown in the previous chapter, the walnut-fruit forests and their surroundings offer various land and forest resources which resulted in an elaborate utilisation system created over the past one hundred years. In the Soviet era more or less all employable inhabitants of the area found employment in state-run enterprises or governmental institutions. After the collapse of the USSR many of these enterprises closed down or reduced their workforce dramatically when the state budgets were tightened, so that many people lost their jobs.

With regard to the ratio between the market economic value of the natural resources and population numbers, it becomes obvious that the forestry sector was highly subsidised in the Soviet era, so that the region is overpopulated in economic terms, in the sense that there are only limited employment alternatives irrespective of natural resources. Today, inhabitants of the area are no longer able to sustain their livelihood by paid employment in state enterprises. Consequently, they have had to change their livelihood strategies, in which the intensified utilisation of the nearby natural resources play a major role, including arable farming on small plots, animal husbandry, gardening, collection of firewood, nuts and fruits to meet subsistence needs or to generate income. Obviously, the concerns and in consequence the impact of local actors on natural resources have changed significantly since independence. Prior to independence they used the resources only to a limited degree because they were not dependent on high yields. Today, arable, pasture and forest resources play a much more prominent role in their livelihood strategies. According to my investigations, members of almost all households in the relevant villages keep livestock, collect walnuts and firewood, and a high percentage collect fruits (90 %), morels (60 %) and herbs (45 %) (Schmidt 2005b: 101). The private herds graze on high pastures during the summer, but in the clear forests in spring and autumn. At the end of the summer farmers cut grass in the forests to gain winter fodder for the increased droves. Cattle and sheep are a popular

investment because livestock keeping is a profitable business and animals are flexible capital because they can easily be transformed into cash when needed.

In general, the web of actors and concerns has changed substantially over the last 15 years. Besides the intensified usage by the locals due to pressing needs there is pressure on land and forest resources by new external actors, too. Within the frame of economic liberalisation in Kyrgyzstan since independence (Dabrowski & Antczak 1995; Abazov 1999; Dana 2000), mainly foreign private merchants and companies stepped in to carry out trading businesses. The walnut business is nowadays in the hands of mainly Turkish companies, though they employ people from the nearby towns to open, sort and pack the collected nuts, which afterwards are exported to Turkey or the Gulf States. Wild apples are today processed to concentrate by a Chinese enterprise that opened in Jalalabad in 2002; the apple concentrate is exported to China. Although cutting and selling of timber is officially limited to the state-run *leskhozes*, there is a large unofficial market. Several private enterprises process timber from the forests, and foreign wood companies are interested in burl and root wood of nut trees. Many old trees were cut for this purpose during the last 16 years and the valuable wood, which is used for exquisite veneers for items such as chessboards, gun butts or for the interiors of luxury cars, is exported to North America or Europe; a business that is officially prohibited but which provides officials on all levels of the administration with their share. A similar change of demands concerns morels: in the past, they were collected only for private consumption, whereas they are now highly esteemed by global demand. Some salesman export dried morels to France and Japan where they are sold as delicacies at high prices.

Besides the above-mentioned economic interests in the forests political concerns are also prevalent. The government, self-evidently, tries to control the territory and thus keeps the right of ownership in its hand. However, there are quarrels between different administration levels about the competency for specific lands. In contrast to other areas of Kyrgyzstan, the local administrations (*ailökmötü*) are only responsible for the settled areas, whereas arable lands are still affiliated to the *leskhozes,* and high pastures to the *rayon* (county). The local councils claim – as yet without success – that these lands should be transferred to them because land is an important source of income.

Scenery, fresh air and pleasant summer temperatures are valuable factors for tourism und thus for the interests of a group of other actors: managers and employees at local and non-local levels of private, governmental or international tourist enterprises as well as the tourists themselves have become relevant actors with regard to resource management and environmental change (cf. Kirchmayer & Schmidt 2005). The construction of resorts and the leisure activities of tourists stand in competition with agricultural, forestry or conservation aims.

Specific discourses on Kyrgyzstan's environment must also be considered. The ecological role of the forests is still a prevalent meta-narrative, and the state feels responsibility for the protection of these forests. However, the governmental role is ambivalent because the forest service realises economic profits from the forests and is involved in semi-legal wood cutting, but declares reservation zones without having adequate means to implement the necessary measures. National and international scientists contribute

to a prolongation and accentuation of the environmental narrative by pointing out the uniqueness of these forests within their research efforts (cf. Blaser et al. 1998; Succow 2004).

As regards institutional settings, the present situation shows a considerable lack of effective and accepted rules. Although several organs such as local government, forest farms, and councils of elders with specific competencies do exist formally, the fairness, implementation and acceptance of rules by those concerned are questionable. Specific usufruct rights are based only on vague permission. For instance, the right to cut grass on specific plots given – mainly orally – in the Soviet period still prevails, whereas the right to harvest nuts is given to local households on a yearly basis only. Quarrels and irregularities are common when usufruct rights for nut collection are allocated, especially in places with high numbers of inhabitants and limited forest resources. In some villages, households were given no more than eight to ten walnut trees which are not necessarily located on the plot on which the household has permission to cut grass. The nuts on a specific territory in the forest can thus be harvested by one household, while members of another household cut grass and again others collect morels or apples; the *leskhoze* takes timber and firewood out of the same plot. The situation becomes even more confusing when stakeholders transform their rented forested plot into hay meadows or arable land (cf. Messerli 2002).

Generally, power relations are asymmetric. Quarrels about competencies between local administration and *leskhoze* as well as institutional weakness hinder the development of a sound and widely accepted strategy of resource utilisation. Local inhabitants have no trust in official institutions in which corruption and nepotism prevail, while other relationship ties are more effective. Local actors with connections to persons in key positions have more agency options than people without such networks. Influential non-place based actors such as foreign wood companies or members of the state forest service can achieve their goals relatively easily because economic hardships as well as the vagueness and weakness of institutions do not hinder them. Although local stakeholders are interested in long-term sustainability of resource use, their intensive use and even overuse of the nearby forests become understandable in view of their present economic needs. They see their surrounding environment as an agricultural resource to sustain their livelihoods rather than sharing the prevailing opinion by Western scientists or governmental ideals that the walnut-fruit forests are a fragile entity threatened by intense usage. Nevertheless, other external actors are much more profit-orientated and devoted to extracting resources than to preserving environments. The link between environmental degradation and weak institutions becomes obvious.

Conclusion

My remarks on institutions, actors and concerns in Kyrgyzstan's mountain resources are intended to show that mountains are not peripheral and isolated areas without history but linked by chains of influences, dependencies and concerns of actors and institutions on various scales with the wider world. Mountain environments contain valuable resources and thus become arenas of conflicting actors and concerns. Hence, the question of resource utilisation is a question of power within a frame of institutional regulations.

Practising political ecology in Post-soviet Mountain spaces carries the responsibility of engaging with Tsarist colonialism and Soviet modernisation processes because present human-environmental relations in Kyrgyzstan cannot be understood outside of or apart from historical experience. The legacy of the Tsarist and Soviet systems of resource allocation and utilisation is still prevalent and influences present management strategies to a major degree. Recent developments and forces of globalisation processes alike have a significant impact on local agencies, as the conflicting aims between local population and international companies show. Owing to its historical and spatial dimensions of analysis, political ecology is a feasible approach to analyse the complicated diversity of actors, concerns and institutions in mountain areas.

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