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Source: Mountain Research and Development, 32(3) : 304-312

Published By: International Mountain Society

URL: https://doi.org/10.1659/MRD-JOURNAL-D-11-00113.1

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Mountain Research and Development (MRD)
An international, peer-reviewed open access journal
published by the International Mountain Society (IMS)
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The Meanings of Pasture in Resource Degradation Negotiations: Evidence From Post-Socialist Rural Kyrgyzstan

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Pasture use in the Kyrgyz Republic has changed significantly as a result of fundamental political, economic, and societal changes following the collapse of the Soviet Union and the subsequent changes in people's livelihoods. Government institutions criticize current land use patterns as unsustainable and the cause of degradation. But at the local level, pasture quality is rarely seen as a major problem. This article uses a qualitative approach to examine the tension between these views and addresses current land use practices and related narratives about pasture degradation in rural Kyrgyzstan. By focusing on meanings ascribed to pastures, it shows how people closely relate current practices to the experiences and value systems of the Soviet period and to changing identities emerging in the post-Soviet transformation process. It argues that proper understanding of resource degradation issues requires adequate consideration of the context of meaning constructed by local resource users when they make sense of their environment.

Keywords: *Pastures; construction of meaning; resource degradation; negotiation; Kyrgyzstan.*

Peer-reviewed: *January 2012* ***Accepted:*** *March 2012*

Introduction

National and international discussions on pasture-related issues in the Kyrgyz Republic are predominantly shaped by perceptions of increasing overgrazing, degradation, and nonsustainable management of the resources concerned (e.g., Comprehensive Development Framework Council 2002: 50; Kyrgyz Republic UNCCD National Working Group 2005: 22; Ludi 2003: 121; Shigaeva et al 2007; Wilson 1997: 67). In comparison to this external view, the internal views of direct users about the condition of pastures are less easily accessible and frequently not congruent with such external evaluations.

In the case of the present study, areas of tension surfaced on the occasion of a natural resource management workshop involving local people and national pasture experts. Whereas the national experts observed decreased productivity and growing degradation on pastures close to villages and attributed it to nonrational grazing patterns and lack of inputs, local participants denied a change for the worse; some even maintained that pasture quality was improving. The objective of the research presented here was to address these differing "claims to truth" (Blaikie 2001: 136) about pastures and put them in a wider context of meaning. Without favoring one perspective or the other—both are vital for prospective negotiations—the focus of this article is on the local view of the issue. It attempts to address researchers' and policy makers' lack of knowledge about this perspective.

This article presents different contextual factors that influence the current meanings ascribed to pastures and thus to views on whether pastures have undergone degradation or not. It argues that only by considering the meanings that pastures have for direct and indirect users does an understanding of the complexities of pasture use and degradation become possible.

The construction of meaning

By focusing on the construction of meaning, this article draws on a social constructivist and symbolic interactionist perspective (Berger and Luckmann 1966; Blumer 1969), and relates it to the post-Soviet context of the Kyrgyz Republic. It builds on the principle that we can only understand a contested phenomenon such as pasture degradation if we also understand what the people affected believe about it and how this belief fits with their larger view of the world. In this regard, natural phenomena become sociocultural phenomena in the sense that they are constructed through social interactions among members of a culture as they negotiate the meanings of nature and the environment (Greider and Garkovich 1994: 5).

These continuous interactions reflect the importance of the time dimension in the construction of people's worldviews: indeed, even though action takes place in the

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present and is determined by the definition of the present situation, the past provides the tools to define the present (Charon 2004 [1992]: 129f). They also imply a constant redefinition of the involved persons themselves. As values cannot be investigated by abstracting them from people's specific, contextual, and temporally resonant patterns of life (Macnaghten and Urry 1998: 250), specific worldviews are closely related to the view of what a human being is and therefore also to the identity of the person in question. In the context of the transformation of an entire political, economic, and societal system, such as that experienced by the countries of the former Soviet Union, the redefinition of the meaning of the self and the environment assumes central importance.

The legacy of transformation

Pastures represent one of the most important natural resources in the Kyrgyz Republic. They occupy more than 85 percent of the country's agricultural land (Wilson 1997: 57). Livestock herding has been an integral part of Kyrgyz life for centuries, and the use of pastures has therefore always been a reflection of the existing political orders and social systems. The fundamental transformation of the social, political, and economic system during the establishment and collapse of the Soviet Union caused severe changes (see, e.g., Akiner 1998; Herbers 2006; Howell 1996; Jones Luong 2004; Mearns 1996; Pandey and Misnikov 2001; Schmidt 2001; Schmidt 2006; Steimann 2010). Touching all levels of society, these transformations resulted in a loss of established securities and meanings related to people's everyday world and a need for their renegotiation and reestablishment on another basis.

Attempts to relate resources to the implicit meanings ascribed to them in the post-Soviet context have barely been made in scientific studies. Based on this and the assumption that people's life histories and the Soviet heritage are of major importance in the construction of current meanings, the following discussion aims to trace the historical aspects of human–resource relationships.

The pre-Soviet system of pasture management can be characterized as transhumant, reflected in: herders' substantial knowledge of how to select grazing locations by taking account of climatic zones; the lack of individual rights to pasture lands; and highly decentralized decision-making about grazing rights on pastures (Shamsiev 2006: 55). The collectivization process under Soviet rule in the 1920s and 1930s caused a major restructuring of society, with the creation of large-scale collective and state farms, division of labor, and limitations on individual ownership of land and livestock. As the primary goal of Soviet economic policy beginning with the First Five Year Plan (1928–1932) was economic growth (DeBardeleben 1985: 175), collectivization was followed by massive intensification in agriculture and livestock farming. Stalin even coined the expression "to remake nature after the needs of man" (Libert 1995: 11). The Kyrgyz Soviet Socialist Republic became the third most important wool- and meat-producing republic in the Soviet Union, surpassed only by the much larger republics of Russia and Kazakhstan. Total livestock numbers peaked in 1991, the year of the collapse of the Soviet Union, after having increased continuously since 1916 (Wilson 1997: 58).

Current research indicates that by the early 1960s, permanent overstocking had already become the norm at almost all locations in the seasonal grazing cycle, exceeding the natural carrying capacity of the mountain pastures by a factor of 2 to 2.5 during the grazing season, in many cases causing pasture degradation (Shamsiev 2006: 56). From a Soviet scientific perspective, degradation was, however, considered largely as a temporary phenomenon that could be remedied with adequate inputs, for example, by finding technological solutions for environmental problems (Pryde 1972: 165). Furthermore, due to the low variability of ecological factors such as rainfall, the application of the concept of carrying capacity was much more prominent in the Soviet Union than continuous monitoring of pasture conditions or land degradation. This may have led to the use of carrying capacity not to limit damage but only to predict it (Robinson et al. 2003: 423).

The mainstream approaches of material determinism, anthropocentrism, scientific-technical domination of nature, and ecological optimism (DeBardeleben 1985: 99) were also reflected in several key features of pasture management in the Soviet period (see Shamsiev 2006):

1. All land was owned by the state. While some aspects of transhumant herding were retained, state control over pastures meant that essential traditions of communal grazing were destroyed.
2. Decisions about the rights to use different pastures were nominally made by rural councils, but since livestock production was the responsibility of the collective farms, it was their management which in fact made all decisions, based on detailed parameters provided by central state agencies.
3. Centralized mapping, measurement, and monitoring of pasture quality and carrying capacity by the State Land Management Committee ensured relatively balanced but extremely intensive use.
4. The objective of maximizing livestock production overshadowed that of sustainable use of pasture resources (after Shamsiev 2006: 56).
5. In addition, in order to diminish overgrazing and pasture degradation, supplemental measures such as winter feeding, inputs of mineral fertilizers and pesticides, and enhanced sowing on pastures were applied.

The work of seasonal transhumance was done by appointed herders. High stocking rates led to a characteristic management regime, with winter housing based on external feeding inputs on the valley floors,

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intermediate spring and autumn grazing periods, and summer grazing on high mountain pastures. The practice of commonly herding collective and private livestock and the division of labor resulted in a loss of livestock and pasture management skills for the majority of the population, as only a few were directly involved in this work within the livestock collectives (Liechti 2002: 53ff; Shamsiev 2006: 56).

Changing living conditions after the collapse of the Soviet system brought about a need to renegotiate people's everyday world. Fundamental to the post-independence reforms for rural people was the dissolution of the state and collective farms (see Steimann 2010: 62ff). The subsidies paid by socialist governments to the farms were the first to fall victim to the new logic of the market economy (Hann 2003: 11). Livestock were privatized, while pastures remained under state ownership. Pasture leasing procedures have subsequently changed several times. In the course of all these changes, rural households have struggled with loss of employment, a new self-reliance with their own plots and livestock, and a loss of political, economic, and social security (Liechti 2002: 99ff).

Due to the absence of wages and state support, livestock numbers dropped dramatically in the first five years of independence and only afterward stabilized more or less at a low level (Shamsiev 2006: 3, after Natstatcom). Due to lower livestock numbers, the new individualized form of livestock keeping, and the lack of money and facilities, pasture use was in many cases restricted to former winter, spring, and autumn pastures at low and middle altitudes (Ludi 2003: 121; Farrington 2005: 190f).

Research context and methods

The empirical material presented in this paper is based on my research in two mountain villages in Chuy Oblast in the Kyrgyz Republic. The study was part of a long-term research project of the Swiss National Centre of Competence in Research North-South in this region that has involved researchers from different disciplines over a 5-year period. The villages selected for study are located at 1200 m and 1054 m above sea level in a river basin on the northern slope of the Kyrgyz range in the vicinity of the capital city of Bishkek. Land use is characterized by rain-fed and irrigated agriculture on the valley floors and pastures on the valley slopes in the foothill zones and in the high mountains (Figures 1 and 2). During the Soviet era, each of the two villages formed a *kolkhoz* (a Soviet collective farm); one specialized in breeding livestock (sheep, horses, cattle, goats), the other in both livestock breeding and agriculture. Due to their structure and history, the two villages can be considered representative of the living conditions in many rural areas of the Kyrgyz Republic.

As previously stated, a workshop with local people and national pasture experts in one of the villages revealed inconsistent views on whether the pastures adjacent to the village were degraded. To learn more about this discrepancy, I spent several weeks in the study area several times over a half-year period. An in-depth analysis of the narratives regarding these contested views on pastures compiled during this time should put them in a wider context of meaning.

The main part of the investigation was composed of semistructured qualitative interviews that had aspects of narrative and focused interviews (Flick et al. 2004). By combining open questions at the beginning with an increasing focus on specific issues toward the end of the interview, it was possible not only to acquire new and unexpected insights but also to get specific responses on certain topics, making it possible to establish comparisons with similar kinds of answers from other respondents. The respondents were selected by theoretical sampling, a process of data collection based on grounded theory whereby the researcher collects, codes, and analyzes data and then decides what data to collect next and where, in order to develop a theory as it emerges (Glaser and Strauss 2006 [1967]: 45). In order to get a broad range of perspectives, ages, professional backgrounds, and functions in the former kolkhoz, current occupation, recent changes to livestock breeding habits, and number of livestock currently owned on a private basis turned out to be the most relevant attributes for sampling.

The empirical data presented here are based on narratives supplied by 41 people (23 males, 18 females) in 34 interviews. The interviews ranged from 1 to 2.5 hours in length and were recorded, translated, and transcribed verbatim. The topics addressed included personal life history, description of the environment and how it has changed, former and current pasture use practices, changes in livestock breeding strategies, and perception and evaluation of pasture conditions. The transcribed interviews were analyzed with the assistance of AtlasTi software: after a coding process, the emergent categories were regrouped into broad thematic complexes, which are discussed below.

Putting pastures into context

The contextual factors that influence the construction of meaning regarding pasture degradation at the local level include growing dependency on livestock due to changing economic conditions, persistent alienation from pastures as a resource, and differences between outside experts and local people in how they measure pasture quality.

Growing dependency on livestock

Changes in livelihoods during the post-Soviet transformation had a significant impact on the importance of livestock for local people. Whereas during the Soviet era private livestock keeping was a welcome form of additional income, it has now become the main source of livelihood for many people. The shift to a

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FIGURE 1 View of the study region. (Photo by Karina Liechti)



subsistence economy and the consequent new dependence on livestock products gave livestock a completely new meaning in daily life. After a time of economic decline, many households recovered thanks only to livestock keeping.

> *From year to year the people keep more animals. When I started here, I didn't have as many animals as today. […]. The people live from the animals, nobody could survive without animals. […]. You can sell the animals, get meat, get milk from the cows or sell milk. (Male, 50, former veterinarian)*

Loss of employment with the dissolution of the kolkhoz has undermined people's self-concept as professionals, a fact that many deeply regret. Animal husbandry is thus frequently not seen as proper work, but only as something necessary to make a living.

> *And today we have much more [private animals], because we have nothing to do anymore, we don't work anymore. This is another reason why we keep animals, because we live from them. (Female, 36, former librarian)*

Former professional expertise is thus frequently no longer seen as applicable in the current situation. Even the continued existence of herding as a professional function is now questioned by some people. The profession of herder is linked to the kolkhoz system. Therefore, despite the growing dependency of many people on livestock herding, construction of a new self-concept as a herder will probably be a slow process.

> *Herders don't exist anymore. There were herders in the kolkhoz, these were the real herders. Today some private people, who keep their animals, call themselves herders. We have to forget the word "herder," because they don't exist anymore. (Male, 63, former agronomist)*

For some people, especially those who are successful, confidence in one's own abilities is said to have improved

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FIGURE 2 Pasture adjacent to the village. (Photo by Karina Liechti)



due to livestock. They enjoy freedom from dependency, which was not possible under the strict rules of the kolkhoz system. In this regard, their new occupation can be seen more positively as they continue to get used to it.

> *It is like this, that I now like my work. The reason for this is that I am not guided by anybody; nobody is reproaching or controlling me. If the animal dies, it dies, if it reproduces, I am happy. It is good to decide everything on your own, to be on your own. No dependency on anybody. (Male, 49, former teacher)*

In their narratives about their ways of life, people reflect on personal feelings and describe their current situation in accordance with their conception of their former livelihoods. When making comparisons with earlier times, many respondents express deep preoccupation with the difficulties of earning a decent income, insecurity, increased dependency on livestock, and a loss of professional identity. There is little evidence of adoption of a new identity as a farmer, herder, or the like, especially among people who came from other professions. This might also be related to the fact that members of collective farms were considered part of the working class in Soviet theory (Lane 1985: 168f) and thus were not classified as farmers, peasants, or the like and therefore not related to the whole farming production cycle.

People's forced and growing economic dependency on livestock might suggest a reason for their rather hesitant reaction to concerns about the degradation of pastures. These concerns would, in spite of people's dependence on good quality pastures, call into question their struggle to improve their living conditions and their initial successes, thanks to the increased amount of privately owned livestock. Furthermore, their rather reluctant commitment to their new source of income and their lack of identity as herders or farmers may prevent them from considering the production cycle and its enabling factors as a whole. Pastures, in this context, have only a subordinate meaning.

Continuing alienation from pastures

Differing livestock numbers, knowledge bases, and personal relationships have been responsible for the current variety of pasture use systems, which range from individual to collective herding and from migratory to more stationary patterns. Arrangements are frequently flexible and prone to change. Nevertheless, livestock owners share a common goal in herding: seeing their animals gain weight, stay healthy, and reproduce. A well-nurtured sheep is the result of good work.

Especially for nonspecialists in herding, the only indicator of adequate use of pastures is the well-fed animal. The fattening of animals currently seems achievable even without taking special pasture management measures into account (for example, by using remote mountain pastures in summer). For this reason, pasture condition is not a factor about which people show concern.

Presumably, the emphasis on the physical condition of the animals relates to the kolkhoz system of labor division

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during Soviet times. The herders' main responsibility was the fattening and (in a related matter) the reproduction rate of animals. The condition of the animals, not of the pastures, was the visible outcome of good work and was rewarded accordingly.

If the herder didn't do his job well, the animals return emaciated [from the pastures]. If he did his job well, they return fat. You can see it in that. (Male, 48, former veterinarian)

Decisions on the "rational use of pastures," a precondition of this outcome, were outside the herders' influence, because the pastures were the responsibility of agrarian specialists, who determined the time and place for livestock grazing. Pastures were designated for seasonal rotation by the State Land Management Committee, according to their botanical composition and estimated carrying capacity. Pasture improvement measures such as seeding, weed control, and fertilization were planned and executed by the agrarian specialists. These measures are still highly valued by the respondents, as they illustrate people's previous mastery over the land, which has now been lost, in their opinion.

Yes, those plants [weeds] are spreading. In Soviet times the weeds were destroyed. The seeds of good grass were distributed in the mountains. Today we don't get this done. In former times people from the Academy of Sciences came and analyzed and distributed the seeds of grasses. And fertilizing was done at that time as well. (Male, 47, former herder)

This kind of care of pastures, in terms of inputs, was generally viewed positively by the respondents. Due to their customary view of pasture inputs as coming from outside and their high respect for specialist knowledge, local people now consider that they have virtually no potential to deal with such problems. Another possible reason for people's alienation from pastures is that the condition of pastures had lower priority in the kolkhoz than keeping to a set time schedule.

One didn't take into account the pastures, whether they were sufficient. One needed the births of the sheep, one needed to shear the sheep, to treat them against illnesses. And after all these measures, the sheep were driven up to the jailoo *[high mountain summer pasture]. […]. Whether the grass was already grown or not, whether there was enough grass or not, was of no importance. The preparation played the decisive role. (Male, 80, former veterinarian)*

Also beyond people's influence were the kolkhoz stocking rates, which were decided at a higher administrative level. However, people still remember the severe damage to the grass cover after the animals had left a certain grazing place.

In the time of the kolkhozes we had a lot of animals. Until we went to jailoo *[high mountain summer pasture] nothing was left in the hills. Everything was trampled down, dusty and bare from the animals. (Male, 54, former tractor driver)*

In sum, human influence on pastures is contextualized in two lines of reasoning, which are not mutually exclusive. One line emphasizes care for pastures, often in relation to inputs such as seed and fertilizer. The other sees the system and its representatives as the cause of degradation. In both lines of reasoning, responsibility is located at a higher level, from the herder to the specialist, from the specialist to the prevailing economic requirements.

The attitude of people toward pastures could therefore be characterized as noninvolvement with the status of mere observers. When pastures are seen as beyond the influence of ordinary people, the issue of degradation also becomes characterized by alienation.

Different approaches to measuring pasture quality

External experts measured (and still measure) the quality of pastures based on forage productivity [kg/ha], which is calculated according to the botanical composition of plant communities and their energy content (Meierhans 2008). At the local level, these approaches are not prevalent at the moment. Many people, especially those with little experience in herding, assess pasture quality by comparing current conditions with conditions in the final decades of the Soviet period, during which lack of grass, dustiness, and bare soil were common.

Q: How do you evaluate the condition of the pastures?
A: How do we do that? We compare. By comparison with Soviet times, the condition of pastures is better nowadays. Then, we had 32,000 sheep here. Already in May it was dusty. Wherever we looked, we saw animal tracks, animal tracks. Today, the pastures are sufficient until autumn. Only because it is sunny this year, the grass is getting dry fast. Otherwise the condition of the pastures is improving. Some say that the pastures are degrading. We had that in Soviet times. Degradation was already at its highest level by that time. Today everything is recovering. (Male, 49, former teacher)

These degradation indicators (dustiness, bareness), as commonly remembered, are frequently compared with pasture conditions today. The absence of severe signs of degradation at any time in the current yearly grazing cycle is considered a sign of improvement. However, when all seasons are taken into account, people remember the most severe degradation as having occurred just before the herds left a certain grazing place. This was followed by a recovery period, which in many cases included massive inputs of seed and fertilizer.

Q: Were the pastures trampled down in a certain time of the year or all year round?

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A1: How can I put that? During the time of the shearing.
A2: In spring.
[…]
Q: Did the pastures recover, when the animals had left?
A2: Yes, certainly.
A1: As soon as it rained, they recovered. (Female, 47, former milker; male, 54, former tractor driver)

When comparing current and previous conditions, people initially remember the most extreme situations. However, this position is relativized when they reflect on the whole year, i.e. when they add a broader time dimension.

Generally, appearance plays a prominent role in narratives about the current condition of pastures. Greenness (as opposed to bare soil) is an indicator of a good pasture in the view of many respondents. A few respondents did not describe former pasture conditions in terms of directly visible animal impacts (trampling, dust, lack of grass). Along with the view of national experts, who observed changes in species composition (Shigaeva 2007), this minority put pastures into the whole-year context and expressed concern about the resurgence of weeds. Weeds are commonly seen as the result of today's low stocking rates, lack of inputs, or poor management.

Apart from visual appearance, the better conditions commonly perceived nowadays are often described in terms of the abundance of fodder, which can be seen in the physical condition of animals. As the animal population is currently low, the availability of fodder is directly linked to presumably good pasture conditions.

Their [the pastures'] condition is good. There is enough grass, enough fodder for the animals. The quality of the grass is good, the animals get fat. (Male, 60, former herder)

In addition, the significantly reduced livestock population for many people supports the assumption of an endless availability of pasture resources. The changed herding pattern and the reduced means available for pasture improvement are frequently neglected in this view. This assumption might also be strengthened by impressions of the Soviet pasture use system, where everything seemed feasible, and where the signs of overuse could be reversed by people's will and potential.

The number of animals is not as big as in the kolkhoz time. Even if we had the same amount of animals like before… we by that time somehow managed with this large number. In the future as well, we will manage somehow, even if there are too many animals. We will think out something. (Female, 36, herder's wife)

Furthermore, the currently unused pastures in the high mountains are a sign of always having a way out, and always having enough pastures.

At that time one was not allowed to [privately] own more than 10 head of small livestock and 1–2 cattle or horses. Nowadays there are no limits. The more, the better. Because our pastures make it possible, the large number of animals. (Female, 50, administrator)

The widespread conception that there will always be enough pasture, and current adequate supplies of fodder, mean that degradation as the result of changing species composition is taken into account to a lesser extent. At the moment people emphasize indications related to ease of utilization and output. The main criterion is that animals gain weight. Factors that enable this are the availability of sufficient fodder, which is visible in the appearance of pastures (green, beautiful, long grass) and enhanced by adequate rainfall, the availability of water, flat terrain, absence of features that hinder visibility, absence of weeds or dust and trampled terrain, elevation above sea level, and cool climate. Additional emphasis is put on aspects such as access (close to the road, close to the village), protection against uncertainties or harm (theft, wolves, illness, bad weather), and the nearness of neighbors. With the abandonment of previous services on the remote pastures such as medical assistance, natural hazards and other risks are currently perceived as more of a threat, and the presence of neighbors provides a feeling of security. A summer pasture with high quality grass is of no value if there are no other people located nearby.

The assessment of pasture quality today thus involves interrelated ecological, economic, and sociocultural dimensions. As experts' indicators such as change in the botanical composition of plants are rarely accessible by the common user, their approach is to compare previous and current appearance and herd size. The reduced number of animals gives pastures a meaning of abundance.

Conclusions and outlook

When talking about pasture use, people communicate a meaning constructed within social interaction and interaction with the natural environment. The results of this study show that previous practices and value systems play a major role in peoples' narratives about the current land use system. On the one hand, the Soviet practice of "rational use of pastures," which included the temporary overuse of resources but also their possible recovery due to large inputs, shaped a view of people's mastery over nature. On the other hand, attributing responsibility for pastures to specialists reinforced local users' view that they were powerless to directly influence resources. Consequently, most people remained mere observers, with their own indications and approaches to pasture quality assessment.

The subsequent alienation of local herders from pastures was reinforced by a system that limited its criteria for appraising the quality of work to the

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reproduction rate and physical condition of animals. Livestock quality was and is the indicator of successful work and therefore successful use of the pastures. This view is also reflected in the current approach to pasture quality that takes reduced numbers of livestock as an indicator of an abundance of pastures.

The primacy of livestock quality over pasture quality is also related to the new meaning that is now attributed to livestock. The keeping of animals, which was a source of additional income in Soviet times, has become the main source of livelihood for many people. It has to compensate for the loss of security and is very important in people's everyday lives. Additionally, the loss of structure, and the corresponding loss of employment in an ancestral profession, makes the keeping of livestock an important but ambivalently valued aspect in the construction of people's identities.

In summary, pastures must be understood within a context characterized by tension between different constructed meanings: pastures are considered less important than livestock quality and may suffer additional neglect due to reluctant identification with herding as a primary source of income; pastures are perceived by local people as beyond their influence because competences, responsibilities, and quality indicators were based on a clear division of labor during the Soviet era; and pastures are considered to be abundant, based on appearance and low livestock numbers as major factors to compare the past and the present. These prevalent meanings provide only a limited practical link between people and pastures. This leads to the following conclusion: Whereas livestock and pastures, and humans and livestock are narratively linked, the direct link from humans to pastures is rarely made by local users. Pastures might therefore become visible and negotiable only with reference to livestock.

This study has given insight into the local view on pastures and pasture degradation and how meanings related to the natural environment are constructed. It has highlighted one "claim to truth": in the words of Blaikie (2001: 133), the view from the *veld* (open rangeland, the local view), which differs significantly from the view from the *verandah* (policy makers or researchers). This difference of perspective is widespread globally on questions of resource degradation. When it comes to pastures and pasture degradation, research results from similar contexts—for example, from Mongolia (e.g., Sternberg 2008) or Inner Mongolia in China (e.g., Williams 2002)—confirm that research related to their more sustainable use requires a better understanding of the conflicting perceptions of ecological conditions and dynamics (see also Fernandez-Gimenez 2000: 1325).

By applying a social constructivist perspective to the environment, I do not deny that something out there, for example pasture degradation, is happening. What I want to show is that a successful negotiation of complex resource use and degradation issues requires in-depth reflection on those issues' ecological, economic, and sociocultural dimensions. It requires the willingness to take different people's ascribed meanings of the resource into account and to estimate their value accordingly. It therefore also requires a reflection on people's sociocultural identities and past experiences, which, as shown, are closely related to the meaning that is ascribed to the natural environment.

From a practical view of project planning or policy development for sustainable use of pastures, the results of this study suggest an engagement of local users, researchers, and policy makers in social learning processes that aim at both a deepened understanding of the different perspectives and joint knowledge production. This can eventually lead to comanagement of natural resources, a partnership between social actors who collectively negotiate, agree upon, guarantee, and implement a fair share of management functions, benefits, and responsibilities for a particular territory, area, or set of natural resources (Borrini-Feyerabend et al.: 69). As sustainability is a normative concept, it requires concretization through a reflexive, participatory, and deliberative dialogue between all actors involved (see Rist et al. 2007: 25). Only by doing this can meaningful common steps toward a more sustainable use of natural resources be found.

ACKNOWLEDGMENTS

The author wishes to acknowledge support from the Swiss National Centre of Competence in Research (NCCR) North–South: Research Partnerships for Mitigating Syndromes of Global Change, co-funded by the Swiss National Science Foundation (SNF), the Swiss Agency for Development and Cooperation (SDC), and the participating institutions. The valuable comments of two anonymous reviewers are also gratefully acknowledged.

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