

At the same time, it should also be noted that even though climate change does present real and serious challenges to pastoral areas, there are also a lot of other issues that are of priority concerns to the pastoralists. Quality veterinary service, proper winter sheds for animals, market accessibility and overall fodder supply are some of the long-standing and urgent issues limiting livestock development in the rangelands area and should be tackled with more earnestness and urgency by government departments and NGOs. Even though those issues are not directly related to climate change impacts, properly addressing them could definitely reduce the vulnerability of the pastoral communities.

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References

- Alden Wily L (2004) Looking for peace on the pastures. Rural land relations in Afghanistan. Afghanistan Evaluation and Research Unit, Kabul
- Azarbaijani-Moghaddam S (2006) Dastarkhan Weaving in Tagab-i Keshem, Badakhshan. Consultancy undertaken on behalf of Zaradozi – Markets for Afghan Artisans. www.afghanartisans.com/PDFs/dasterkhan_eshem_study.pdf. Accessed 19 Aug 2011
- Chetri M, Gurung CR (2004) Vegetation composition, species performance and its relationship among livestock and wildlife in the grassland of Upper Mustang, Nepal. In: Jincheng Z, Xiangdong Z, Jianlin H, Zhihua C (eds) Yak production in central Asian highlands. Proceeding of the fourth international congress on Yak. Sichuan Publication House of Science and Technology, Chengdu, pp 235–244
- Kharel FR (1997) Agriculture crops and livestock predation by wildlife in the Langtang National Park. *Mt Res Dev* 17(2):127–134
- Kreutzmann H (2004) Pastoral practices and their transformation in the North-Western Karakoram. *Nomad Peoples* 8(2):54–88
- Kreutzmann H (ed) (2006) Karakoram in transition: culture, development and ecology in the Hunza Valley. Oxford University Press, Karachi
- Kreutzmann H, Schlütte S (2011) Contested commons – multiple insecurities of pastoralists in North-Eastern Afghanistan. *Erdkunde* 65(2):99–119
- Shrestha AB (2009) Climate change in the Himalayas. *Icimod*, Kathmandu
- Tsering K, Sharma E, Chetri N, Shrestha A (2010) Climate change vulnerability of mountain ecosystems in the Eastern Himalayas. *Icimod*, Kathmandu
- Vetter S (2005) Rangelands at equilibrium and non-equilibrium: recent development in the debate. *J Arid Environ* 62:321–341
- Visit Nepal (2011) Nepal National Parks Information. http://www.visitnepal.com/nepal_information/nepalparcs.php#LangtangNationalPark. Accessed 19 Aug 2011
- Walker B, Holling CS, Carpenter SR, Kinzig A (2004) Resilience, adaptability and transformability in social-ecological systems. *Ecol Soc* 9(2):5. <http://www.ecologyandsociety.org/vol9/iss2/art5/>

Chapter 18 Pastoralism: A Way Forward or Back?

Hermann Kreutzmann

Abstract Perceptions and experiences differ widely in the world of pastoralism. The case studies presented in this volume provide fieldwork-based insights and evidence from a widespread area between the Pamirs, Tien Shan, Hindukush, Karakoram, Himalaya and the Tibetan Plateau. More important than the ecological breadth and spread of environmental properties and changes seem to be the societal embeddedness of pastoralism, the politico-economic framework and the understanding of 'modernisation'. The debate on the 'tragedy of the commons' seems to have developed through a supposed 'drama of the commons' to an institutional 'tragedy of responsibility' under similar pretexts as in the early stages. Norms and viewpoints govern judgements about actors and victims in relation to their pastoral practices.

Keywords Pastoral embeddedness • Future of pastoralism • Payment for ecosystem services • Tragedy of responsibility • Norms and values

18.1 Contemporary Perceptions

Pastoralism has often been classified as a backward way of living and surviving. Nevertheless, one observation drawn from our case studies in High Asia is the significant persistence of a utilisation strategy that has mastered severe challenges and major constraints posed by neighbours, rulers, states and their administrations and, not to be forgotten, by development agents worldwide. The transformation of pastoral practices is ubiquitous and a signifier of its adaptive capacity.

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At a recent e-conference, a conceptual grounding of pastoralism was attempted by linking its definition to climate change and livelihood debates:

Pastoralism is a complex form of natural resource management, which requires maintaining an ecological balance between pastures, livestock and people, and it is an adaptive strategy to a stressful environment. This adaptation faces a myriad of challenges, of which climatic change is but one. Indeed, the challenge of climate change seems insignificant to many pastoralists who are faced with extreme political, social and economic marginalisation: relax these constraints and pastoral adaptive strategies might enable pastoralists to manage climate change better than many other rural inhabitants. (Nori and Davies 2007, 7)

This description perceives pastoralism as a singular system that has been adversely affected by a number of constraining influences but is a successful adaptive strategy to cope with a multitude of challenges. Various kinds of socio-economic and politico-historical challenges caused pastoralists to adapt, evade or escape and/or abandon certain practices. Most of these constraints were much more powerful than the felt effects of climate change to date. Global warming and its effects are perceived as a gradual process. It has always been the practice of pastoralists to adapt to gradual changes of that calibre. Mitigation was beyond their scope anyhow. Sometimes pastoralists are even not mentioned when it comes to ecosystem services of mountains in times of climate and global change (Macchi and ICIMOD 2010). Marginalisation and neglect are one approach; modernisation and development discourses meet pastoralists with significant effects. Social experiments such as the Soviet collectivisation and the Chinese 'great leap forward' have affected pastoral livelihoods not gradually but in the manner of a pending threat to survival and causing severe disasters. Social organisation and pastoral practices were transformed in a short span of time by external and un-experienced planners resulting in human tragedies and casualties and huge losses of pastoral wealth and resources. Within the twentieth century, these interventions were more forceful than anything linked to climate change. Nevertheless, climate change is on today's global agenda and therefore referred to more often than social change and political transformations (Schröter et al. 2005). Development practitioners and consultants, decision-makers and regional planners have developed a tendency to neglect social and political effects when it seems to be easier to blame climate change for adverse occurrences (e.g. Kelkar et al. 2008; Kohler and Maselli 2009). Some day we might regret the confusion of ideas as the 'climate change dilemma' in a similar manner as Jack Ives commented on the Himalayan Dilemma:

It was a development paradigm that confused cause and effect, resulted in the misdirection of large financial resources, and sidelined some of the real needs of the people. Attempts were made to solve a problem that did not exist, or at least, one that had been exaggerated beyond measure. Thus, 'development' was distorted and the identification and prioritization of circumstances that demanded attention was delayed. (Ives 2004, 229)

It would be worthwhile to consider both phenomena as the superimposition of gradual processes related to environmental changes with efficient socio-political interventions that sometimes come in the disguise of development, modernisation and resettlement. The resulting effects are meeting pastoralists' livelihoods and transforming them. A holistic approach that operates from the perspective of pastoralists might avoid the fallacies of confusing cause and effect as was said above.

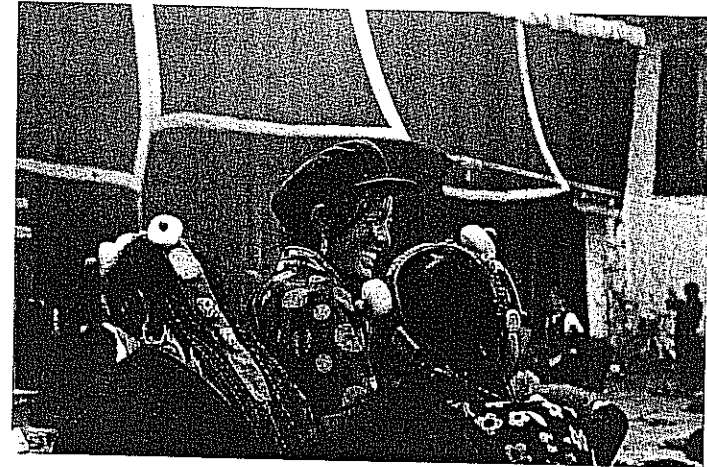


Photo 18.1 Visitors from Changtang pastoral areas enjoying pilgrimage and urban life in Lhasa (Photograph © Hermann Kreutzmann July 30, 2004)

In the framework chapter, we addressed pastoral practices; here, the mosaic of presented case studies attempts to contribute some insights into significant changes in the livestock sector. Furthering the argument, land degradation and measures to counteract these developments become prominent features affecting pastoral practices. At the same time, the transformation of pastoral livelihoods mirrors societal developments that are often planned at urban centres and in capital cities but always have significant effects even in the remotest and mountainous peripheries (Photo 18.1).

In some cases, the adaptive potential might be surprising. In Afghanistan, an environment of insecurity and threat poses the major challenges to pastoralists. Nevertheless, they have shown that animal husbandry can be a profitable undertaking today, fulfilling the important role of supplying the bazaars with valuable livestock products. India and Pakistan have experienced continuous disputes about pasture access, legal rights and grazing fees in their mountainous regions of the North. Since colonial times, agricultural and forest departments have been challenging the space utilised by pastoralists, and revenue officials have been keen on dues from cross-border trade. Although pastoralism remained an important economic resource even after the closure of international borders (Photo 18.2) with China, it is quite surprising how decentralised the attitudes regulating pastoral migration and pasture use appear and how differently the respective administrations treat aspects such as animal health and marketing facilities (Dangwal 2009; Inam-ur Rahim and Amin Beg 2011).

The space left for pastoral activities has been shrinking further since the competition between combined mountain farmers and pastoralists increased the demand for grazing lands, whilst at the same time nature protection and privatisation of common properties are reducing their degrees of freedom. In both countries, a selective process can be observed: sedentarisation of former mobile communities and

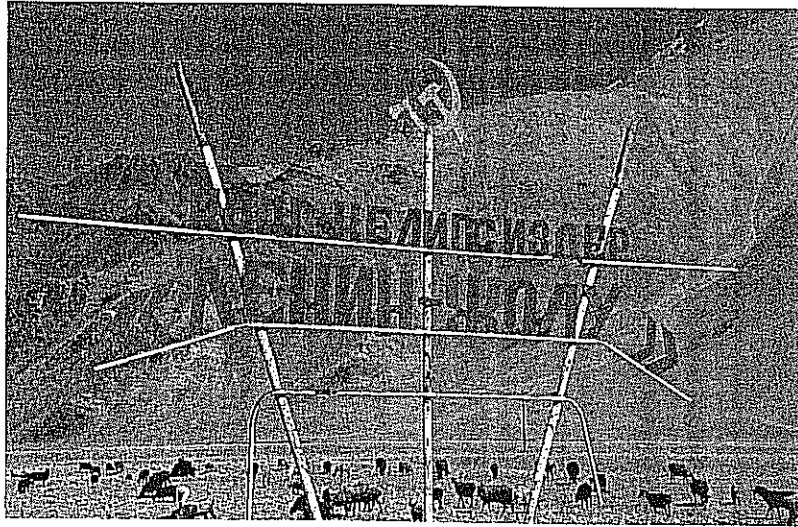


Photo 18.4 The privatised flocks of shepherds from Rangkul are pastured close to the indicator near Chechekti that the Kolkhoz Lenin Zholu (the collective farm named 'way of Lenin') was here before (Photograph © Hermann Kreutzmann September 6, 2007)

studies on the Kirghiz in different societies – Afghanistan, Tajikistan, Kyrgyzstan and China – have explicated how varied can be the effects of state intervention and resource competition, their impacts on livelihoods and participation in decision-making, the secular and symbolic values of modernisation and development and how they can structure daily life experiences and pastoral practices. Pastoralists rarely get centre stage attention when global agendas such as desertification, nature protection, global warming and/or climate change trigger national politics to implement related policies on regional and local levels. Pastoralists have often become the addressees of ideology-driven modernisation strategies that have significantly affected their livelihoods and pastoral practices.

18.2 From the 'Tragedy of the Commons' to the 'Tragedy of Responsibility'

In a shrinking potential environment where growing external demands and powerful interests govern structural changes in the political arena, land-grabbing and encroachments into 'traditional' pastures and common properties, it is still surprising how pastoral practices have always adapted to new and threatening challenges and found an outlet to cope with mounting constraints. Societal and political changes have dominated over all kinds of climate and environmental changes. The case studies have revealed that in some regions, pastoralism as a solitary strategy to make

a living might be abolished in the near future for some practitioners, but pastoral practices might prevail in other niches and offer ample opportunities to those who are connected and embedded in their way of accessing resource potential that others still cannot utilise in a meaningful way. The niches are shrinking, but there may well be a way forward.

Growing pressure on the commons has changed the attitude of policymakers and rangeland management planners who had treated rangelands and their inhabitants over long periods as 'marginalised people in regions of neglect'. The debate on the 'tragedy of the commons' triggered off by Garrett Hardin (1968) has developed and gained pace. In times of land-grabbing and expropriation of resources when customary rights can easily be breached and community practices do not count, it could well be that the notion of a 'drama of the commons' (Ostrom et al. 2002) is much more appropriate. Even during the last decade, the pressure on land resources has grown further and led to an unequal positioning of interests (Fig. 18.1). Hardin's solution for alleviating the 'tragedy of the commons' was privatisation. The presently observable process of selling-off vast tracts of agricultural land resources to powerful multinational state and private investors in Africa and Asia is exactly stimulating the land-grabbing and expropriation of weak communities without lobby. The 'drama of the commons' gains pace and appears to be a 'drama of responsibility' where the vital interests of rural people and communities are at stake and grossly neglected.

In our case, neglect is meant to express the notion of inadequate policies for pastoral communities and their stakes. The subsequent information on policies and legislations will document that attempts at state evasion (Scott 2009) have been in vain since the 1950s at the latest. Administration and bureaucracies have penetrated pastoral areas with different degrees of efficiency. China has been mentioned in great detail already, and it has become obvious that man-made changes to the environment are treated in different ways. Sometimes they are explained as caused by natural hazards and climate change; in rare cases, ideology-based experiments and societal transformations are made responsible for adverse effects in the rangelands.¹ Whilst China has a legacy of top-down interventions accompanied by all kinds of legislation, incentive packages and modernisation programmes, other neighbours are beginning to rethink their attitudes. In India and Pakistan, rangeland management was inherited as a colonial legacy, and policymakers of today refer to early legislation such as the 'Cattle Trespassers Act' of 1871 and the 'Forest Policy' of 1894. In Pakistan, the 'National Forest Policy' of 1962 was the first step towards a rangeland management strategy after independence, this policy being extended to wildlife in 1980. To further the new 'Pakistan Forest Policy' of 1991, a 'National Rangeland Policy' has been announced; a decision about the draft is still pending. Nevertheless, the vested interests of pastoralists and tenure issues are mentioned only in passing.

As late as in 1988, India envisaged a paradigm shift with the 'National Forest Policy' in which rangelands played an important role – followed by the 2006 'National Environmental Policy' – that affects the four mountain provinces (Jammu and Kashmir, Himachal Pradesh, Uttarakhand and Sikkim) and to a minor degree Arunachal Pradesh and parts of West Bengal. The intention of Indian rangeland policies is to intensify livestock production in an arena of decreasing rangeland

omit a discussion about the people that are involved. The case studies presented here cover a wide range of experiences and experiments with changing attitudes, strategies and societal set-ups. In the following, a narrative is related about people of differing backgrounds and biographies who met at two international conferences on pastoralism in 2010.³

The story begins 20 years earlier when land disputes increased in Gojal, Upper Hunza Valley, Gilgit-Baltistan in Pakistan (Photo 18.5). Amongst the main arenas of disputes and conflicts were encroachments in pasture areas by neighbouring villages and communities, questioning of traditional pasture rights and outright refusal to provide passage and access to formerly used grazing grounds. In an area without land assessment and cadastral surveys, without written documents and maps, the disputes gave all sides some negotiation power and leverage:

Never before have village funds been spent to such an extent in legal disputes in religious and civil courts... The village of Gulmit is the most severely affected of all and serves here as an extreme example. Gulmit's pastures lie scattered comparatively far away from the permanent settlement and are not located just above the homestead... During the 1990s different disputes arose with neighbours about the hereditary rights of pasture use. In 1990 a severe dispute began with Shishket across the Hunza river. The Bori kutor clan of Gulmit was to be deprived of its right to access Gaush, and the Ruzdor clan had similar experiences in Bulbulkeshk and Brondo Bar. Although kinship and marriage relationships exist between the inhabitants of Gulmit and Shishket, no solution could be reached through the local institutions and negotiations by mutually accepted and respected neutral persons. The whole conflict escalated and became a major affair of defending property rights that had not been laid down in written documents. Representatives of public and religious institutions were consulted in vain before the legal proceedings started. Up to the present day [2003] more than 0.5 million Pakistani Rupees have been spent on lawyers and court fees alone by the people of Gulmit. Similar or even higher contributions were invested by the opponents, not counting all travel expenses and secret meetings of representatives. No solution is in sight, despite 'stay orders' issued by the courts permitting both sides to use the pastures. The funds spent exceed by far the commercial value from animal husbandry in these pastures for the next decade. (Kreutzmann 2004, 70)

The case described here has been only one of several disputes in addition to quarrels about the exclusion of pastoralists from the Khunjerab National Park (Knudsen 1999). In sum, the Gojali people spent significant amounts of money on finding a legal solution for their disputes and a basis for a future understanding. Looking back at the Gaush case, the villagers from Gulmit and Shishket have since made sure that always at least one representative shepherd from their respective villages is present in Gaush during the summer season. Their huts and corrals are located next to each other (Photo 18.6).

The arguments brought forward in the dispute were informed less from a pastoral point of view than from a perspective highlighting honour and land entitlements. It would be a loss of community honour if a piece of land inherited from their ancestors were to be surrendered to neighbours even if – as in this case – they are close blood relations. The second argument brought forward was directed towards entitlements to land rights, mining and water. Nobody knew at this point whether the pastures would be future settlement grounds, as has happened in many other cases nearby. Neither was there any evidence whether

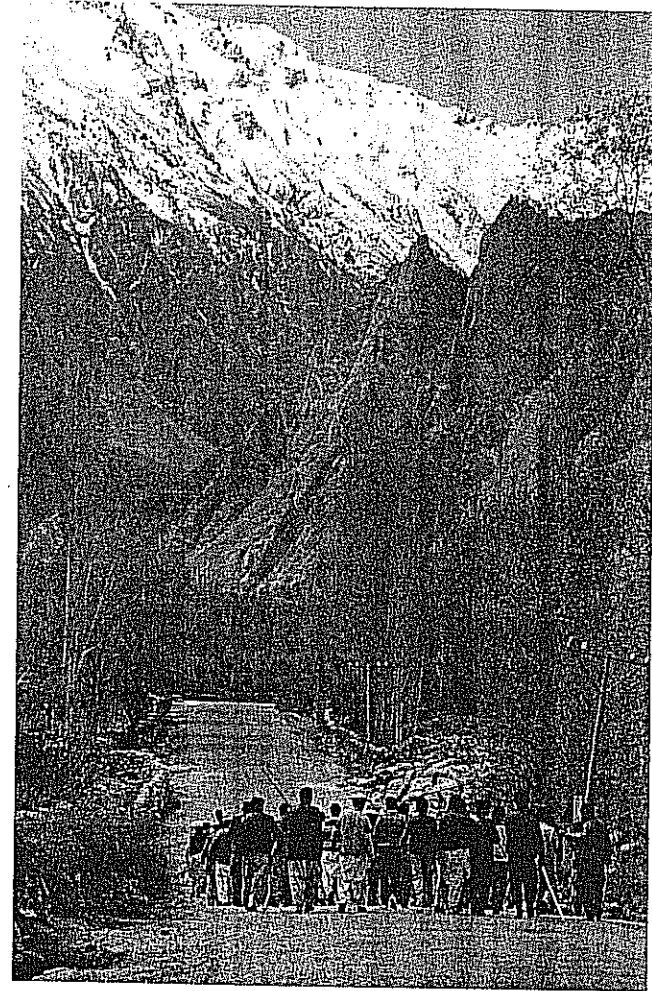


Photo 18.5 Wakhi mountain farmers have left their village of Gulmit to fight with their relatives from the neighbouring village of Shishket about the pasture rights on the mountain slopes in the left background. For more than two decades, monetary funds and other resources were invested in this and similar disputes about pastures in Gilgit-Baltistan. Nevertheless, a lasting solution has not been reached yet (photograph © Hermann Kreutzmann April 29, 1990)

mineral wealth was located here and whether extractive industries might become interested in future.

Somehow the villagers have proved to be right. The pasture of Gaush lies above the village of Goshben (lower Gaush). Goshben was flooded and completely inundated due to a major landslide that occurred on January 4, 2010 (Kreutzmann 2010);

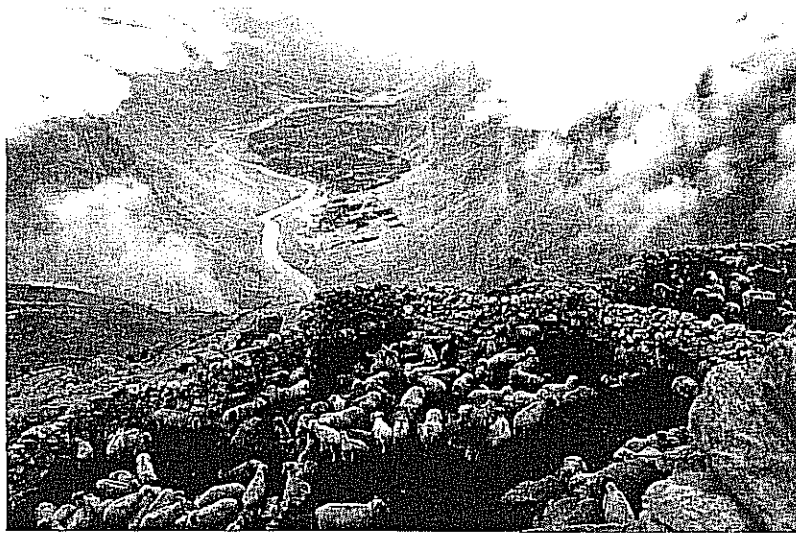


Photo 18.6 One of the disputed pasture settlements in Gaush (3,600 m) is now divided between the two villages of Gulmit and Shishket (cf. Photo 18.5) from where the permanent settlements are clearly visible. Each village needs to be present here with at least one shepherd in order to claim the persistence of their 'traditional' pasture rights (photograph © Hermann Kreutzmann July 7, 1991)

all village lands were lost. The pasture has remained dry and high above the lake level. Nevertheless, the common notion in both contesting villages is that it remains a burden to send shepherds up to Gaush every year and that the economic returns do not justify the effort.

A son of the contesting combined mountain farmers from Gulmit, who has become a development practitioner and consultant, participated in the above-mentioned two conferences and in the related fieldtrips. When the participants were crossing Kulma Pass (4,363 m) from Gorno-Badakhshan in Tajikistan into the Kizil Su Kirghiz Autonomous Prefecture of Xinjiang, PR of China, delegates from Nepal, Pakistan, Tajikistan and China had the opportunity to see with their own eyes the effects of transformation. In Tajikistan, two major transitions had occurred in the twentieth century, with collectivisation and privatisation as their ideological markers. Similar transformations had taken place within the PR of China, albeit at different times and in varying contexts. Whilst pastoralists in Tajikistan are struggling – with few exceptions – to make a meagre living from animal husbandry, the situation observed in Xinjiang was quite different for all delegates. Here the state was present at all instances: infrastructure development, provision of planning and extension, veterinary services, marketing facilities and now resettlement. It needs to be noted that all delegates from Nepal, Pakistan and Tajikistan admired a 'caring government' that supports pastoralists in becoming 'modern'. The observation in Bulunkul (see Photo 6.3) was inspired by admiration and by criticism for their own respective governments. Delegates familiar with the Tibetan situation mentioned that the

backward pastoralists of Xinjiang would now enjoy the same developments that are well known from the Tibetan Plateau: fencing, housing and resettlement. A further package is being experimented with already. Payment of ecosystem services could be an alternative, thus enhancing pastoral lifestyles whilst at the same time contributing to nature protection (Wilkes et al. 2010). It might be worthwhile to consider the advantages of having pastoralists as active landscape managers instead of removing them in great style from pastures that have been utilised for centuries. The indigenous knowledge accumulated by pastoralists over many generations seems too valuable to be just neglected or omitted. The framework of these two conferences provided a forum where 'experts' and 'practitioners' could meet and be exposed to the experiences made in other societies. The aim of the book presented here has been to provide further insights into background, circumstances and prospects of pastoral practices in High Asia. Whether the route is always straight or whether it involves backward and forward turns has to be judged from the respective viewpoints and norms. Changing practices are the result of the application of norms and their implementation. A sound measure would be to listen to the voices of the pastoralists whose lifestyles and economic prospects are being addressed and considered.

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Notes

1. The explanation of causes and effects is surprisingly weak as Harris (2010, 8) observed for the Qinghai-Tibetan Plateau: '... there has been very little rigorous Chinese research into the reasons for overgrazing and rangeland degradation. Most Chinese biological research has not asked, much less answered, questions regarding human motivations among the pastoralists using the rangelands...'
2. This information on recent policies in the Hindukush-Karakoram-Himalaya was derived from the presentations of country papers during the ICIMOD workshop on 'Regional Rangeland Management Programme (RRMP). Development and policy review for the Hindukush-Himalayas' held in Kathmandu August 22–23, 2011. I am indebted to Imtiaz Ahmad (Pakistan), Ruchi Badola (India), Shikui Dong (China), Tsering Gyeltshen (Bhutan), M. Arif Hossini (Afghanistan) and Devendra Kumar Yadav (Nepal) for sharing their insights during the workshop. For Kyrgyzstan and Tajikistan, evidence was presented by Ermek Baibagushev (2011), Bernd Steimann (2011), Andrei Dörre and Tobias Kraudzun (cf. Chaps. 5 and 7 in this volume).
3. Both conferences were organised by InWEnt – Capacity Building International (renamed in *Deutsche Gesellschaft fuer Internationale Zusammenarbeit* (GIZ) GmbH in 2011), aiming to bring together academics, decision-makers and development practitioners. The proceedings were published by Kreutzmann et al. (2011a, b).

References

- Baibagushiev E (2011) Recent changes in pastoral systems. Case study on Kyrgyzstan. In: Kreutzmann H, Abdulalishoev K, Zhaohui L, Richter J (eds) *Pastoralism and rangeland management in mountain areas in the context of climate and global change*. GIZ, Bonn, pp 102–118
- Bajracharya SB (2011) Tourism development in annapurna conservation area. In: Kruk E, Kreutzmann H, Richter J (eds) *Integrated tourism concepts to contribute to sustainable mountain development in Nepal*. GIZ, Bonn, pp 126–142
- Dangwal DD (2009) The lost mobility. *Pastoralism and modernity in Uttarakhand Himalaya (India)*. *Nomad Peoples* 13(2):84–101
- Davies J, Hatfield R (2007) The economics of mobile pastoralism: a global summary. *Nomad Peoples* 11(1):91–116
- Hardin G (1968) The tragedy of the commons. *Science* 162(13):1243–1248
- Harris RB (2010) Rangeland degradation on the Qinghai-Tibetan plateau: a review of the evidence of its magnitude and causes. *J Arid Environ* 74:1–12
- Inam-ur-Rahim, Amin Beg (2011) Production and marketing of livestock products in the Hindu Kush-Karakoram-Himalaya. In: Kreutzmann H, Yong Y, Richter J (eds) *Regional workshop in Lhasa 2010 – pastoralism and rangeland management on the Tibetan plateau in the context of climate and global change*. GIZ, Bonn, pp 177–199
- Ives JD (2004) *Himalayan perceptions. Environmental change and the well-being of mountain peoples*. Routledge, London/New York
- Kelkar U, Narula KK, Sharma VP, Chandna U (2008) Vulnerability and adaptation to climate variability and water stress in Uttarakhand State, India. *Glob Environ Chang* 18:564–574
- Knudsen A (1999) Conservation and controversy in the Karakoram: Khunjerab National Park, Pakistan. *J Polit Ecol* 56:1–29
- Kohler T, Maselli D (eds) (2009) *Mountains and climate change – from understanding to action*. Geographica Bernensia and Swiss Agency for Development and Cooperation, Berne
- Kreutzmann H (2004) Pastoral practices and their transformation in the North-Western Karakoram. *Nomad Peoples* 8(2):54–88
- Kreutzmann H (2010) An inevitable disaster. *Himal Southasian* 23(6):24–25
- Kreutzmann H, Schütte S (2011) Contested commons – multiple insecurities of pastoralists in North-Eastern Afghanistan. *Erdkunde* 65(2):99–119
- Kreutzmann H, Abdulalishoev K, Zhaohui L, Richter J (eds) (2011a) *Regional workshop in Khorog and Kashgar. Pastoralism and rangeland management in mountain areas in the context of climate and global change*. GIZ, Bonn
- Kreutzmann H, Yong Y, Richter J (eds) (2011b) *Regional workshop in Lhasa 2010. Pastoralism and rangeland management on the Tibetan plateau in the context of climate and global change*. GIZ, Bonn
- Macchi M, The ICIMOD team (2010) *Mountains of the world – ecosystem services in a time of global and climate change. Seeing opportunities – meeting challenges*. ICIMOD, Kathmandu
- Nori M, Davies J (2007) Change of wind or wind of change? Climate change, adaptation and pastoralism. *The world initiative for sustainable pastoralism*. IUCN, Nairobi
- Ostrom E, Dietz T, Dolšak N, Stern PC, Stonich S, Weber EU (eds) (2002) *The drama of the commons*. National Academy Press, Washington, DC
- Schröter D, Polisky C, Patt AG (2005) Assessing vulnerabilities to the effects of global change: an eight step approach. *Mitig Adapt Strat Glob Chang* 10:573–596
- Scott JC (2009) *The art of not being governed. An anarchist history of upland Southeast Asia*. Yale University Press, New Haven/London
- Steimann B (2011) Making a living in uncertainty. *Agro-pastoral livelihoods and institutional transformations in post-socialist rural Kyrgyzstan*, vol 26, Human geography series. Department of Geography, University of Zurich, Bishkek/Zurich
- Tapper R (2008) Who are the Kuchi? *Nomad self-identities in Afghanistan*. *J R Anthropol Inst* 14:97–116
- Wilkes A, Tan J, Mandula (2010) The myth of community and sustainable grassland management in China. *Front Earth Sci China* 4(1):59–66

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