

Chapter 1

Pastoral Practices in Transition: Animal Husbandry in High Asian Contexts

Hermann Kreutzmann

Abstract Vast tracts of High Asia are utilised for pastoral strategies of survival, and the mountainous areas provide livelihoods to herders and their households. Locally adopted and adapted pastoral practices reflect politico-historical and socio-economic changes that are often the result of external intervention. Pastoral practices in the mountain periphery seem to be a vital indicator of change. Two regions will receive special attention – the Pamirian Knot and the Tibetan Plateau – in 16 case studies grounded in the wider framework of. External and internal boundary-making and quite distinct path-dependent developments are reflected in the typology given here. The focus of the case studies is directed towards the variation of experiences in a wider angle, drawing attention to marginalised groups in the mountainous periphery of High Asia.

Keywords Modernisation • Development • Pastoral adaptation strategies • Hindukush-Karakoram-Himalaya • Pamir • Tibetan Plateau

1.1 Introduction to Pastoral Practices in Central Asia and on the Tibetan Plateau

The position of Central Asian deserts and oases between the densely populated regions of Asia and Europe and their respective centres of gravity has strongly influenced economic exchange, territorial power games and communicative curiosity

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directed towards sparsely inhabited and marginally utilised areas. This region would be underestimated if it were only reduced to a corridor of traverse and a link between seats of major powers. High Asia – as prominently defined and for the first time ever perceived as a complex entity by Robert von Schlagintweit (1865) and Hermann von Schlagintweit-Sakünlinski (1869–1880, 1870) – is on the one hand characterised by its relationship to outside influences and imperial forces that have shaped the boundaries, fate and destiny of principalities, kingdoms, states and regions until today. In various contexts, the connotation of High Asia reappears and contributes to a debate about communication, experiences, practices and shared commonalities that focuses on borderlands, boundaries and territoriality. Most spatial references though are made to the eastern Himalayas and the Tibetan Plateau (cf. Blackburn 2007; van Driem 2001; Klieger 2006; Shneiderman 2010). While Willem van Schendel (2002) attributes a certain centrality to the region, others like James Scott (2009) primarily perceive its peripheral location and status or highlight the potential for escape from state intervention and dominance. On the other hand, the natural wealth, internal power games and competition over resources and people created microcosms within the macro-system that have changed in space and time. Pastoralists have played an important role in shaping relationships, connecting regions, exchanging goods and valuable information.

Throughout long historical periods, Central Asia and the Tibetan Plateau became the focus of knowledge-seeking explorers, elaborate expeditions and expansionist imperial conquests that depended on services provided by oasis dwellers and pastoralists alike. During the *Great Game* and thereafter, the territorial division of High Asia resulted in effective boundary-making that has significantly affected local livelihoods. Borders and fences restrict movements, define territorially applicable legal systems, rules and regulations, and identify spaces of mobility and exchange. Diachronic enquiries into politics and society provide insights for the interpretation of history and economy as they affect pastoral environments and livelihoods. Consequently, ecological properties are creating the arena in which socio-economic struggles for survival and political power games are taking place. All three parameters need to be taken into account when exploring the position of pastoralism in High Asia.

The symbiosis of highly productive and spatially concentrated oases in a wide-ranging environment with extensively utilised rangelands in deserts and steppe regions is modified by the third dimension represented in the verticality of Central Asian high mountains and the Tibetan Plateau (Fig. 1.1). The vertical dimension is often connected with the prevalence of yaks and their hybrids when it comes to pastoral practices. They form a significant part of the livestock kept by pastoralists and have the reputation of enduring harsh environments and high-altitude conditions (Photo 1.1).

In evaluating and assessing the environmental potential, the vast area under consideration requires a fine-tuned approach based on latitudinal and longitudinal position, but in a mountainous environment, regional and micro-scale variations also need to be accounted for. Mountains provide a higher degree of ecological variability in a clear-cut spatial segment than any other eco-zone. In an initial approximation,

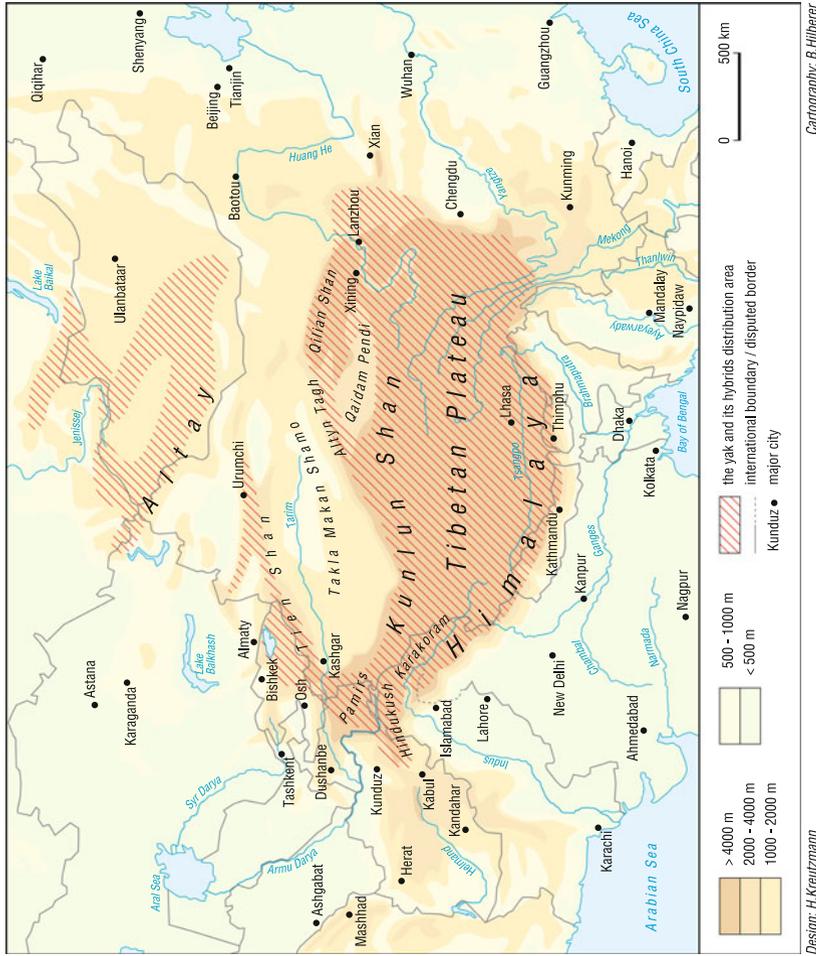


Fig. 1.1 High Asia stretching from the Central Asian mountain ranges to the Tibetan Plateau and from the Altay to the Himalaya. The distribution of the yak and its hybrids constitutes a roughly contiguous area that serves as a common structural indicator for the scope of this book



Photo 1.1 Yaks are put on pasture close to the Sherpa village of in Beding (3,692 m; Rolwaling Valley, Gauri Shankar VDC, Nepal) where ample pasture is available in a shrinking community (Photograph © Hermann Kreutzmann, September 27, 2011)

the availability of fodder resources is linked to thermal conditions and the distribution of water and vegetation, while their accessibility is based on environmental and societal criteria such as property rights and entitlements. In the High Asian context, aridity and altitude (Miehe et al. 2001) as two significant limiting parameters for human activities at the peripheries of settlement space need to be highlighted for the perception of steppe ecologies (Photo 1.2).

1.2 Transformation Processes and Agency of Development: Pastoralism, Modernisation and ‘Endism’ Debates

In conventional views, pastoralism was classified as a stage of civilisation that needed to be abolished and transcended in order to reach a higher level of development. Uma Kothari and Martin Minogue (2002, 13) perceive agency as: ‘... the network of institutions and actors that through their actions and interactions “produce” development. The analysis of agency is crucial because it allows us to capture the complexities of the process by which ideas are mediated into objectives and translated into practice’. By looking at agency and actors, we might gain insights into the scope of transformation and development, understand better localised forms of empowerment and participation (Natarajan 2005) and shall be able to bridge the gap between globalised phenomena, national responses and regional effects. In this context, global approaches to modernising a rural society have been ubiquitous



Photo 1.2 The Tibetan Plateau combines available waters in different aggregate states. Glaciers and lakes dominate the physical landscape where pastures and agricultural settlements are interspersed (Photograph © Hermann Kreutzmann, September 12, 2000)

phenomena independent of ideological and regional contexts (Dyson-Hudson and Dyson-Hudson 1980; Montero et al. 2009; Salzman and Galaty 1990). The twentieth century experienced a variety of concepts to settle nomads and to adapt their lifestyles to modern expectations and perceptions. ‘When nomads settle’ (Salzman 1980), then obviously the ‘future of pastoral peoples’ (Galaty et al. 1981) has to come into focus. Is sedentarisation the result of an inevitable modernisation process or an adaptation to changed frame conditions? Does the settlement in itself form a crisis of pastoralism, or is this just another approach to cope with societal and economic challenges? Permanent settlements have often been the vivid expression of

an ideology-driven approach that aimed ‘... at reducing flexibility in favour of concentration and rootedness. Modernisation theory translated into development practice captured all elements of pastoral life and tried to optimise breeding techniques, pasture utilisation, transport of animals and products, and related processing concepts to increase the value of livestock products’ (Kreutzmann and Schütte 2011, 104). The aspect of higher requirements for inputs tended to be neglected when the modernisation of animal husbandry was at stake.

New insights into other aspects of pastoralism, such as its role as an *adaptive strategy to use marginal resources* in remote locations with difficult access (Ehlers and Kreutzmann 2000), its function as *high reliability pastoralism* (Roe et al. 1998), the distinction of the *sediment of nomadism* (Kaufmann 2009) in its puristic relation to hybrid forms of inessentials, the objective of governance expansion as a tool of *spatial appropriation* (Kreutzmann 2011a, b), the impact of the civilisation project as a *strategy for dominance and exploitation* (Scott 2009) and the potential of *globalising scapes of mobility and insecurity* (Gertel and Breuer 2007), could only be understood as a critique of external interventions by powerful actors and stakeholders as well as capitalist and communist concepts of modernisation. The rejection of input-dominated theories that triggered the enhancement of outputs but neglected ecological considerations regarding sustainability opened up a new field for research combining ecology, economy and society. This perception might gain further importance when mitigation strategies coping with climate change and societal challenges are debated.

Pastoral practices can be perceived as flexible strategies to adapt to changing survival conditions, rather than transitory stages on the path to modern development. A variety of pastoral practices were adopted by people when opportunities arose, when it was economically sound, and when the challenges posed by ecological and socio-political environments could be managed. Consequently, our emphasis on pastoralism studies provides us with an important tool to understand society in general and human-environmental relations in particular.

Nevertheless, an *endism* debate is accompanying such observations and thoughts. The ‘end of nomadism’ was rightly discussed by Caroline Humphrey and David Sneath (1999) when analysing fundamental transformations that had taken place in now post-communist societies of Central Asia. Within the twentieth century, structural and reformist interventions had resulted in two phases of modernisation: (1) collectivisation processes after the respective revolutions in the Russian and Chinese empires and (2) privatisation and deregulation after the dissolution of the Soviet Union and reform movements in the People’s Republic of China and Mongolia. Both interventions have led researchers to question whether the resulting pastoral practices could or should be termed nomadic any longer. From a more structural and classificatory point of view, other authors debated alternative scenarios (Barfield 1993; Karmyševa 1981; Weissleder 1978) and identified substantial changes that made them refrain from using a concept of *nomadism* in a classical manner and promoted the theses of the *last nomads* (Benson and Svanberg 1998), *changing nomads* (Ginat and Khazanov 1998), the *demise of traditional nomadic pastoralism* (Miller 2000), *former nomads* (Gruschke 2008) and/or *nomadism in*

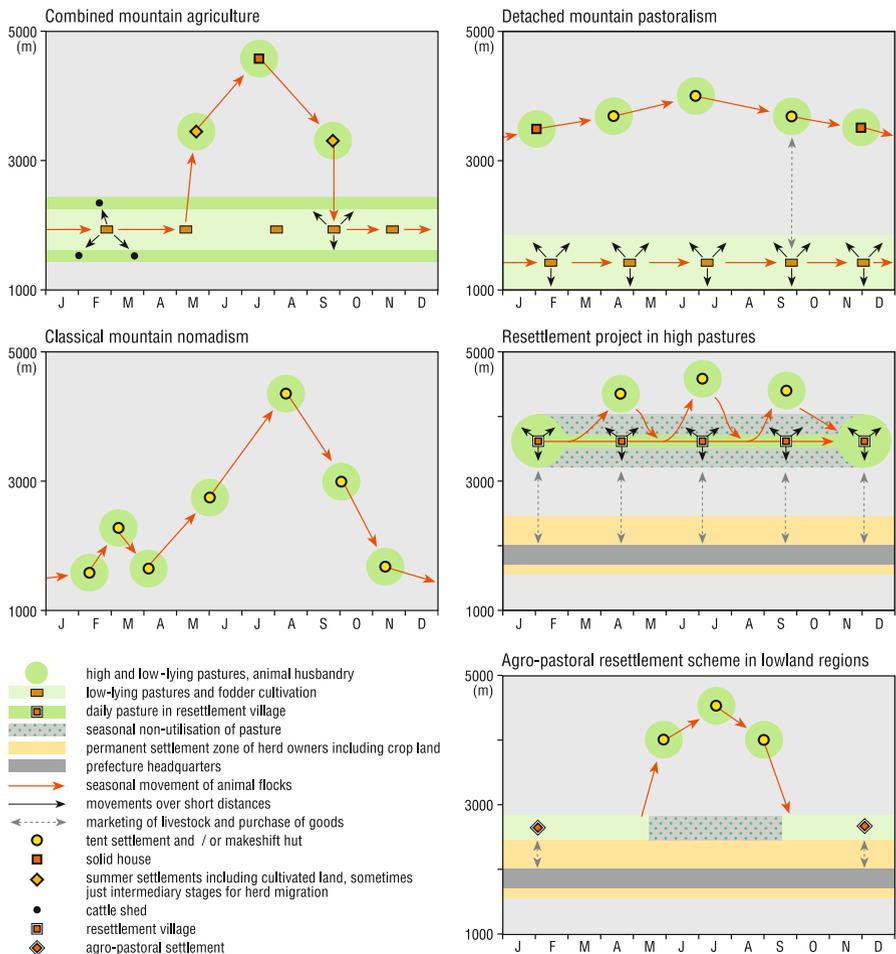
decline (Scholz 2008). Most authors agree on significant changes in pastoral practices that mainly follow the direction shown by the modernisation paradigm (Brower and Johnston 2007; Goldstein and Beall 1991; Kreutzmann et al. 2011a, b; Montero et al. 2009; Sheehy et al. 2006). Nevertheless, there are a few exceptions worth mentioning. Pastoral practices in less regulated societies such as Afghanistan seem to be even further away from any *endism* debate (Barfield 2008; Glatzer 1981). India and Pakistan experience little reflection about such classification and structural aspects. Recent fieldwork has produced evidence that pastoral practices are used in a flexible manner, mainly when an investment is expected to be a profitable one, and when institutional obstacles in the socio-political environment can be tackled (Alden Wiley 2004, 2009; Inam-ur-Rahim and Amin Beg 2011; Dangwal 2009; Davies and Hatfield 2007; Ehlers and Kreutzmann 2000; Ferdinand 2006; Finke 2005; Kreutzmann 2004; Kreutzmann and Schütte 2011; Li and Huntsinger 2011; Manderscheid 2001; Nüsser and Gerwin 2008; Rao and Casimir 2003; Tapper 2008). The cases from South Asia have shown a significant dynamism over time. No single trend has been identified as pastoral practitioners probably base their decision-making on a different set of parameters than, for example, advocates of a one-directional modernisation process. Development as a phenomenon is repeatedly challenged, obviously path-dependent and contradicted by the adaptive potential of actors and flexibility of certain stakeholders. One of the major challenges for the authors contributing to this volume was to elaborate on the varied expressions of pastoral practices, frame conditions and performances in the study area.

1.3 Structure and Practice in Diagrams

In a diagrammatic approach, structural aspects of pastoral practices are introduced as a reference point for positioning the individual case studies and the related transformation processes (cf. for an earlier version Kreutzmann 2011, 205–211). ‘Classical’ practices in combined mountain agriculture and nomadism have generated ‘modern’ expressions that reflect on the one hand strategies adopted by pastoralists and on the other hand pinpoint strong external interventions in the livestock sector and the utilisation of high pastures (Fig. 1.2).

1. Combined mountain agriculture represents the pastoral practice operating from a settlement that is the base for agricultural activities and in most cases the residential centre of its practitioners for most of the year. It has the advantage of simultaneous fodder production in the permanent homesteads for herds which are grazed in the high-lying (and rarely low-lying) pastures during the summers (Photo 1.3).

In his recent book on the ‘third dimension’, Jon Mathieu (2011, 101–114) has shown how the transformation processes in mountain mobility systems are linked to the combination of crop-farming and pastoralism. The limiting factor here is that feed has to be provided for up to 9 months, and it has to be produced on



Design: H.Kreutzmann

Cartography: B.Hilberer

Fig. 1.2 Pastoral strategies in High Asian mountain regions

private or common property village lands (Photo 1.4). In recent years, the importance of the settled operational base has grown in most communities, while animal husbandry’s contribution is shrinking. In the context of our study area in general terms, the mountain regions of India, Pakistan and Tajikistan are cases in point, whereas the same cannot be stated for Afghanistan.

In the context of this book, the term ‘transhumance’ is generally avoided because of its eurocentric connotations. Nevertheless, described about a century ago as a regional pastoral practice in Southern France, the term transhumance has been applied to pastoral practices in the circum-Mediterranean. It describes pastoral practices with an emphasis on proprietary rights in flocks and the

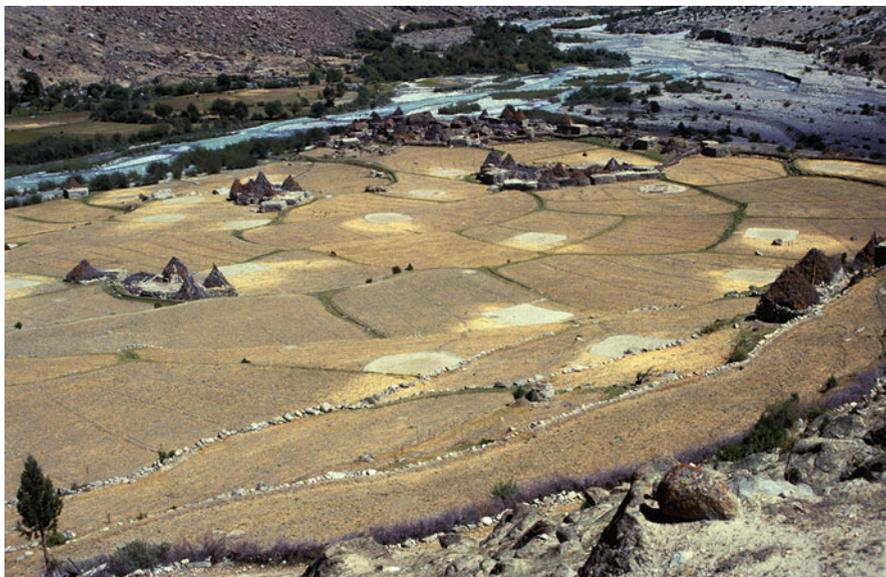


Photo 1.3 The summer settlement of combined mountain farmers from the Ishkoman Valley in Hindis (2,750 m) en route to Panji Pass (4,450 m). Their makeshift huts consist of piled-up stone walls on which juniper branches are erected to form a conus-shaped dome to protect the shepherds and their household members from wind and rains. In between the shelters, there are single-cropping fields that are only cultivated during the pasture season while other household members dwell on the double-cropping village lands in the winter settlement (Photograph © Hermann Kreutzmann, September 3, 1990)

relationship between crop production and a detached form of pastoralism (Beuermann 1967; Blache 1934; Ehlers and Kreutzmann 2000; Johnson 1969; Jones 2005; Mathieu 2011, 103–106; Rinschede 1979). Transhumance involves seasonal migrations of herds (sheep and goats, cattle) between summer pastures in the mountains and winter pastures in the lowlands. In contrast to prevalent perceptions of mountain nomadism, the shepherds of a migrating team are not necessarily that strongly affiliated with each other to form a group of relatives managing their own resources. The shepherds serve as wage labourers hired by the livestock proprietors on a permanent basis. As a rule, the shepherds are neither related to them, nor do they have livestock of their own. The proprietors of the flocks can be farmers or non-agrarian entrepreneurs. Management-wise the year-round migration between suitable grazing grounds is independent from other economic activities of the proprietors. Nevertheless, sometimes proprietor farmers provide shelter and grazing on their fields after harvest or on meadows. Usually common property pastures are utilised in the mountains while customary rights or contracts with residents in the lowlands establish the winter grazing conditions. Pastoral practices resembling a transhumance of this kind seem to be found in mountainous regions of all continents (cf. Rinschede 1988, 99–100).



Photo 1.4 Wakhi farmers of Sarhad-e Wakhan (3,600 m) have brought their yaks from the summer pastures for ploughing and threshing practising combined mountain agriculture (Photograph © Hermann Kreutzmann, October 14, 1999)

For contributions to the scholarly discussion of transhumance in the High Asian context (cf. Alirol 1979; Bahsin 1996; Banjade and Paudel 2008; Chakravarty-Kaul 1998; Ehlers and Kreutzmann 2000; Jettmar 1960; Kreutzmann 2004; Nautiyal et al. 2003; Tucker 1986; Snoy 1993; Uhlig 1976, 1995). Transhumance gained global application by some authors (e.g. Guillet 1983; Messerschmidt 1976; Stevens 1993) in Anglo-American publications. Stevens (1993, especially chapter two) uses it in a wider and ambiguous sense synonymous for pastoralism as a comprehensive concept and all kinds of pastoral activities.

2. At least traditionally, nomadic groups were able to exploit natural resources at dispersed locations. Great distances in the order of several hundreds of kilometres separated economically valuable mountain pastures in summers from winter camp sites of less economic interest lying in between. Sometimes spring and/or autumn pastures were frequented when suitable forage was provided. Projected on the studied region, a 'classical mountain nomadism' with functional migration cycles could be established in a historical context. Nevertheless, socio-political pressure was one of the major driving forces to amend and change mobility patterns. State evasion and escape from domination were coping strategies in an ever shrinking arena of pastoral activities. James Scott (2009) has presented his interpretation of mountain mobilities and escape strategies for the Southeast Asian highlands, while M. Nazif Shahrani (1979) contributed the focal text for nomadism as an 'adaptation to closed frontiers' (Photo 1.5). The debate



Photo 1.5 Kirghiz pastoralists from Little Pamir ride their yaks to a food distribution point near Ghundjibai (3,900 m), their pastures are located in the side valleys of the main plateau (Photograph © Hermann Kreutzmann, June 11, 2000)

on nomadism that is going over and above structural aspects of habitations and social organisation is strongly inspired by analysing power relations, state interference and ‘modernisation’ in the disguise of ‘development’ (Bauer 2006; Ferdinand 2006; Kreutzmann et al. 2011a, b; Salzman 2004; Scholz 2002; Tapper 2008). In the context of this book, case studies will be mainly presented from areas where transformation is analysed as transition from a system that was denominated as ‘nomadic’ earlier on.

3. Detached mountain pastoralism is a more recent strategy reflecting societal transformations, collectivisation and forced sedentarisation and settlement in high-lying grazing grounds. It is, as well, an adaptation to new borders, the borders of administration under collective regimes. Pastoral brigades and herding collectives were made part of entities such as people’s communes (*gongshe*), collective economies (*kolchoz*) and state farms (*sovchoz*) that were confined in their pastoral regimes to an assigned territory consisting mainly of former summer pastures in the periphery of their respective states. This entailed a significant adaptation process in conjunction with completely new exchange and supply patterns (Kreutzmann 2009; Qonunov 2011; Robinson and Whitton 2010; Robinson et al. 2010). Basically, the long-distance migrations ceased to exist and were replaced by short-distance migrations at a rather high altitude of permanent abodes, usually above 3,000 m. The former winter grazing grounds have become rural settlements with crop cultivation and their own livestock regime. Both areas are connected by annual exchanges of goods. Livestock products are exported from the high pastures and exchanged for all kinds of necessities needed for life in the Pamirs. Prominent examples for these enforced adaptations are to be found

in Gorno-Badakhshan (Tajikistan), Xinjiang (PR of China) as well as in other high mountain pastoral areas that were part of the collectivisation processes within the Soviet Union and PR of China.

In recent years, two new forms of organising pastoralists have been tested and implemented that can be regarded as a further step in ‘developing’ and ‘modernising’ peripheral communities and finding their visual expression in fencing pasture areas. Under the heading of ‘resettlement’, two approaches are followed:

4. Resettlement in high pastures. In furthering the modernisation attempts of previous interventions in pastoral communities, schemes have been designed that bring features of urbanisation to pastures and their inhabitants. A concentration of pastoralists’ habitations in newly built townships envisages economies of scale in terms of infrastructure provision, health and educational institutions, agricultural extension services, marketing of livestock products and supply of basic goods. Township development in remote locations and enormous investment in infrastructure development are based on external subsidies that affect the livestock sector by creating fenced spaces at a hitherto unknown scale. A strong relationship between the pastoral counties and their newly built townships, on the one hand, and the cities functioning as prefecture seats, on the other, is the basis for a modern network of communication and exchange. This model has been tested in the PR of China over some years now and has been implemented on broad scale in the pastoral provinces and regions of Inner Mongolia, Qinghai, Tibet and Xinjiang as well as in adjacent prefectures and counties of other provinces (Goldstein and Beall 2002; Ho 2000; Ptackova 2011; Sheehy et al. 2006; Tao Lu et al. 2009; Zhizhong and Wen 2008; Yeh 2005; Zhao 2011). The idea is well in tune with conventional regional planning inspired by modernisation theories, thus creating a web of settlements that is integrated into a system of central places at higher levels. As a welcome side effect, pastoralists are not only concentrated in townships but also reduced in number. The planning departments welcome this shift and even support an exodus across borders (Cerny 2010) by emphasising the ecological challenges and the urgent need to reduce grazing pressure and ecological degradation.
5. Agro-pastoral resettlement schemes in lowland locations. Within the framework of prevalent resettlement strategies, a second option is going a step further. In contrast to establishing resettlement townships within the mountains, this second form of ‘modern adaptation and transformation’ directs the pastoralists to leave the mountains. It is inspired by the notion that development does not take place in remote mountain areas. Consequently, mountain dwellers are resettled in lowland regions close to urban areas where infrastructure is available and easily accessed, where high-quality fodder production is possible and markets are close. The price is the abandonment of winter settlements and the relocation of pastoralists far from their summer pastures close to the consumer markets. The greater distances can be covered only if additional support is provided for herd migration or rather herd transport on trucks to their respective summer pastures. Agro-pastoral resettlement is envisaged for those mountain areas that are located at the fringes of the Tibetan Plateau or that are close to low-lying areas where distances

are manageable. Experience with these strategies was gathered in Xinjiang where highly productive oases are close to the mountain abodes (An et al. 2011). Such approaches need substantial investments and will contribute to a significant reduction of mountain pastoralists and their settlements. Finally, the pastoralists who were confined to mountain abodes during the collectivisation periods are experiencing a kind of reverse reform, the resettlement in the lowland oases where their ancestors grazed their herds during winters.

All approaches can result in competition for natural resources at the same location and have frequently been discussed from that perspective. The ecological aspect has gained momentum as planning institutions have adopted nature protection as an additional measure for implementing their modernisation packages. The debate needs to be expanded to include conflicting economic strategies and perceptions of development. Sometimes the political dimension of power and influence, grazing taxes and the levying of them, threat and security has been neglected in historical contexts. In recent times, the debate needs to be shifted to the challenges between external planners and local user groups, between perceptions of modernity and preferences of lifestyles, between subsidised interventions and stakeholder participation. Pastoral practices in the mountain periphery seem to be a vital indicator for societal change. In the framework of this volume, two regions will receive special attention: the Pamirian Knot and the Tibetan Plateau. Both regions are located at the interface of political entities with different socio-political backgrounds and quite distinct path-dependent developments that are reflected in the typology given above. Our focus is directed towards the variation of experiences in a wider angle, thus incorporating developments at the fringes of the focal areas as well.

1.4 Variegated Pastoral Practices in the Pamirian Knot

Pastoralism has played a major role in Central Asia since times immemorial. Nomads functioned as transporters and communicators between oasis settlements, as powerful actors controlling passages and providing security to trade caravans. The Silk Road exchange over vast tracts of deserts, steppes and mountain environments became feasible because of pastoralists covering huge distances with transport animals and valuable loads (Christian 2000; Cosmo 1999; Khazanov 1984, 2005; Seaman 1989). Mountain passes functioned as thoroughfares for the Inner Asian traverses, but especially for the connection between the Tibetan Plateau and South Asian rim lands across the Himalayas as well as between the Central Asian oases along the Silk Road and the transmountain areas beyond the Hindukush, Karakoram, Kun Lun Shan and Pamir. Vital passages were controlled by herding communities who, in addition to animal husbandry and livestock breeding, engaged in transport services across difficult passages and functioned as guides and guards for trade caravans. These activities hint at three important aspects of pastoralism in Central

Asian mountain regions. First, pastoralism needs to be interpreted as embedded in the overall economic exchange of goods between farmers and bazaar traders on the one hand and pastoral meat and milk producers on the other. Second, an understanding of pastoralism alone would produce an isolated picture of livelihood generation, while other important components would be omitted. Third, the socio-political framework needs to be taken into consideration as pastoral strategies incorporate answers to challenges by powerful actors and stakeholders. State interference has often resulted in state evasion; consequently, pastoralists have tried to avoid payment of heavy grazing taxes, to escape from forced conscription and bureaucratic domination and to elude slavery, forced labour and religious persecution or proselytism. Pastoral strategies of resource utilisation in remote locations are an example of survival strategies in the periphery. Attempts at modernisation in the aftermath of the Russian and Chinese revolutions incorporated settlement programmes, the introduction of hitherto unknown forms of social organisation as well as transformations of production strategies and consumption patterns.

The complexity of socio-cultural problems and the manifestation of transformation processes in societies with economies based on pastoralism vary from region to region. The cases presented here emphasise the rearrangements in the livestock sector initiated by external intervention. Our concern with pastoral practices in Central Asian mountain regions requires adopting different perspectives in order to understand the environmental setting for mountain pastoralism (Marcus Nüsser, Arnd Holdschlag and Fazlur Rahman), to investigate the diachronic dimension of change in pastoral settings, to assess power and politics as factors for multi-fold insecurities (Stefan Schütte), to identify survival options for marginalised communities (Ted Callahan) and to evaluate attempts at forced modernisation and adherence to sustainable development.

The developments in post-socialist societies as a result of two major transformations need to be investigated in terms of 'new livestock breeders' (Tobias Kraudzun), changing institutional and legal arrangements (Andrei Dörre) and contested spaces (Bernd Steimann). Here a broad spectrum of challenging topics is expanded that surpasses conventional dealings with aspects of pastoral practices and that is strongly linked to processes of modernisation in a broad sense. Worshippers of modernisation made it a vital argument to perceive progress as a transition from mobile economies to settled farming and entrepreneurship. The co-existence of both in Central Asian mountain regions reflects the complementarities and interdependence involved: nomadism/pastoralism is not feasible without exchange relations with farmers and markets. Nevertheless, the altitudinal limits of habitations and the utilisation of marginal lands have significantly shifted towards high-lying and arid areas. The extensive utilisation of marginal resources has been superseded by intensification and increasing external inputs. Thus, it is not surprising that mountain farmers and pastoralists have been a prime target for 'development', which aims to reduce subsistence levels by integrating people from the periphery into the mainstream of nation states. Thus, 'traditional' lifestyles and locally developed economic strategies are endangered and transformed.

1.5 Recent Transformations on the Tibetan Plateau

The High Asian vast mountain tracts constitute an area that is characterised by the High Himalayas in the south, with their deeply incised river valleys and gorges. The Himalayas of Pakistan, India, Nepal and Bhutan and additional contested and uncontested mountain areas in the east form the periphery of the Tibetan Plateau with verticality as its dominant feature (cf. Fig. 1.1). Further northwards, the Changtang covers an extensive area and is dominated by horizontal mobility at high altitudinal levels.

The Tibetan Plateau is a huge ecological area perfectly predisposed for mountain pastoralism. Debates about pastoral practices, common property regimes and rangeland management have gained pace in recent years since the environmental challenges and economic returns have been discussed in the framework of climate and global change (Harris 2010). Initially, the remote lifestyles of Tibetan nomads in peripheral regions were highlighted on account of sustenance from their own produce and subsistence economies. Even then mountain pastoralists were embedded in a network of mutual exchange relations that enabled them to survive in remote mountain plateaux and valleys. Their command of yak breeding, their abilities to adapt to harsh environmental conditions and to cover huge distances between extensive natural pastures and market centres brought admiration from outside observers. Their 'traditional lifestyle' seemed to be the perfect adaptation to environmental conditions. Conventional thinking attributed more importance to ecological factors than to politics, economy and society. Thus, the focus was directed to local production and less to animal husbandry as one component of a mountain-based household production system. The twentieth century proved to be one of socio-economic change in all regions and for all communities. The Tibetan Plateau is no exception to this. Collectivisation in the aftermath of the Chinese Revolution introduced forms of social organisation that have been modified several times since. The shift from peoples' communes to the production responsibility system, from strict state governance and command economy to lenient forms of private ownership and entrepreneurship and from pasture laws to regulating rangeland management has introduced new concepts, policies and management tools that are significantly changing the institutional structure and organisational setup (Banks et al. 2003; Foggin 2008; Miller 2008; Yamaguchi 2011). The challenges are environmental degradation processes triggered by social and climate change, contested commons and their boundaries, external development and modernisation strategies versus local and regional perceptions and participation demands in decision-making processes. Present-day practices are the result of adaptive mechanisms as a response to all kinds of challenges and external reforms, infrastructure development and provision of subsidies. Mountain pastoral economies and societies of our time are strongly linked with neighbouring markets and interrelated socio-economic structures. This especially holds true for pastoralists of the Tibetan Plateau who are significantly embedded in government programmes and poverty alleviation strategies and who respond to rangeland management packages and pasture laws by adapting to change.

Their sources of income are highly diversified, drawing on animal husbandry and agriculture, and are augmented by government salaries, proceeds from wage labour and incomes from trade and entrepreneurship. Today's mountain pastoralism is, on the one hand, a livestock-based activity and related to different localities connected through mobility. On the other hand, significant incomes are derived from other local and non-local sources, often surpassing the amount generated from pastoralism. In future, part of pastoralists' income may be derived from payment for ecological services that are provided by pastoralists as landscape managers for the maintenance of fragile environments and rewarding sustainable stocking practices. Pastoral practices reflect adaptive strategies that respond to the ecological, socio-economic and political environment over time, thus giving insights into path-dependent developments in remote mountain areas.

China controls a major share of these pastures and rangelands. Three-quarters of its rangelands are located in the semi-arid, sparsely settled areas of the north and west of the PR of China. Out of China's 400 million hectares of rangeland, 140 million hectares are to be found in mountainous regions of the Tibetan Plateau; in addition, there are 57 million hectares of natural pasture in Xinjiang. Both areas comprise about one-fifth of China's land area. Close to 40 million people live in 260 predominantly pastoral counties (Miller 2002, 22; Tashi et al. 2010, 54–55). The livelihoods of their less affluent citizens are strongly related to the natural resources of the rangelands.

About five million pastoralists and combined mountain farmers make a living on the Tibetan Plateau by keeping 12 million yaks – three-quarters of all yaks worldwide – and 30 million sheep and goats. In an ecological definition, the Tibetan steppe covers 165 million hectares equalling more than two-fifths of China's grazing areas (Sheehy et al. 2006, 143). China has assessed the potential of its mountain pastoralism in great detail and initiated a number of programmes that are now being implemented (Photo 1.6).

Giving an example of the aim, objectives and sophistication of governmental planning and implementation, a series of quotes from a recent presentation at the Lhasa workshop on pastoralism by Zhang Younian, Deputy Secretary-General, Tibet Autonomous Region People's Government, are presented in the following:

1. *On progress in rangeland restoration and resettlement*

We have made solid progress on rangeland restoration, pastoralist resettlement and other major development projects. Since 2004, 3273 *mu* of rangelands have been restored, with the project area's vegetation coverage increased to more than 55% and fodder yield up by 25–30%. The grass production capacity of these rangelands has been effectively restored. We have adhered to the development and restructuring of pastoralism, especially pastoralism in farming areas, creating an increasingly integrated pastoral and agricultural development model. Livestock raising is now seeing a strong momentum in the rural and suburban areas. The process of rangeland livestock breeding shows new changes. Meat output in 2009 in TAR reached 25 million tons, an increase of 63% over 2000. Milk output amounted 30 million tons, up 45% compared to 2000 (Zhang Younian 2011, 267).

2. *On housing projects within the resettlement programme*

Since 2006, the TAR party committee and government have made the housing projects in the pastoral area a starting point of building the new countryside. We have spared no efforts



Photo 1.6 Pastoral settlement on the Tibetan Plateau (Photograph © Hermann Kreutzmann, October 18, 2010)

to promote the pastoralist resettlement programme, which also involves poverty alleviation and reconstruction of rural housing, greatly improving the living and housing conditions for farmers and pastoralists. By the end of 2009, a total 230,000 households of 1.2 million farmers and herdsmen have moved into their new and more comfortable houses. At the same time, we have strengthened construction of supporting facilities in these housing projects, putting in place an integrated network of water, electricity, roads, telecommunications, gas, etc. The rural landscape is moving from local improvement to overall advancement. The past 10 years have witnessed 85% of the masses getting safe drinking water, 114,000 households using biogas and 395,000 farmers and herdsmen families being provided with solar cookers by the government. All towns and 80% of villages have become accessible by road. 70% of the population in agricultural and pastoral areas has access to electricity. 85% of villages are connected by phone lines and 80% of towns by post. We have basically realized the development goals of ‘cable to the county and telephone/fax to the town’ (Zhang Younian 2011, 269).

3. *On the scope of investment*

Since 2001, the central government has made a total investment of more than ten billion yuan in Tibetan agriculture and pastoralism. It has implemented some hefty development projects such as the pastoralist resettlement programme, the rangeland restoration programme, the high-quality grain and oil production base, and the niche agricultural and pastoral industries. Especially since the beginning of the ‘Eleventh-Five-Year-plan’ period, the relevant ministries of the State Council has increased their support for infrastructure building in agriculture and pastoralism, giving a strong impetus to the rapid development of agricultural and pastoral economies (Zhang Younian 2011, 270–271).

4. *On the goals to narrow the socio-economic gap*

... when the Fifth Working Conference on Tibet was held, the central authorities set out some ambitious goals for Tibet. By 2015, the gap between the per capita net income of Tibetan farmers and herdsmen and the national average is to be significantly reduced, with basic public services much improved, the ecological environment better conserved and the living and working conditions of farmers and herdsmen enhanced (Zhang Younian 2011, 273–274).

5. *On poverty alleviation*

We shall concentrate on poverty reduction for people whose per-capita annual net income is less than 1,700 yuan. We shall proceed by lifting a whole town out of poverty and promote the anti-poverty work in the border areas, minority areas with small populations and areas with harsh natural conditions. We shall spare efforts to improve the production and living conditions for low-income population, and accelerate their pace to get rich. Specifically, we shall focus on eight tasks. We shall complete the housing projects for 22,000 poor farmers and herdsmen. We shall promote poverty alleviation for 200 rural villages and towns. We shall focus on supporting the 206 border villages, minority villages with small populations (Zhang Younian 2011, 278–279).

6. *On overgrazing and degradation*

To deal with overgrazing and the degradation, desertification and salinization of rangelands, we shall strengthen law enforcement and supervision. To maintain the balance between livestock and rangelands, we shall increase livestock slaughtering, provide more incentives for rangeland ecological protection, and strengthen rangeland restoration and other major conservation projects. We shall enhance rangeland resource monitoring and establish an early warning system of ecological environment (Zhang Younian 2011, 279).

The quoted statements by a leading decision-maker show the importance attached to comprehensive change in the pastoral communities and the significant investments undertaken. The pastoral resettlement programme as a central strategy to change life on the Tibetan Plateau will be addressed in several case studies in this volume. The stages of ‘development’ will be reflected in practices related to hunting and wildlife utilisation by pastoralists (Toni Huber), in the overall effects of the resettlement programme (Jarmila Ptackova) and its related activities in enclosures and fencing (Wu Ning, Yan Zhaoli and Lu Tao), and its changes in housing (Emilia Roza Sulek). Change and continuity (Melwyn Goldstein) over time and their linkages to political legacies and political interference (Andreas Gruschke) will highlight the dimensions and scope of transformation in order to assess the importance and effect of what is going on today in the pastoral sector in the PR of China.

1.6 Recent Transformations in Himalayan Mountain Pastoralism

A similar attention reflected in the impact on and scope of interventions in the pastoral sector cannot be ascertained for adjacent areas of the Hindukush-Karakoram-Himalaya. High Asian pastoralism in the neighbouring countries of the South is



Photo 1.7 Cattle herders in Rolpa District of Nepal. Here cows are kept for milk production only, while Tamang people refrain from slaughtering cattle for human consumption (Photograph © Hermann Kreutzmann, September 3, 2010)

limited in the context of this book to a contiguous area in the Himalayan belt. It is difficult to retrieve reliable statistical data or even trustworthy estimates. In an overview publication, the livestock population in the Indian Himalaya was estimated at 50 million domestic animals, whereby a large number of livestock is kept in systems of combined mountain agriculture (cf. Fig. 1.2), while the upper levels of grazing are occupied by mobile pastoral communities (Tulachan 2001, 30). Other publications hint on the fact that nobody knows the size of animal husbandry in the Indian Himalayas, for Himachal Pradesh a total livestock of app. five million heads was returned in the 1992 Livestock Census (Sharma et al. 2003, 39). Despite the size of animal husbandry in mountainous regions in India, an explicit pastoral policy seems to be absent: ‘There are no official pastoral development policies; in fact both the Ministry of Agriculture and the Ministry of Environment and Forest are remarkable for their stance against pastoralists’ (Sharma et al. 2003, iii). Similar forms are to be found in Nepal where nearly half of the animal feed is provided by crop residues. The livestock figures for Nepal (Photo 1.7) were estimated at about 15 million (Tulachan 2001, 36). The latest figures on Bhutan’s livestock range at about 400,000 for cattle, yak and horses, while goats and sheep play a minor role; yak numbers have been rising since the 1990s, while others show a decrease (Roder et al. 2001; Joshi and Gurung 2009, 4–5). Less than 1,400 yak herding households with less than 50,000 yaks contribute about 3% to the livestock products generated in Bhutan (Derville and Bonnemaire 2010, 2). For the households mainly depending on animal husbandry, the share of subsistence production is quite significant.



Photo 1.8 Wakhi woman in Mulung Kir (3,600 m), Gojal (Gilgit-Baltistan, Pakistan) drying on the elevated platform (*ulina*) dehydrated whey (*qurut*) for storage and transport to her village Morkhun (Photograph © Hermann Kreutzmann, July 8, 1990)

For Pakistan, statistical evidence has been even more intangible. Most studies that address pastoralism in Pakistan state that there is a significant pressure on grazing lands as well as an increase in livestock numbers and pastoral households, but fail to even estimate the importance and size of pastoral practices in the mountainous regions (cf. Azhar-Hewitt 1999; Dost 2003; Gura 2006; Omer et al. 2006; Rahman et al. 2008). Statistical evidence provided by the Pakistan Agricultural Research Council (PARC) identifies 5.85 million hectares as high mountain pastures and grazing lands in the northern mountain ranges. On the basis of a recent estimate, Inam-ur-Rahim and Amin Beg (2011) state that about 37% of the gross farm income in Northern Pakistan is derived from livestock production. In every respect, these data can only hint at a dimension of pastoral activities that is difficult for planners and development actors to grasp (Photos 1.8 and 1.9).

The Himalayan mountain regions form the narrow, elongated belt where mountain pastoralism plays a significant role and where millions of pastoralists are engaged in utilising the natural pasture resources. In their respective regions, Bakrewals, Gaddi (Photo 1.10), Gujur and Bhotia – to name just a few – are well known for their adaptive strategies in combining different ecological belts in seasonally varying mobility patterns (Agrawal and Saberwal 2004; Axelby 2007; Chakravarty-Kaul 1998; Dangwal 2009; Gura 2006; Rao and Casimir 2003; Saberwal 1999; Sharma et al. 2003; Shashi 1979). Besides the adaptive potential of pastoral strategies, the growing exclusion of valuable pastures through administrative acts of nature protection contributes to shrinking spaces: ‘Today Himalayan pastoralism is perceived by decision-makers and politicians as an environmental threat to the Himalayas and the local pastoral groups are incessantly blamed for overgrazing and livestock increase’ (Sharma et al. 2003, 29).



Photo 1.9 Wakhi shepherd women in their pasture hut in Boiber (3,400 m), Gojal (Gilgit-Baltistan, Pakistan) preparing their evening meal (Photograph © Hermann Kreutzmann, July 6, 1990)



Photo 1.10 Gaddi shepherds returning from their summer pastures near lake Chandra Tal (4,270 m) drive their sheep and goats down the Chandrabagha valley, India (Photograph © Hermann Kreutzmann, August 20, 2009)

Consequently, the topical evidence presented in this volume will range around different aspects of pastoral practices. A historical perspective is provided on the Western Himalayas where pre-colonial practices and their transformations are traced (Chetan Singh). The role of the Gaddis of Chamba as part of an exchange

economy for mutual benefit, participation in long-distance exchange of the trading pastoralists of Kinnaur as well as the conflicts between grazing and forest management in Kulu contribute to an understanding of social hierarchies and their internal and external relationships. A perspective on the interrelationship between state policies and local expressions of pastoral practices is provided from the Kumaon Himalayas (Christoph Bergmann, Martin Gerwin, Marcus Nüsser and William Sax). Finally, a more comparative view on herders' adaptive capacities and strategies is contributed (Muhammad Ismail and Yi Shaoliang), stressing the importance of human-environmental relations in the light of the global debate on climate change and its impact on pastoral systems. The Chinese borderlands with Pakistan and Nepal provide the arena in which the case studies are located.

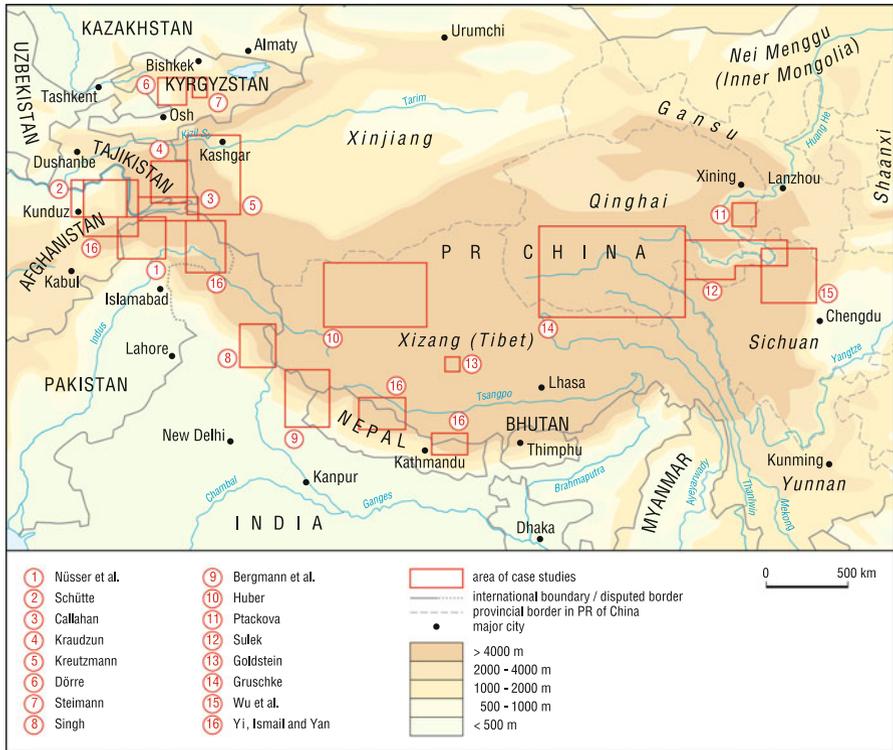
1.7 Grounded Practices: Case Studies from High Asia

In our collection of case studies, societal and political changes play a major role for pastoralists and their adaptive capacities. The case studies are based on fieldwork by all authors and address quite a diverse spatial spectrum from the Pamirs, Tien Shan, Hindukush and Karakorum to the Himalayan arc that forms the southern boundary of the Tibetan Plateau.

High Asia constitutes an elevated and unique arena for shedding some light on the spectrum of mountain pastoralism and rangeland management (Fig. 1.3). In a similar ecological environment of mainly desert-steppe conditions – the only exceptions being some more humid areas under monsoonal conditions – the cases of different communities and localities are presented in order to illustrate various paths of socio-economic and politico-historical developments that are the result of inner-communal dynamics and external interventions. Societal and political transformations during the twentieth century significantly modified the economic frame conditions, possibilities of political participation in decision-making processes and cross-border exchange relations. Former commonalities among the studied communities have been transformed by inner-societal processes and by external linkages in response to decoupled exchange options.

The common ground of all case studies is the similarity in ecological challenges and risks exemplified in harsh climatic conditions, seasonal variability and probabilities in precipitation, thermal conditions and hazardous events that affect fodder availability in well-established pastures of varying quality and quantity. The important economic, political and socio-cultural aspects are embedded in these environmental arenas and are a reflection of local competition, power structures and external interferences.

The case studies that have been invited for this book cover a range of topics and localities. A number of case studies address Central Asian challenges that are strongly linked with post-socialist transformations in the livestock sector of Kyrgyzstan (Andrei Dörre, Bernd Steimann) and Tajikistan (Tobias Kraudzun). Across the Amu Darya in Afghanistan, the living conditions significantly change.



Design: H. Kreutzmann

Cartography: B. Hilberer

Fig. 1.3 The location of presented case studies in High Asia

Patterns of insecurity caused by one generation-long political turmoil and war are the guiding principles for pastoralists in the remote valleys of the Afghan Pamirs (Ted Callahan) or on the Shewa pastures of Badakhshan (Stefan Schütte). In neighbouring Pakistan, different patterns of pastoralism are observed (Marcus Nüsser, Arnd Holdschlag and Fazlur-Rahman; M. Ismail and Yi Shaoliang); its overall importance has weakened in recent decades, although certain communities continue to depend on its proceeds. In India, a comparatively long history of competition between forest managers and pastoralists (Chetan Singh) can be documented as well as the impact of pastoral services for cross-boundary exchange (Christoph Bergmann et al.). Here administrative interventions and geopolitically important conflicts causing border closures and military interference contributed to a modified arena for pastoralists. Seven case studies are devoted to the PR of China between the Western Kun Lun Shan (Hermann Kreutzmann) and the Tibetan Plateau. In all case studies, external historical developments are prominent features of change. They affected all walks of life including the hunting sector (Toni Huber), which did not escape a number of reforms such as the organisation of animal husbandry in the Changtang (Melwyn Goldstein) or Qinghai. The recent implementation and propagation of resettlement schemes are

creating numerous challenges to participants regarding their pasture rights (Jarmila Ptackova) or housing arrangements (Emilia Sułek). Fencing of pastures and resettlement of people from scattered pasture camps into focal townships affect all aspects of pastoral livelihoods (Wu Ning et al.) and their external relations (Andreas Gruschke) with a wider world. The case studies can be read as a reflection about driving forces of change. Irrespective of the conceptual embeddedness of modernising pastoral livelihoods, the adaptive potential of pastoralists is called for, as it has been most of the time to varying degrees in a world of multiple insecurities.

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