

# Chapter 6

## Kirghiz in Little Kara Köl: The Forces of Modernisation in Southern Xinjiang

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**Abstract** The Chinese modernisation programme has affected even the remotest high mountain pastures of Xinjiang. The dynamics of such processes are exemplified in a case study from the Chinese Pamirs and are analysed in regard to their importance for adaptation and development. Based on a diachronic examination of transformation processes related to Kirghiz nomads, special emphasis is put on four stages of transformation that might lead from mobile pastoralism to a township settlement. Developments affecting the Kirghiz nomads of Little Kara Köl may be classified as transformations in space and time, resulting in the integration of this marginal region into the permanently settled areas of Xinjiang. Externalities in the field of social structure and political administration have supported this integration and growing dependence on the commercial and service centres of the foreland oases.

**Keywords** Modernisation • Resettlement • Kirghiz • Pamir • Kizil Su • Xinjiang

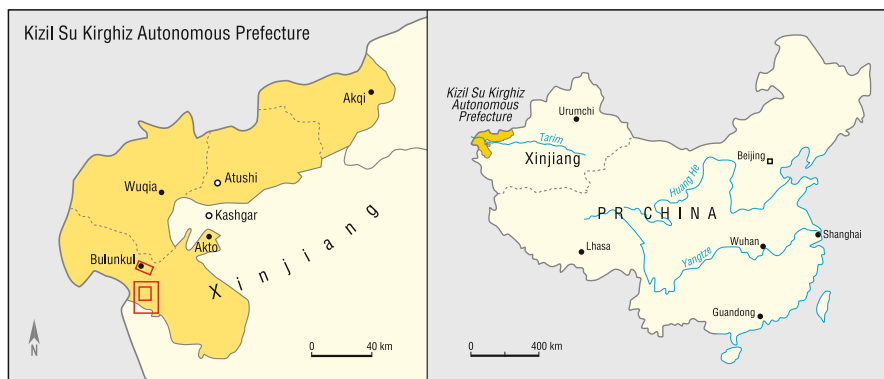
### 6.1 Introduction

How does the modernisation process affect pasture areas in peripheral mountain regions? Conventional thinking binds modernisation to the urban centres of economic activity, whilst the periphery is affected last or never. Two explanatory models prevail in the discussion of socio-economic change. From a viewpoint of

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**Fig. 6.1** Kizil Su Autonomous Prefecture within the Xinjiang Uyghur Autonomous Region, People's Republic of China

modernisation theory, classifications apply that highlight the backwardness of peripheral societies, their outdated economic strategies and their adherence to traditional behavioural patterns. By contrast, the paradigm of sustainability has changed the interpretation of adaptive strategies of mountain pastoralists who are seen as landscape managers of niche resources. The limited potential can be perceived as the base for an appropriate economy that conserves and protects such marginal regions. Nevertheless, the antagonists of such a view promote the notion of resource degradation and the need for evacuation, centralisation and modern pasture management. Both perspectives have influenced development models in the pastoral sector and resulted in practical approaches towards mobile animal husbandry. In this case study, the changes that have occurred to the Kirghiz pastoralists living in Little Kara Köl of present Akto County (Fig. 6.1) within Kizil Su Kirghiz Autonomous Prefecture (Xinjiang, People's Republic of China) will be examined in the light of external interventions leading to recent modernisation processes with significant impact on their livelihoods.<sup>1</sup>

## 6.2 Encounters

Early records of Kirghiz utilising the high pastures of the Pamirs link them to the fertile oases of the Fergana Valley and the Tarim Basin. Seasonal migration between the low-lying oases – where most of autumn, winter and spring time was spent – and the summer pastures in the various Pamirs (Curzon 1896; Dor and Naumann 1978) characterised mobility patterns and corridors of encounters and activities. Documents from the early nineteenth century reveal that Kirghiz pastoralists got involved in exchange and political relations with representatives of the Manchu dynasty in Kashgar. Kirghiz participated in a mutually valuable gift exchange by offering horses and sheep in return for precious Chinese goods. On the basis of those

agreements, they enjoyed the right to freely offer their marketable goods such as horses, yaks and animal products in the bazaars of Kashgar (Di Cosmo 1993, 25–27, 1994; Millward 1998, 97).

Conflict and bellicose confrontations accompanied by plundering of caravans and competing territorial claims regularly caused the evacuation of pastures and abridgement of mobility patterns (Abramzon 1963; Bezkovic 1969; Centlivres and Centlivres-Demont 1983; Dor and Naumann 1978; Dubeux and Valmont 1848, 118; Millward 2007, 96, 109–118; Shahrani 1979). The Kirghiz – or Kara-Kirghiz as they were called then by travellers – gained the reputation of being untrustworthy and hostile to settled farmers whose property they frequently looted and destroyed according to Dubeux and Valmont (1848, 116):

Les Kara-Kirguizes du plateau de Pamère sont en hostilité constante avec les provinces chinoises qui avoisinent leur territoire, et en particulier avec les pays d'Yarkende et le Tibet. Ils font des excursions dans ces deux provinces pour voler des hommes, des femmes et des enfants qu'ils réduisent en esclavage, et pour détrousser les caravanes: aussi les magistrats chinois condamnent ils à mort impitoyablement et sans aucune forme de procès tous les Kirguizes qui tombent entre leurs mains. Une pareille conduite, bien qu'elle paraisse souvent injuste, est cependant justifiée par des crimes antérieurs et par la nécessité d'inspirer de la crainte à ces bandits; car les Kara-Kirguizes ne vivent que du vol et des produits du brigandage, à tel point qu'ils ne respectent pas même les propriétés de leurs parents ou de leurs amis; et, lorsque quelqu'un d'entre eux a été victime d'un vol, il cherche à prendre sa revanche sur celui de ses voisins qu'il croit pouvoir dépouiller plus facilement. [The Kara-Kirghiz from the Pamir Plateau live in constant hostility with the Chinese provinces that border their territory, and especially with Yarkand and Tibet. They make journeys to these two provinces in order to capture men, women and children whom they enslave, and to rob caravans; just as well, the Chinese magistrates mercilessly condemn to death and without any trial all the Kirghiz who fall into their hands. This attitude, even though it often seems unjust, is however justified by previous crimes and by the necessity to inspire fear to these bandits; the Kara-Kirghiz live only on robbery and stolen products to the extent that they do not even respect the properties of their parents or friends. When one of them is victim of a robbery, he will try to take revenge on the neighbour whom he believes to be easier to strip of his possessions.]

Their audacity and daringness were linked to all kinds of perils and threat once they lost local battles and were called to account by Chinese authorities who often made an example of them and applied capital punishment for violation of property rules. The Danish Captain Ole Olufsen (1904, 91) comments on their behaviour:

The Kirghiz of High Pamir, not without reason, are looked upon as wandering gipsy robbers whom it is best to drive away as soon as they show themselves in the neighbourhood.

These pejorative assessments could be counteracted by reverting to statements that estimate pastoralists as victims of exploitation, forced labour and arbitrariness. The remote pastures of Little Kara Köl and other locations in the Pamirs and the Western Kun Lun Shan functioned as a southern outlet for pressure that was exerted from the northern oases of Fergana and Alteshar – the six cities in the Tarim Basin. In general, pastoral migration oscillated between low-lying winter pastures (Kirg. *kštau*, aul; Taj. *kishlaq*) – in general, below 2,000 m – and high pasture settlements (Kirg. *dzailou*, Taj. *aylaq*) above 3,500 m. Although animal husbandry prevailed as the principal income resource, significant contributions were derived from transport

services, arrangements for protecting caravans or exerting territorial control for authorities and furnishing supplies to military outposts. The ethnonym Kirghiz was synonymously used for ‘nomad’ by contemporary travellers (General Staff India 1907, 90–93, 1929, 217; Hartmann 1908, 30–31; Schultz 1910, 250–252). This observation especially holds true for the Chinese Pamirs where administrative terms were strongly linked to occupational status. The Kirghiz of Little Kara Köl belong to the southern subgroup of *Ichkilik*, in which mainly *Kesek*, *Nayman*, *Qipchaq* and *Teyit* patrilineages (*oruq*) prevail (Bregel 2003, 78–79; Shahrani 1979, 150–166). All of these groups are to be found in the Afghan and Tajik Pamirs and in Xinjiang (Sarikul and Little Kara Köl). The evidence presented here refers to the latter community.

### 6.3 The Winds of Change in Little Kara Köl: Kirghiz Pastoralists in Kizil Su

A contemporary reference at the end of the nineteenth century is provided by the observations of Sven Hedin, who twice visited the Kirghiz of Kara Köl at the foot of Mount Muztagh Ata during his Pamir expeditions. Two quotations from both expeditions:

Der Bek von Su-baschi (südlich des Kleinen Kara-kul) hat mir mitgeteilt, die Gegend um den See sollte von 300 Teit-Kirgisen mit 60 Jurten bewohnt sein. Er sei Häuptling über 286 Jurten, von denen jedoch die größte Anzahl östlich der Mur-tag-Kette gelegen sei.... Die obigen Angaben zeigen, wie spärlich das Plateaugebiet von Pamir bewohnt ist, und es kann nicht anders sein für ein Land, wo Kälte und Stürme herrschen und wo die Grasvegetation eine große Seltenheit ist.[The Beg of Su-bashi (south of Little Kara-kul) told me that the region around the lake is inhabited by 300 Teit [Teyit] Kirghiz in 60 yurts. He is supposed to be the headman of 286 yurts of which the majority is located east of the Muztagh Range - meaning snow mountains... The above given figures show the low population density of the Pamirian Plateau. It could not be different for a region where cold spells and storms prevail and where grassy spots are rare.] (Hedin 1894, 303)

Sven Hedin observed that

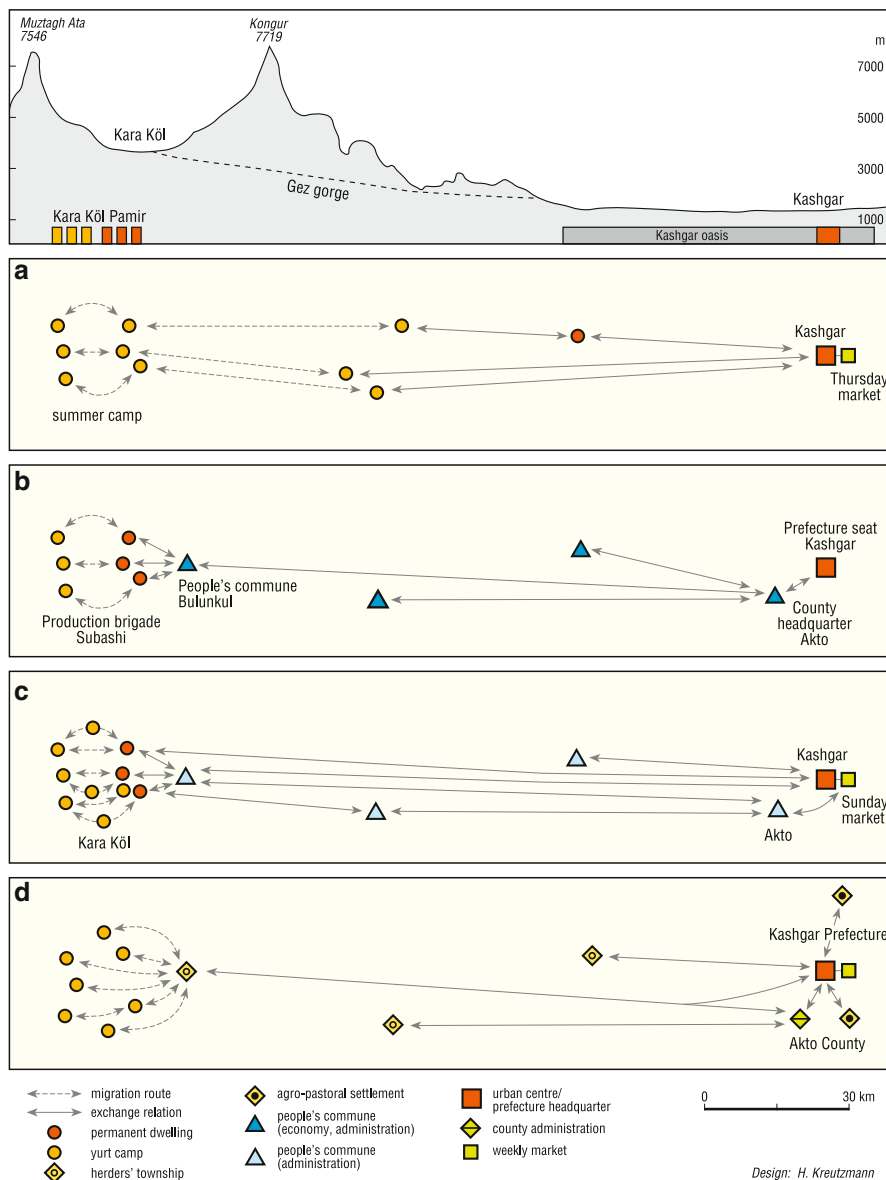
... die Pflege der Heerden und die jährlichen Wanderungen, die damit im Zusammenhang stehen, das einzige Interesse der Kirgisen. Den Sommer bringen sie auf den Jeilaus, den Sommerweideplätzen, zu, die auf den höheren Abhängen des Mus-tag-ata und der Pamirgebirge liegen; ihre Winterweiden, Kischlaks, in den Tälern suchen sie auf, wenn der Schnee und die Kälte sie von den Bergen herunterjagen. In jedem Aul sind die meisten Bewohner miteinander verwandt. Sie ziehen stets auf dieselben Jeilaus und Kischlaks, und kein anderer Aul hat das Recht, ohne Uebereinkommen in das von einer Familie durch ihre Tradition gewonnene Gebiet einzudringen [... the care for their animal herds and the inter-related annual migrations are of sole importance to the Kirghiz. They spend the summer in the *dzailou*, the summer pastures, which are located at the higher slopes of Muztagh Ata and the Pamir Mountains; their winter pastures, *kishlaq*, in the valleys are visited when snow and cold drive them down the mountains. In nearly every *aul* (winter settlement) most of the inhabitants are relatives. They migrate always to the same *dzailou* and *kishlaq*, and no other *aul* possess a right to penetrate there without the consent of the traditional owners] (Hedin 1899, I, 269)

These contemporary observations confirm that the high pastures at the foot of Muztagh Ata were the summer abodes of Kirghiz communities – identified as yurt-based households (Kirg. *akoi*, Taj. *xirgó*) – who were migrating towards Kashgar through the Gez gorge, a tributary to the Kizil Su river (Fig. 6.2a). The winter pastures of these groups were located at the fringes of the Kashgar oasis in Akto and Yengisar. On Thursdays the weekly market in Kashgar Town attracted all kinds of traders and buyers; especially Kirghiz pastoralists became animal vendors here in autumn to get the means for bartering necessary goods for the upkeep of their households (Gillet 1937, 9; Hedin 1899, I, 271; Schultz 1921, 44–48). At the turn of the century, there are already remarks about single households that remain within the Pamirs for the whole year (Hedin 1899, I, 163, 180, 208, 277). Until the Chinese Revolution, Kashgar, Yengisar and Yarkand remained reference points for barter and supplies.

In the aftermath, significant structural changes took place that can be related to three subsequent phases: collectivisation and creation of people's communes (1958–1976), introduction of the pastoral household contract responsibility system (1978–2009) and the resettlement phase since 2009 (Fig. 6.2b–d).

### 6.3.1 *Collectivisation and Communes*

The initial far-reaching structural change commenced with the attempts to promote collectivisation. Following a phase of introducing mutual aid teams in the first half of the 1950s, a transitional structural setup consisted of the agricultural production cooperatives that again were superseded by people's communes after 1958. The full-fledged collectivisation process reached the Little Kara Köl Pamir when the 'nomadic' communities were reorganised in pastoral production brigades (Chin. *dadui*) and people's communes (*gongshe*). Besides forced sedentarisation in their former winter settlements, the Kirghiz pastoralists were exposed to new breeding techniques, veterinary services and scientific experiments to optimise resource exploitation including the expansion of crop farming in high altitudes (McMillen 1979, 158–159; Lo 1961, 101). The people's communes were oriented towards the headquarters of the Kizil Su *zizhizhou* (autonomous district) in Atushi (Fig. 6.1). The administrative centre itself was founded in 1952 as a model town to exemplify the modern design, infrastructure and facilities that were representing the advent of a new era. The tragic disaster connected with the 'Great Leap Forward Campaign' was felt in the Kara Köl Pamir as well and led to the re-introduction of limited private herding communities based on traditional structures (*aul*, *uru*). Only since the mid-1960s has the slow recovery process from the prior major losses taken off. The people's commune and the production brigades as centres of administration and social organisation remained in force until the end of the Cultural Revolution. For the Kirghiz of Little Kara Köl, the pastoral people's commune was established in Bulunkul<sup>2</sup> in 1959, whilst the production brigade was located in Subashi (Photo 6.1).



**Fig. 6.2** Transformation in pastoral strategies in Little Kara K l Pamiir. (a) Pre-revolutionary mobility pattern (pre-1949), (b) people's commune phase (1958–1976), (c) production responsibility system (1978–2009) and (d) resettlement phase (post-2009)

The result of the sedentarisation process was a concentration of hamlets around the nuclear centres identified by the administration of the autonomous district. A more significant change was the confinement of all pastoralists within the Pamiir all year round. The former seasonal migration between winter camps in the Kashgar

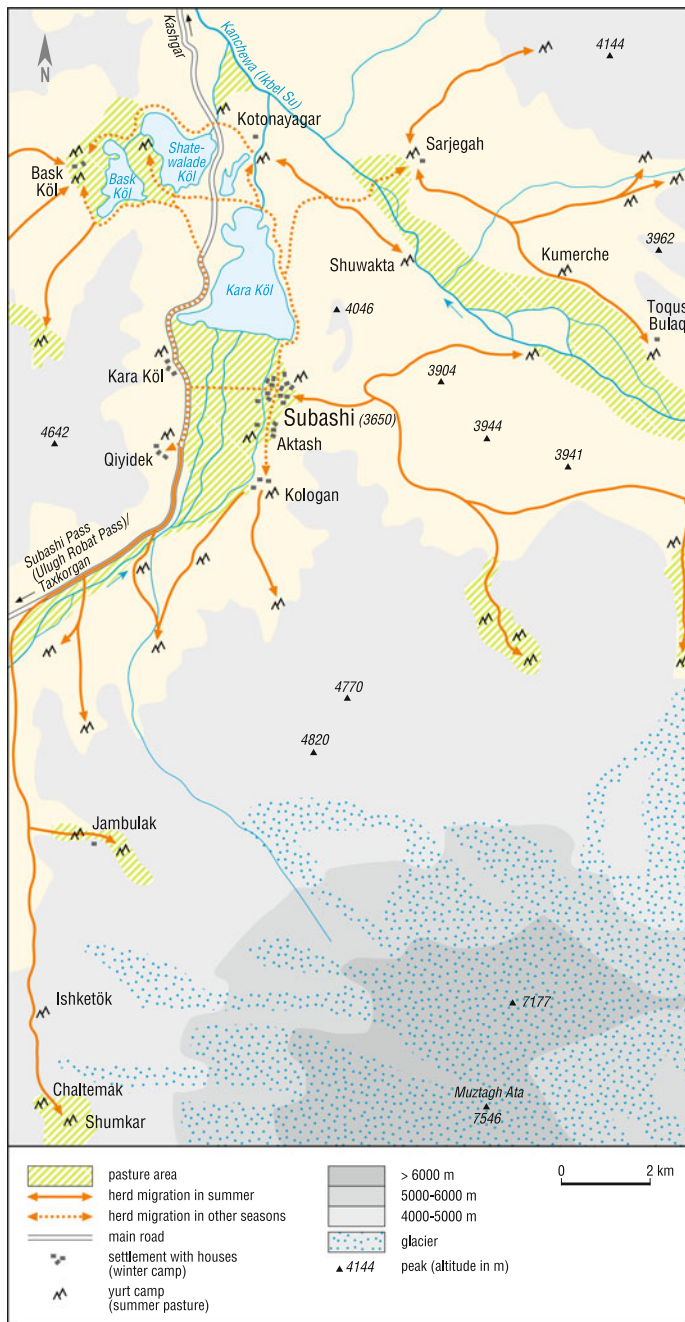


**Photo 6.1** The Kirghiz winter camps Subashi and Aktash (3,650 m) form part of the production brigade of Subashi *dadui*, which offers infrastructural assets common to most rural settlements in Xinjiang (Photograph © Hermann Kreutzmann, July 24, 1991)

oasis and summer settlements in Little Kara Köl ceased to exist (Fig. 6.2a). Kirghiz pastoralists adapted their livestock keeping and migratory patterns to the high altitudes of Kara Köl (3,600–4,100 m). Compensatory measures included special loan schemes for stock purchases, the increase of biomass production by irrigating natural pastures and stockpiling of fodder (Abramzon 1963, 206).

The migration cycles have shrunk to distances of 3–15 km in comparison with the 280 km formerly covered between Kashgar and Little Kara Köl (Fig. 6.3). Three to four months of opulent fodder supplies are followed by lean months under harsh climatic conditions (Photo 6.2). The fattened animals and livestock products had to be delivered to the livestock department at the county headquarters in Akto which in return was expected to supply all necessary goods. The previous weekly Thursday market in Kashgar had ceased to exist and was replaced by governmental departments that took responsibility for food circulation. In return, all necessities for life in the pasture settlements were provided at nominal cost. Ma Yin et al. (1990, 246) was convinced that the county was self-sufficient in all necessary food items in the medium term. Though very restricted in their movements and decision-making, the Kirghiz secured their basic livelihoods and their living conditions improved. Despite harsh environmental conditions of survival, the animals raised in these productive pastures are high-quality products.

At the end of the people's commune phase, in 1976, the pastoralists of Subashi shared 0.5 horses, 0.3 camels, 3.5 yaks and 74.9 sheep and goats on average per household.



Source: fieldwork H. Kreutzmann, topography based on Chinese maps

**Fig. 6.3** Adaptation of annual migration patterns to structural interventions. After being confined to the Little Kara Köl Pamir as perennial grazing grounds, Kirghiz pastoralists as members of Subashi production brigade (*dadui*) developed a short-distance, energy-efficient shifting of pastoral camps in an altitudinal range between 3,600 and 4,100 m





**Photo 6.2** Kirghiz pastoralists in Bulunkul (Photograph © Hermann Kreutzmann, October 15, 2008)

The total number of livestock amounted to around 10,300 animals, which was four times the number in 1958 (Myrdal 1979, 25). Besides state ownership of flocks, private property rights for a limited number of animals had been assured for the pastoralists. This phase was framed by two repressive periods: the ‘Great Leap Forward’ (1958–1960) and the ‘Cultural Revolution’ (1966–1976). Both campaigns aimed at ‘modernising’ the supposedly backward pastoralists and were inspired by policies of regional autonomy. The intermediate phases of greater tolerance took back some of the excesses, but generally the modernisation strategy epitomised by forced sedentarisation and incorporation into governmental exchange structures persisted.

### **6.3.2 Pastoral Household Contract Responsibility System**

In the aftermath of the ‘four modernisations’ (*si hua*) announced by Premier Zhou Enlai in January 1975 and implemented for all layers of society – including the rural communities and the agricultural sector – by Deng Xiaoping, the people’s commune was reduced to an administrative and logistical unit of secondary importance. Bulunkul was renamed as an autonomous village again in 1984, a legal term that is still in force today.

The liberalisation of the economy led to a tripling of livestock numbers from 10,300 in 1976 to above 30,000 in 1991. The upward trend continued and crossed the threshold previously identified by the local authorities who had estimated the carrying capacity of accessible pastures at 40,000 animals (Myrdal 1979, 25). By 2009, the livestock numbers had risen to 55,738 animals including 9,496 yaks that had received bio-food certification. The annual turnover has reached a sale of 35,623 mainly fat-tailed sheep and goats including their skins and about 51 tons of sheep wool and 1.5 tons of goat hair. The data<sup>3</sup> underline the growth pattern that was stimulated by the reforms and by the introduction of the pastoral household contract responsibility system (*jiating lianchan chengbao zerenzhi*). The reforms acknowledged the dual character of animal husbandry in the Little Kara K l Pamir. Yaks, horses and camels were privately kept for the sustenance of the pastoralist households, whereas the majority of sheep and goats were part of the communal arrangements to be delivered to the county livestock department (Fig. 6.2c). In the early phases, government control was focused on the marketable fat-tailed sheep (*dumba*) and goats. The private access to livestock markets was stimulated by the 1981 (re-)introduction of Sunday bazaars in Kashgar and Yarkand that featured large-scale livestock sections. The permission of private entrepreneurship boosted the growing livestock numbers that were marketed in the bazaars, leading to a greater increase in animal herds in the remote Pamirian pastures than in the lower parts of the county close to Akto. Their livestock compete very well on the profitable markets in the urban oases along the southern silk route (Tarim Basin). The Kirghiz are respected as one of the most affluent livestock-breeding communities of the region. During fieldwork in 1991, we established household herd sizes ranging from 50 to 600 sheep and goats with an average of 140, which reflects a doubling of livestock since the end of the ‘Cultural Revolution’. Nevertheless, within Xinjiang, Kizil Su *zizhizhou* still occupied the last position in the per capita income ranking (Giese and Zeng 1993, 192). The comparatively poor standard of living within a growing Chinese economy might have triggered modernisation programmes that are intended to bring significant change to the remote corners of the Pamirian pastures.

### 6.3.3 *Resettlement: Modernisation Strategy and Coping with Pasture Degradation?*

Development and modernisation have never stopped being central strategies for poverty alleviation and rural uplift within the People’s Republic of China. Xinjiang *zizhiqu* and Kizil Su *zizhizhou* are no exception. The diagnosis as phrased by An et al. (2011) is:

With the rapid population growth and people’s increased demand for animal products, the prefecture is faced with problems of weak infrastructure, severe degradation of natural pastures and decreasing grass productivity, as they attempt to promote the development of pastoralism. Due to the constraints of traditional production and management methods, the prefecture is still plagued by some prominent issues such as low productivity of pastoralism,

low economic returns and lack of opportunities for pastoralists in remote areas to increase their generally low incomes. To promote pastoralism and economic development in pastoral communities, in recent years, the national, regional, and prefectural governments have taken various measures to promote the transformation from traditional to modern pastoralism and to uproot poverty and backwardness in nomadic and pastoralist communities of the remote mountain areas. (An et al. 2011, 123)

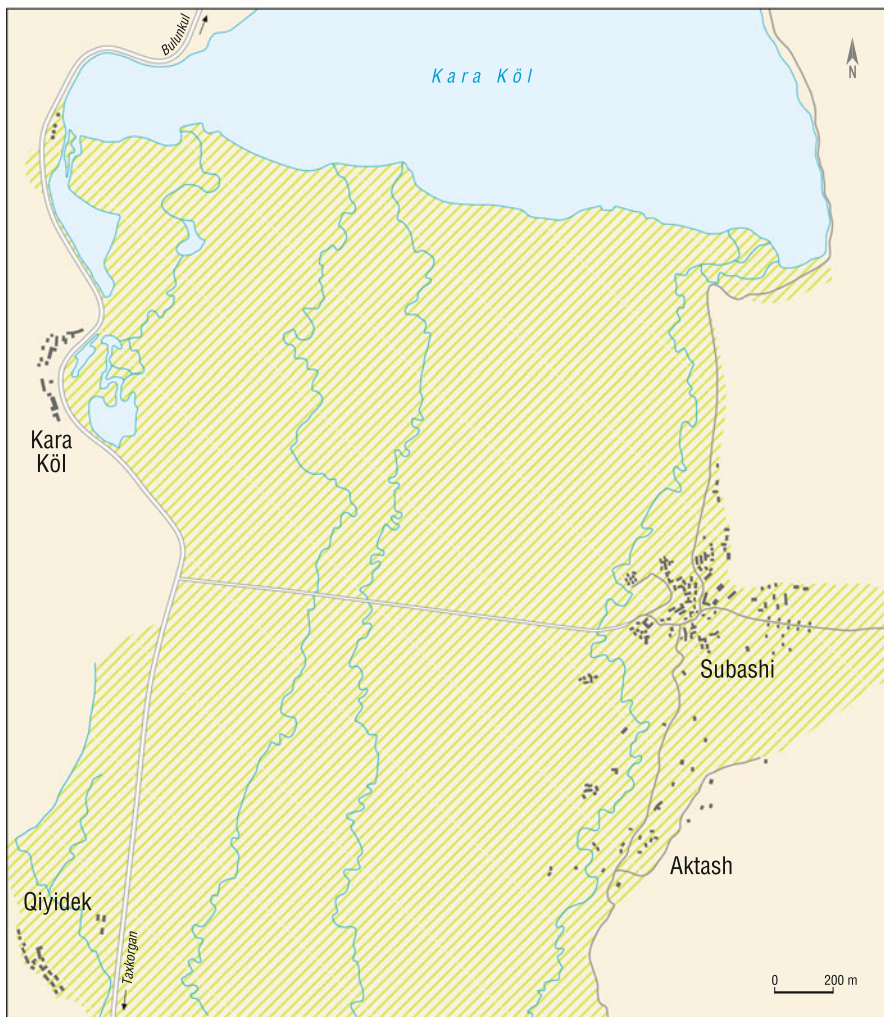
In a major move to improve the living conditions in remote locations including mountain regions, the central planning institutions have recently developed so-called resettlement schemes (Fig. 6.2d) that are concentrating infrastructural assets, social amenities, veterinary services and marketing facilities. The rationale takes into account the growth in livestock numbers and their impact on the available pasture resources and is based on two assumptions:

1. Modernisation can be implemented only in urban contexts, and if modern lifestyles are to be achieved, then economies of scale need to be applied in the periphery. These considerations affect the whole rural setup and ask for a concentration that is reflected in townships, the focal points of the resettlement scheme.
2. Nature protection requires coping strategies that reduce grazing pressure and fight degradation by concentrating settlement space and facilities for animal husbandry and enhancing fodder production.

The strategy of resettlement aims to combine both goals by concentrating the whole resident population in the sole township of Bulunkul *xiang* (Fig. 6.4) and by reducing the number of persons engaged in pastoralism. In 2009, all 1,466 households generated 14.23 million yuan from animal husbandry, equalling 83% of Bulunkul's income compared to less than 4% from other agricultural activities.<sup>4</sup> The rest is shared amongst construction and industrial activities and income from transport and other services. The aim is to reduce the number of people engaged in agricultural activities in order to direct them to other occupations. The township aims at providing housing<sup>5</sup> (Photo 6.3) and social infrastructure for all herders' households that are presently scattered in the area of the former people's commune of Bulunkul (cf. Fig. 6.4).

During the first phase, 450 out of 1,600 households will be resettled in housing schemes that are supported by federal and regional funds as well as by rich cities such as Shanghai.<sup>6</sup>

Within the township, a central stable is designed for concentrating the limited livestock. Six veterinary doctors are supposed to offer their services to the first batch of households, each of which will enjoy a supply of 300 kg of grass and 30 kg of high-nutrition fodder for each animal during the cold season. From 1954 to 2009, the number of livestock in Bulunkul *xiang* increased by a factor of 21.6 to more than 55,000 animals, crossing the given threshold of a calculated 'carrying capacity'.<sup>7</sup> Concentration and reduction aim at a qualitative boost and at optimising pastoral practices. The modernisation strategy includes controlling the livestock, regulating internal and external fodder supply, providing professional veterinary services and marketing livestock. The envisaged side effect is the 'professional' approach to



Source: representation based on Chinese maps and satellite images

**Fig. 6.4** The scattered settlement pattern of Subashi (*bottom*) with corresponding hamlets is the result of adaptation processes, the establishment of a people's commune and the introduction of the pastoral household contract responsibility system. With the implementation of the resettlement scheme, Bulunkul *xiang* (*top*) is supposed to become the modern township where all households will eventually have their permanent abodes



**Photo 6.3** The new resettlement scheme in Bulunkul (Photograph © Hermann Kreutzmann, July 19, 2010)

pastoral practices. In only 2 years (2006–2007), Akto County created ‘760 ha of man-made fodder pasture, 360 ha of fenced and improved pastures, and nine breeding stations were completed’ (An et al. 2011, 125). The holistic approach is the latest and far-reaching strategy that is perceived as a comprehensive model for future development in pastoral communities.

A second strategy that has been implemented in Kizil Su is that of agro-pastoralism. An et al. (2011, 121) report 1.6 million heads of livestock in Kizil Su and attribute two-thirds of pastoral activities to high mountain pastoralism and one third to agro-pastoralism within farming areas. The latter strategy is a further step towards removing pastoralists further away from high mountain pastures and resettling them in the vicinity of highly productive agricultural areas such as the Kashgar oasis. Both approaches lead to a concentration of settlements at focal points and detach pastoralists from their former abodes. Whether the second goal of enhancing nature protection can be achieved in such a manner needs to be seen in future, especially when the diagnosis seems to be alarming:

According to a recent survey, the prefecture’s degraded pastures account for 94.66% of the total area of pastures, of which there’s  $45.83 \times 10^4$  ha lightly degraded pastures, about 12.97% of the total;  $157.39 \times 10^4$  ha moderately degraded pastures, or 44.55% of the total and  $131.17 \times 10^4$  ha heavy degraded pastures, or 37.13% of the total. Compared with the 1980s, vegetation coverage has decreased by 50% or more, the grass height has decreased by 8–15 cm, the proportion of fine grasses has decreased by 20–40%, the proportion of weeds has increased by an average 20–45%, and grass production has decreased by 30% or above. The degradation of pastures is serious ...

Pastoralism, in fact, was developed at the cost of heavy use of pasture resources. The predatory practice of harming the eco-environment for economic benefits will not only result in lower productivity of pastures, but will also weaken the ecological functions of the pastures. The country has been, therefore, compelled to invest heavily in ecological restoration and reconstruction (An et al. 2011, 125–126).

In consequence, the resettlement programme and different forms of agro-pastoralism have been implemented. In Kizil Su, the process is in its infancy, whilst in other regions – especially in Inner Mongolia and Tibet – the effects of the restructuring are visible already.

## 6.4 The Way Forward: Coming Down from the Mountain Pastures?

The Chinese government has put major emphasis on implementing a comprehensive strategy that finds regional and local expressions, as introduced above. The latest stage of transformations in the pastoral sector has affected livelihoods and practices to such a degree that – for some persons and households – pastoralism might soon be terminated as a profession and occupation. Traditional pastoralism cannot give herders the ‘pleasures of modernisation’ as Zhao Xichun phrased it in his presentation during the pastoralism conference in Kashgar 2010.<sup>8</sup>

Moving herders to the foot of the mountains – to agro-pastoral settlements – or to resettlement townships within the mountains – as in the case of Bulunkul – aims to provide pastoralists with amenities that allow them ‘to live in a stable manner and to get rich’ (ibid.). More specifically, the scope of programmes and packages becomes clear in the design presented by the chief scientist of Animal Husbandry in Xinjiang:

To get rid of poverty and underdevelopment in pastoralist communities and transform their traditional production and living patterns, the Party Committee and Government of Xinjiang Autonomous Region have been promoting the strategic deployment of pastoralist settlements since the 1980s, with the purpose of improving living and working conditions for pastoralists and improving fodder and sheds for cattle in cold seasons. The Sedentarization program has taken into full consideration the environmental and lifestyle factors of the region.

To improve the living and working conditions for the pastoralists, we have brought the scattered households to the flat areas from the mountain slopes, providing them with fully-equipped dormitories and necessary production facilities, and hence, providing a better quality and standard of life. To supply livestock with enough fodder and shelter in cold seasons requires building high-standard crop-based fodder pasture in the flat areas where conditions of water, soil, light and heat are appropriate. The irrigated crop-based pastures are expected to satisfy the needs of fodder and grass for cattle. This way the sedentarization of pastoralists can be easier, more stable and generate more income for them. Water is a precondition for cultivating a man-made forage base. Therefore, the pastoralists in Xinjiang follow a mode of sedentarization in which locations are determined based upon water source, grass variety by location, animal variety by grass variety and human settlement by animal variety.

Under the leadership and support of the Party Committees and the People’s Government at various levels, different districts in Xinjiang carry out coordinated planning of dormitories, animal sheds, forage bases and infrastructure for water and power supplies for the

settlements. A series of favorable policies have been put forward to promote the development of pastoralist settlements. Through efforts of many years, Xinjiang has established a number of workable models such as the village-based concentrated settlements, ‘flower-arrangement’ settlements and mobile settlements. Standards for sedentarization have been institutionalized, including ‘three accesses’ (access to water, road and electricity); ‘four availabilities’ (availability of living quarters, animal sheds, fodder pastures, and fodder/silage storage spaces) and ‘five complementary facilities’ (school, clinic, shopping, cultural center and technical support service). At the end of 2009, Xinjiang had 106,500 settled pastoralist households, accounting for 38.6% of the total number of pastoralist households. After settlement, the winter mortality rate for livestock has been reduced to 1.5% from the 10% experienced in the 1990s. The living standards of pastoralists have been constantly increasing, with the per capita income rising from 1,050 Yuan in 1996 to 2,480 Yuan in 2008 (Xinchun 2011, 183–184).

Since 2000, the pace of resettlement has been enhanced and a re-planning of the function of natural pastures has been undertaken. In this framework, Little Kara Köl Pamir has been identified as one of the resettlement schemes that are regarded as one of ‘the biggest livelihood projects in Xinjiang’. The ultimate path leads to a transformation of livelihoods that incorporates the

... resettlement of herders as labourers in other areas. The remaining herders can engage in pastoralism and economies of scale, increase the market supply and thus increase the pastoralists’ income leading to a modernisation of mountain pastures and the modernisation of pastoralism. Voluntary participation of herders in resettlement programmes is based on hearings at township level, annual sessions of party committees. Wishes can be articulated through proper channels (ibid.).<sup>9</sup>

It will be seen in the near future how the lifestyle, economic position and social organisation of Kirghiz herders may have been changed. The first decade of the twenty-first century is experiencing a transformation process in pastoral practices that is inspired by postulates of modernisation theory of the previous century. The process of modernisation once again has found its target in marginal regions of the periphery. The latest approaches could lead the Kirghiz down the mountain slopes back to the oasis. More than two generations after their mobility cycles were confined to the Pamirian pastures, the opportunity arises to leave the harsh mountain conditions. The people who are part of this new movement are different from those who once were collectivised in Little Kara Köl Pamir. Their destination will be different as well.

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## Notes

1. The current state of affairs is described by An et al. (2011, 123): ‘At present, the prefecture has contracted out approximately 80.5% of the pastures’.
2. The name of Bulunkul *dadui* (production brigade) was changed into Fanxiu *dadui* in 1967. In 1984, it was renamed as Bulunkul *xiang* (autonomous village). The settlement covers an area of 4,585 km<sup>2</sup> of which 31,290 ha are identified as pastures and 665 ha as forage grassland for fodder production.

3. Economic and livestock data for 2009 were kindly provided by Ms. Zhao Lixin, Xinjiang Academy of Agricultural Sciences, Urumchi.
4. Compared to the distribution in Akto County – 26.5% in the livestock sector and two-thirds in remaining agricultural activities – the importance of pastoralism in Bulunkul is obvious. Areawise, only 3.6% are utilised for agriculture, whilst 96.4% are classified as mountain pastures (China Statistics Press 2010).
5. The government's expenditure per house was estimated at 160,000 yuan (app. 24,000 USD).
6. Akto County's Poverty Alleviation Programme (*fu min an ju*), Reservoir Resettlement Programme (*ku qu yi min ban qian*), Nomads Settlement Programme (*you mu min ding ju*) and the Jiangxi Affordable Housing Dwelling Ceremony (*Jiang xi bao zhang xing zhu fang mu min ru zhu yi shi*) are applied in Bulunkul *xiang*. The Reservoir Resettlement Programme has facilitated the resettlement of 451 households (1,643 persons) from the Gez Gorge within Kizil Su due to the implementation of the Bulunkou-Gonggeer Hydropower Project.
7. Whilst the increase in Bulunkul was significant, during the same period, the livestock numbers in the prefecture grew only by a factor of 2.8 (An et al. 2011, 126).
8. Cf. for the proceedings of the conference Xinchun (2011).
9. The quotations are taken from the English simultaneous translation of the presentation by Zhao Xinchun, deputy director and chief scientist of Animal Husbandry, during the regional workshop in Kashgar on July 20, 2010; cf. Zhao Xinchun (2011).

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