

Ethnic minorities and marginality in the Pamirian Knot: survival of Wakhi and Kirghiz in a harsh environment and global contexts

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This paper challenges the thesis that mountain areas are regions of refuge. The refuge concept attributes irrelevant exchange and limited communication to isolated mountain habitats which mainly depend on production for home consumption. In contrast, it is shown that exchange relations in all walks of life have been affected not only recently but for nearly two centuries in Central Asia, although the continued importance of subsistence strategies in the agricultural sector can be observed. The Pamirian Knot provides the mountainous interface between South and Central Asia for case studies of two ethnic communities – Wakhi mountain farmers and Kirghiz pastoralists – in order to exemplify socio-political developments in similar mountain environments. Examples are presented from Afghanistan, Tajikistan, Pakistan, and the People's Republic of China. The territories have been separated since the late nineteenth century by international boundaries conceived as the result of the imperial 'Great Game'. Emphasis is placed on developments in the livestock sector and it is shown that adaptation to changing socio-political frameworks has affected the livelihood strategies of nomads and mountain farmers alike.

KEY WORDS: Pamir, Central Asia, survival strategies, ethnicity, colonialism and post-colonialism, mountain pastoralism, Kirghiz, Wakhi

Introduction

The remote valleys and plateaux of High Asia are well known for their inhabitants who survive under harsh conditions at high altitudes. For example, the ecologically defined upper limits of wheat and barley are found here. In addition, people who have chosen to live here are frequently identified as inhabiting 'regions of refuge' (Skeldon 1985) because conventional thinking suggested that only external pressures, persecution and poverty could drive people to live at the highest possible locations. The refuge concept is based on agrarian strategies and interrelated subsistence production by explicitly excluding supra-regional exchange relations. It is argued that this search for security is responsible for seclusion from the outside world and for the creation of

unique communities characterized by their religious belief systems, relict or archaic languages, and certain behavioural patterns. According to the refuge concept these communities have chosen their lifestyle, but are also marginal groups in the context of nation states and market participation. In contrast, this paper argues that strategies for 'security enhancement' (Thompson 1997) in remote locations can be based on agro-pastoral strategies with a high degree of self-support, but which, at the same time, incorporate non-agrarian income opportunities such as mining, trade, portering, smuggling and raiding. Nevertheless, the agricultural sector – either in supplying goods for domestic consumption or for barter trade and markets – has undergone tremendous changes initiated mainly by external socio-political developments in a similar manner as all other means of survival (cf.

Funnell and Parish 2001; Humphrey and Sneath 1999; Kreutzmann 1998 2003; Ortner 1989; van Spengen 2000). One of the key areas of overlap between the remoteness of mountain livelihoods and integration into world markets seems to be the Inner Asian mountain belt.

Our knowledge about the people of the Pamirs, Hindukush and Karakoram is based on contemporary narratives, and is influenced by travelogues from early nineteenth-century 'explorers' and subsequent travellers who personally faced the difficult environmental conditions by traversing the roof of the world (*bam-e dunya*). In addition, archived documents from colonial administrators, messengers, surveyors and spies exist which need to be interpreted in the context of imperial interests in 'spheres of influence'. Two ethnic groups predominantly feature in these reports: the Wakhi and the Kirghiz. In the most remote locations they provided transport by yaks (*Bos grunniens*), Bactrian camels (*Camelus bactrianus*) and horses to the rare travellers and trans-montane traders to safeguard their journeys across high passes. Geographical research in the Pamirs has a long tradition, especially during colonial times and during the 'Great Game' when this area was the focus of the then two super powers – Russia and Great Britain (cf. among others Bobrinskiy 1908; Gordon 1876; Dunmore 1983; Jaworskiy 1885; Olufsen 1904; Snyesreff 1909; Wood 1841). Lord Curzon published, in *The Geographical Journal*, a three-piece treatise on *The Pamirs and the source of the Oxus* (Curzon 1896) in which he summarized the state of knowledge at the end of the nineteenth century, highlighting the remoteness, the harsh living conditions and the geopolitical characteristics of the area. For a long period his advocacy of the 'forward policy' influenced the basis of imperial dealings with this part of the world. His compilation was of special interest to the Foreign Office in London due to the establishment of Pamirski Post, the Russian outpost in the Pamirs, in 1891. This garrison was partly given up in June 2002 when Russian soldiers were meant to evacuate Murghab – the modern name for Pamirski Post. Most recent developments in the wake of the Iraq War suggest that their presence on the Afghanistan–Tajikistan border might continue.

Nearly a century ago Ellsworth Huntington (1905 1907) identified the inhabitants of Central Asia, and especially the Kirghiz nomads, as the antipodes of Western civilization:

So low are they in the scale of civilization that they know almost nothing of manufacturing, science or art . . . According to our standards the Kirghiz are dirty, lazy, and unprogressive . . . On the south the

great deserts of Chinese Turkestan and the huge desolate plateau of Tibet separate the Kirghiz from India and all outside influences in that direction. On the east and west they are also shut in by deserts so that they come in contact only with nomads like themselves.

Huntington and Cushing 1924, 12

Consequently they feature prominently as non-modern people when it comes to progress:

Among nomads like the Kirghiz education and science are even less developed than government . . . The absence of contact with outside people and their own lack of inquisitiveness prevent the Kirghiz from making scientific discoveries . . . Thus civilization remains stationary. The Kirghiz are not savages, but the gulf between them and the more enlightened nations is growing wider. The influence of European civilization has begun to reach them, but their mode of life will probably change only a little so long as they depend chiefly upon grass of the plains and high plateaus.

Huntington and Cushing 1924, 21

Huntington was one of the first geographers to do fieldwork among the Kirghiz and placed their case quite prominently in a textbook (Huntington and Cushing 1924). His assessments influenced theories about remoteness and development in the mountainous periphery, although he visited the area at the peak of the 'Great Game'.

The aim of this paper is to challenge the thesis that physical remoteness goes hand in hand with the absence of political interference and negligible commercial exchange relations. The varied spectrum of possible developments is exemplified in five brief case studies from Afghanistan, Tajikistan, People's Republic of China (hereafter China) and Pakistan in which structural developments are emphasized in an environment that experienced international boundaries for the first time a little more than a century ago, but where ecological conditions are not that variable across these borders. To contrast earlier views the local actors are the Wakhi and Kirghiz mountain dwellers who have responded in different ways to external pressures and their incorporation in nation states (Figure 1). The twentieth century brought even stronger 'winds of change' than the previous century. The standards of living, mobility and levels of political and commercial participation were modified by socio-political systems which significantly influenced lifestyles, levels of educational attainment and survival conditions in remote mountain locations such as the Pamirs. The 'Cold War' created hermetically closed frontiers and stifled exchange across borders. Separate societies with affiliated cultural expressions and economic options came into being. Only after

1989 did regular exchange and communications appear in the frameworks of independence and globalization.

The communities represent the two major language groups – Iranian and Turkic – of this part of Central Asia. Wakhi is a branch of the eastern Iranian languages within the Indo-Iranian group, while Kirghiz is a Turkic language belonging to the Altaic group. While Kirghiz has a written Cyrillic form, Wakhi still only exists as a non-written language and is limited to phonetic notation. Today 50 000 Wakhi live in remote parts of Pakistan, Afghanistan, Tajikistan and Xinjiang (China). There are about the same number of Kirghiz in the study area, but in China and in the Turkic-speaking Central Asian Republics, most notably in Kyrgyzstan, there are about three million ethnic Kirghiz. This article focuses on the Kirghiz and Wakhi living in the high mountains separating Central and South Asia. Besides language differences, Wakhi and Kirghiz follow different belief systems. Kirghiz communities traditionally comprise Sunni Muslims, while the Wakhi almost exclusively belong to the Shia Ismaili sect which acknowledges the Aga Khan as their spiritual head. The religious practices influence daily life and local cultures as religious festivals and rituals play prominent roles beyond rites of passage. Kirghiz culture is characterized by the lifestyle of migrating pastoralists including transitory dwellings in the form of the round felt-covered yurts displaying artifacts of local folklore (cf. Dor and Naumann 1978; Shahrani 1979). In contrast, Wakhi houses are built of stone and mud-plastered walls and are scattered among the village lands in irrigated mountain oases. Wakhi herders migrate to high mountain pastures where simple houses provide shelter. The majority of household members remain in the villages where cultural life is centred at this time (cf. Felmy 1997; Kreutzmann 1996). Both lifestyles exhibit close affinities to the different traditions and affiliations of the two groups.

The Pamirian Knot

The Pamirian Knot is characterized by high mountain valleys and plateaux. Altitude and aridity cause natural thermal and hydrological gradients and thresholds. Wakhi villages are located between 2150 and 3500 m.a.s.l. Arid and semi-arid conditions prevail, resulting in irrigated single-cropping agriculture (barley, wheat, potatoes, beans and peas), which is always supplemented by animal husbandry. With a few exceptions, natural vegetation is scarce and forests are more or less absent. A few fruit trees, e.g. apples, apricots, walnuts and mulberries, are found and wood is harvested from

poplar plantations. The specific attraction of this altitudinal ecological belt is the availability of water stored in glaciers and snow. Meltwater feeds the irrigation systems made for cultivation. While the Wakhi grow crops, the Kirghiz have traditionally refrained from any form of settled agriculture. Both groups utilize high pastures which are found where groundwater and runoff create seasonal meadows. Kirghiz grazing grounds are generally located above 3500 m.a.s.l. Marco Polo highlighted the nutritional properties of the Pamir pastures and game from these pastures such as Marco Polo sheep (*Ovis ammon*) and ibex (*Capra ibex*), and livestock (yak, fat-tailed sheep and goats) became famous as sources of high-quality meat among consumers in the low-lying Central Asian oasis towns along the Southern Silk Route.

The Wakhi term *pamer* is specific to the fertile high mountain pastures and was taken as a defining feature in describing natural grazing grounds of substantial extent as Pamirs. Four Pamirs – Kargushi, Rang Kōl, Sariz and Alichur – are located in the Eastern Pamirs of Gorno Badakhshanskaja Avtonomnaja Oblast (Gorno Badakhshan Autonomous Oblast, GBAO; Gorno Badakhshan) in the Republic of Tajikistan. Afghanistan contains the Little (Kichik) Pamir (Kirg.)¹ or Pamir-e Khurd (Pers.) and the Great Pamir (Chong Pamir (Kirg.) or Pamir-e Kalan (Pers.)) in the northeastern part of the remote Wakhan strip. The Taghdumbash Pamir in the adjacent Tajik Autonomous County of China is the seventh of the major Pamirs (cf. Curzon 1896; Dor and Naumann 1978). In addition to the seven large Pamirs (each of which has at least 300 km² of pasture) there are smaller Pamirs such as the Pamir-e Bugrumal (upper Gunt Valley, Gorno-Badakhshan), Mariang Pamir (Sarikol), Tagarma Pamir (Sarikol) and Shimshal Pamir (in the northern area of Pakistan). The natural grazing of the Pamirs is their major asset though it is augmented by cultivation in a few places.

The overall setting is characterized by three areas. The valley bottoms are mainly inhabited by Wakhi and other Pamirian mountain farmers who live in permanent villages and who seasonally access nearby pastures in the side valleys. Above 3500 m.a.s.l., the main valleys widen, become flatter and form extensive Pamir pastures which are utilized by the Wakhi and the Kirghiz. Wakhi retreat to their homesteads during the winter while the Kirghiz do not migrate. The third area – the high plateaux – is dominated by Kirghiz nomads. The high plateaux favour mobile pastoralists as the distance to the permanent dwellings in the river valleys is great. Nevertheless, growing demand for natural grazing and mutual dependency have resulted in changing patterns of utilization, mobility and political interference.

Traditional subsistence strategies and their transformations

Two major strategies are used to utilize the pasture potential of Western High Asia given the ecological constraints and socio-political circumstances. They are nomadic animal husbandry and combined mountain agriculture (Ehlers and Kreutzmann 2000).

- 1 Nomadism incorporates the advantage of mobility. Traditionally nomadic groups were able to exploit natural resources at dispersed locations. Great distances, in the order of several hundred kilometres, separate economically valuable mountain pastures from winter camp sites, with areas of less economic interest lying between them. Functional migration cycles can be recognized in the region. They generally comprise long stays in high-altitude pastures during the summer with winter grazing in low-lying basins in the northern foothills or the plains of the Inner Asian mountain arc. The nomads depend on being tolerated as a mobile group and being able to pay grazing fees, if applicable, in both areas.
- 2 Combined mountain agriculture has the advantage of simultaneous fodder production in the permanent homesteads for herds which are grazed in the high pastures during the summers. The limiting factor here is the provision of up to nine months of feed which has to be produced on private or common property village lands. The Wakhi houses are usually located at the upper levels of permanent settlements in single-crop farming areas. Consequently access to the Pamir pastures involves shorter migrations and some mobility within the summer habitations. Fodder here is comparatively plentiful but only available for a short period; feed storage and transport to the homesteads are of limited importance.

Both approaches can result in competition for natural resources in the same location and they have frequently been discussed from that perspective. The ecological aspect has been expanded to include the debate about conflicting economic strategies. In the discourse of modernization and social change nomadism's place is usurped by agriculture. The extensive utilization of marginal resources is superseded by intensification and increasing external inputs. Thus, it is not surprising that mountain farmers and nomads have been a prime target for development aimed at reducing subsistence levels by integrating people from the periphery into the mainstream of nation states. When this occurs traditional lifestyles and locally developed economic strategies become endangered.

Social and political organization: ethnicity and actors

Outsiders call the Wakhi by this ethnonym, which determines their language as well; though they refer

to themselves as *khik* for people and *khik zik* for their language. Why this discrepancy? Their neighbours and visitors identify the Wakhi as the people living in Wakhan (*wukh watan*). Until 1883 Wakhan was a principality on both banks of the upper Amu Darya and the Wakhan and Pamir Darya (cf. Figure 1). It was ruled by a hereditary ruler (*mir*) who controlled a territory in which sedentary mountain farmers and Kirghiz nomads lived. Both communities paid taxes and tributes in cash and in kind. The Wakhi society consisted of an upper stratum: the ruling family (*mir*), some religious leaders (*pir*, *sayid*, *khujja*) and a few better-off families (*sana*, *khaybari*). The vast majority of the people (>95%) belonged to the ordinary people (*khik*), who practiced combined mountain agriculture and were obliged to deliver taxes and services such as load-carriers and soldiers (cf. Kreutzmann 1996; Shahrani 1979). Social structure followed a patri-lineal system, while female family backgrounds played a bilateral role when marriages were negotiated. Children were predominantly regarded as belonging to the father's family. Female influences and responsibilities were mainly restricted to the domestic sphere, although these limitations have broken down in recent years (cf. Felmy 1997).

Wakhan was no exception in Western High Asia, where many valleys were more or less identical; being principalities which had strong links to their mighty neighbours: the Amir of Afghanistan, the Emir of Bokhara (later replaced by Tsarist Russia/Soviet Union), the Chinese Emperor and British India. The competition between these major players affected diplomatic relations, taxation, conscription policies, local politics and economies, and finally resulted in the delineation of international boundaries and the termination of their independence.

The Kirghiz not only lived within Wakhi administration. Their mobility enabled them to shift to grazing grounds in areas with favourable conditions, i.e. low taxation and tolerable political pressure. The family histories of Kirghiz clans abound in stories about leaving some territories and starting a new life under different conditions, masters and/or protectors. But the search for suitable pastures and low outside interference was always guided by socio-economic principles while political pressures could lead to the loss of lives, captivity, deprivation and deportation (cf. Kreutzmann 1996, 352–75). Among themselves the Kirghiz were organized in a tribal structure. Migratory groups were headed by a camp elder (*beg*, *khan*) who normally represented the most affluent family. Within their communities a highly stratified hierarchy evolved in which the poorest yurts were occupied by shepherds servicing the big herd

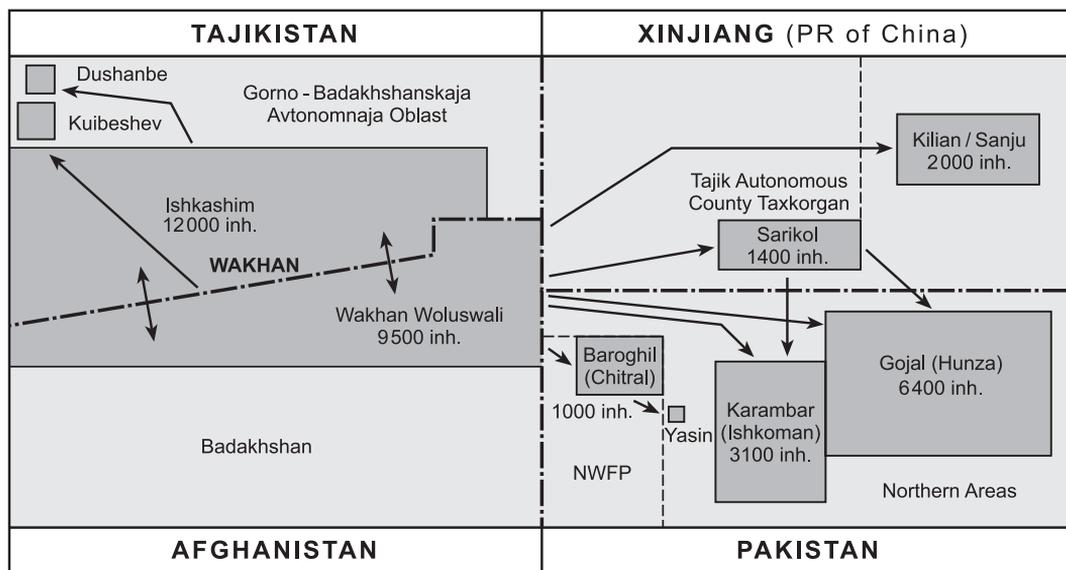
owners. The affluent leaders and rich households profited from the system of renting (*amanat*) their livestock to shepherds (cf. Shahrani 1979). Kirghiz communities formed their own microcosms in the Pamirian pastures with generally strong relationships with their neighbours. Common goals were the defence of grazing grounds and the avoidance of interference by outsiders.

Wakhi and Kirghiz represent communities competing for the same resources. Competition was ubiquitous and relations between neighbouring groups was not always amicable. Both were involved in a power struggle for survival where threats came from direct and distant neighbours as much as from raiders, slave traders, representatives of administrations, conscriptors and tax officials.

Demographic trends affected by external developments

An analysis of population changes among the Wakhi indicates fluctuations in space and time. Demographic trends show an increase in population from the nineteenth to the twenty-first century almost everywhere in High Asia. An early population peak of the Wakhi people was reached around 1880 when the population in the mirdom of Wakhan was estimated at 6000. Shortly afterwards a major crisis occurred. The geopolitical confrontation between British India and Tsarist Russia during

the ‘Great Game’ as well as the Islamization and the expansion programme of the Afghan Amir threatened the autonomy of the small principalities in the Hindukush, Pamir and Karakoram. Wakhan was one of the principalities whose rulers were taken hostage or threatened. In 1883, the Mir of Wakhan, Ali Mardan Shah, organized a preventive exodus for his family and about one-quarter of the population took refuge in his father-in-law’s territory in Chitral. Subsequently his fears materialized and Wakhan was divided into two parts as were other principalities along the Amu Darya (Oxus). The northern part was controlled by Russia while the southern part became an extension of the Amir of Afghanistan’s territory. The Wakhan strip (cf. Figure 1) was created as a buffer zone between Russia and British India as the superpowers of the time had decided that they should not have common boundaries. The demarcation took place at the end of the nineteenth century and it remains the current international boundary. The division of Wakhan led to a refugee crisis and the population of Wakhi decreased by one-sixth (Kreutzmann 1996, 136). The low point in the population was reached by 1900 and since then demographic trends have been upwards. Currently 50 000 Wakhi reside in Afghanistan, Tajikistan, Xinjiang and Pakistan (Figures 1 and 2). Each of these populations exhibit demographic patterns that are linked to the countries and mobility. The twentieth



Design: H. Kreutzmann

Figure 2 Distribution of Wakhi communities today

century appears to have been a time of migration, with Pakistan being the major refuge. Refugees from Afghanistan still seek shelter and work in Chitral. Migrant workers from Tajikistan usually end up in Gojal (Hunza, Pakistan) and expect support from local Wakhi residents whose forefathers took refuge there over 200 years ago. The Gojali Wakhi themselves participate in trans-border trade with their Chinese neighbours. Thus, Wakhi communities are found in four countries with different political systems, market and state-controlled economies, and in regions of contrasting infrastructures and welfare and educational institutions.

Kirghiz nomads have been affected by the same geopolitical developments, though estimates of demographic trends are more complicated because of the nomadic context. The seasonal grazing grounds of the Kirghiz were often in locations which belonged to different countries after the delineation of international boundaries. While in earlier times border crossing was possible for them it became next to impossible during the Cold War, and the term 'closed frontier nomadism' was introduced (Shahrani 1979). The Amu Darya became the most controlled boundary between the Soviet Union and Afghanistan in contrast to its previous more open nature. The border dispute between the USSR and China led to the introduction of the so-called 'system' as late as the 1980s (Plate 1). The 'system' was a demilitarized zone which includes a 30 km wide border strip with metal fences on both sides. Thus, communication and grazing across boundaries and within the 'system' became impossible. Kirghiz communities were restricted to their respective countries.

The current situation is that the Eastern Pamirs of present-day Tajikistan are predominantly Kirghiz territory, as are the Little and Great Pamirs of Afghanistan. China introduced a Kirghiz Autonomous District by the name of Kizil Su (red river), while some Kirghiz live in the Tajik Autonomous County of Taxkorgan.

Diminishing environmental assets and growing legal restrictions

For nomads the extensive use of wide-ranging pastures is essential. From their perspective any restriction of migration and limitations on accessible pastures is perceived as an environmental crisis. In the case of high mountain nomadism the principle of maximum utilization of natural pastures is linked to grazing flocks at high altitudes (>3500 m.a.s.l.) during summer and to keeping herds in low-lying pastures (around 1200 m.a.s.l.) during winter. The Kirghiz strategy in the Pamirs was based on such an approach. During winter

the urban oases of the Southern Silk Route or those in the Fergana Basin offered opportunities for keeping their herds on agricultural fields after harvest. The animals grazed on crop residues and grass while improving the irrigated lands in the oases through manuring. At the same time the Kirghiz pursued business and trade before retreating to the high pastures for the summer. This system has long since died out as the low-lying winter pastures have been replaced by the expansion of cultivation around irrigated oases and the introduction of sedentary livestock at oases. In addition, increasing urbanization has led to the exclusion of nomadic entrepreneurs and their herds. Furthermore, political changes such as collectivization and central planning affected long-established patterns of animal husbandry. In summary, the accessible pastures that can be found currently are in areas where modernized agriculture failed or where political circumstances permitted. Those pastures are generally to be found in remote locations above 3500 m.a.s.l. altitude.

For the Wakhi mountain farmers the situation has been modified by the introduction of irrigated crop farming. The expansion of households predominantly engaged in agriculture resulted in a higher demand for natural resources which, in themselves, are rather limited. Although there is competition with Kirghiz nomads for high pastures during summer the real constraint occurs in winter, when fodder production in the homesteads competes with food production. This is because the village lands are rather limited, being on average <1 ha per household. Moreover, cultivation at the upper altitudinal limit not only faces the vagaries of climate, but also gives comparatively less return and little scope for expansion. Consequently animal husbandry has gained in overall importance in the regional production system. Of course, the changes outlined above have major consequences for the livelihood conditions of the people concerned.

Divergent developments under changing political conditions

The complexity of socio-cultural problems and the manifestation of transformation processes in societies with economies based on pastoralism varies from region to region. The cases presented below emphasize reorganization of the livestock sectors initiated by external interventions. The five examples (Figure 3) show how political frameworks have affected the livelihood conditions of Kirghiz and Wakhi in Western High Asia during the twentieth century.



Plate 1 The 'system' – barbed-wired fence separating Tajikistan and China – excluding valuable pastures from local usage, south of Kizyl Art Pass (4280 m), Gorno-Badakhshan, Tajikistan (26 August 2001)

Source: Hermann Kreutzmann

Soviet sedentarization programmes and recent developments in Middle Asia

As the majority of the Pamirs are located within the GBAO of the Tajikistan Republic, the people living there were involved in the sedentarization of

nomads during the Stalinist modernization programmes in the 1930s. Autonomous republics and districts were created in order to uplift the pre-modern strata of society, hence the Autonomous Soviet Socialist Republic of Tajikistan was carved out as a new political entity. At this time nomadic production

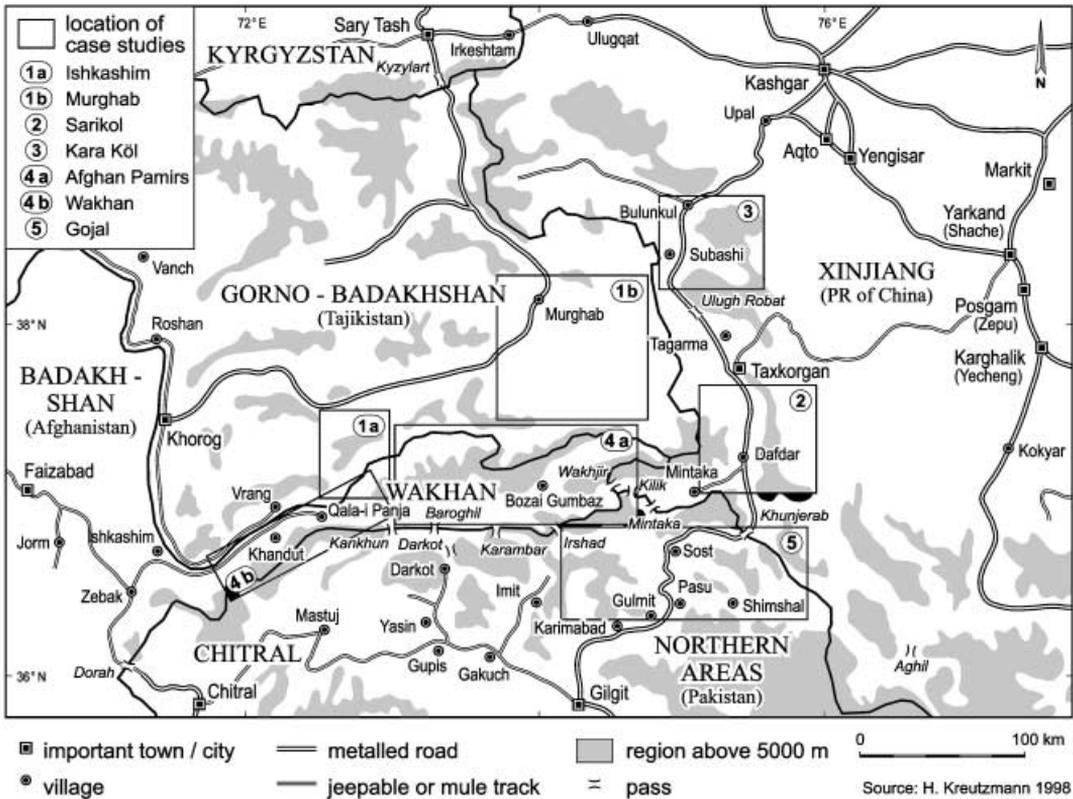


Figure 3 Location of case studies

systems and lifestyles were declared backwards. Consequently the system of pasture utilization under Kirghiz *begs* was replaced by *kolchoz* (*kollektivnoe chozjajstvo* – collective economy) and *sovchoz* (*sovetskoe chozjajstvo* – Soviet economy) settlement-centred seasonal migration of herds. Collective and/or Soviet state farming here meant that winter quarters were established where the collectivized herds were brought to pasture. The flocks were controlled by shepherds of the respective units while, during the summer, yurt encampments remained as filial branches of the unit. Where feasible, fodder production was increased and attempts to improve the breeds and the health of the herds were made. Permanent winter stables with adequate infrastructure, veterinary treatment and sufficient fodder contributed to the formation of new settlement cells which in some aspects resemble those of contemporary Pamirian pastoralism in the Eastern Pamirs. Here Kirghiz shepherds and a few Wakhi keep yak, sheep and goat herds around well-established supply stations from which they undertake seasonal migrations to high summer pastures. Basically Kirghiz nomadism was converted

into a form of mobile animal husbandry under conditions of collective resource management. Wakhi combined mountain agriculture was also adjusted to the prevailing socio-economic system.

Under Soviet rule Tajikistan's economy was completely integrated into the centrally planned union system and subjected to decrees from the centre. This had significant effects on even the remotest mountain areas as Gorno-Badakhshan reveals. The Soviet state-run economy had selected the Eastern Pamirs primarily as a sheep and yak-producing region. All other agricultural activities prevalent before were subordinated to the dominant livestock sector. A number of examples confirm this.

- Irrigated village lands formerly utilized for grain production were converted into fodder production zones.
- The Wakhi members of *sovchos roi kommunizm* in Rajon Ishkashim kept a sizeable yak herd in the upper parts of the Amu Darya valley and in Khargushi Pamir.

In low-lying Wakhi villages, alfalfa and other fodder crops replaced barley, wheat and beans and

their entire agricultural system was devoted by decree to animal husbandry. Other food supplies were imported from outside. Even high-protein fodder (about 50 tons each year) was brought in from Sary Mogol in Kyrgyzstan to sustain a herd of 450 yaks year round on the Pamirs.

With the independence of Tajikistan and its subsequent transformation, individual ownership of land and cattle was re-introduced between 1996 and 1999. Yak herding is organized through the farmers' association, and the shepherds keep 70% of their production while the rest belongs to the association. The Wakhi of Ishkashim still control a herd of 300 yaks as well as 15 700 sheep and goats. In neighbouring Kirghiz-dominated Rajon Murghab, nearly 14 000 yaks and 38 000 sheep and goats are kept today (cf. Herbers 2001; Lambertin 2001; Mamadsaid and Bliss 1998). The majority of herds are controlled by diminishing state-run enterprises or dominant private farmers' associations – the organizations that have succeeded *kolchoz* and *gozchoz* (state farms). The adverse economic conditions of the current transformation period have impoverished the Kirghiz herdsmen because remaining herds are too small to sustain a household. Food supplies are meagre and additional food bought from the markets is expensive. As a consequence, the vast majority of agriculturists in Gorno Badakhshan are currently dependent on humanitarian aid, although the degree of local self-sufficiency seems to have increased from 25% in 1996 to 69% in 2001 (Aga Khan Development Network 2002). The level of self-sufficiency seems high compared with other mountain regions if we take into account that in mountainous areas of industrialized countries less than half of the goods consumed are produced locally. This was also the case in the mountain regions of the Soviet Union and China where 40–90% were imported from other regions, while in the Hindukush-Karakoram-Himalaya – with some regional exceptions – subsistence levels are higher (Aga Khan Rural Support Programme 2000, 37; Kreutzmann 1996, 219; 2000, 496; 2003; Streefland *et al.* 1995, 84–5). This is a global feature as it corresponds to higher self-sufficiency levels in poorer regions while affluent mountain areas tend to import substantial amounts of basic food.

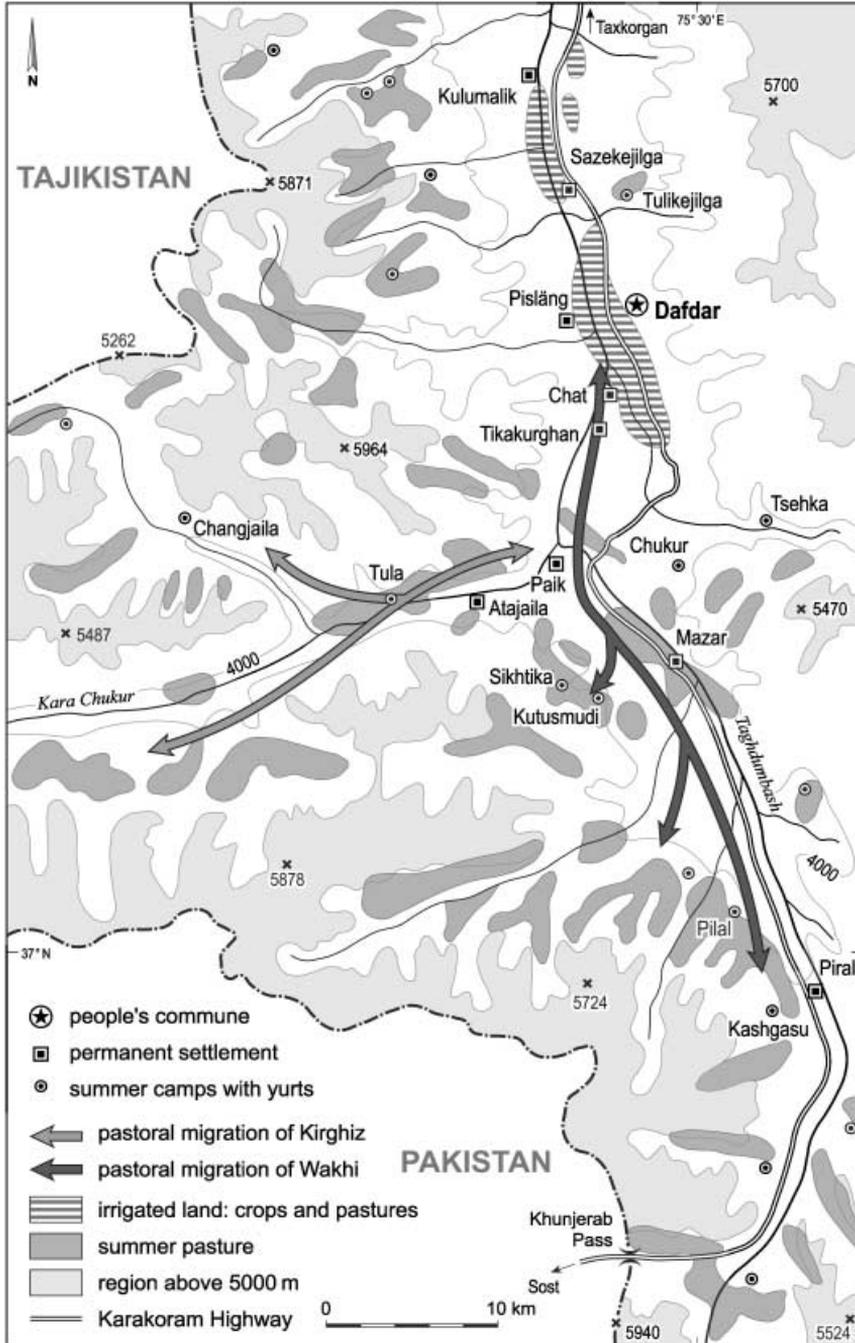
After the failure of the Soviet model of modernization the area experienced a reversal in its development path. Two to three generations ago the Kirghiz nomads and Wakhi mountain farmers were expropriated and their property was collectivized. Subsequently they became workers in cooperatives and state employees. Now their resources and their property have been returned, at least in part. However, the people were ill-

prepared for this sudden change. Most are graduates of the most sophisticated education system in Western High Asia and they lack experience in stock breeding and farming because of the professions they adopted during the Soviet era. The present socio-economic transformation has forced the majority of Kirghiz and Wakhi to follow an agricultural subsistence strategy based on crops and livestock. It appears to many to be a return to their parent's survival strategies, though the global and regional conditions are different. The present income levels are far below previous ones and it remains to be seen if this resource-based strategy will be sustainable. The local levels of economic depression and household income deficiencies are high and as a consequence young people have migrated and are seeking low-level employment in Russia and Pakistan. During fieldwork in 2001 I established that on average 75–90% of all households in Gorno-Badakhshan had a migrant in Russia. Close to 300 Wakhi were seeking employment in Moscow with a smaller number looking for work in Pakistan. Out-migration currently seems to be the most successful strategy to alleviate the severe local cash deficiency.

Competition between nomads and mountain agriculturists in the Pamirs (Sarikol, Tajik Autonomous County)

The Taxkorgan or Sarikol (the former name of the principality) area comprises three different ethnic groups: the Sariqoli, Wakhi and Kirghiz (which here are <5% of the population). The first two groups, which comprise more than 80% of the inhabitants, practice combined mountain agriculture composed of crop cultivation and animal husbandry with seasonal utilization of Pamir pastures, while the Kirghiz specialize in livestock. All three groups traditionally move their flocks within the Taghdumbash Pamir and have been tributary to the Mir of Hunza who exercised control over these pastures until 1937. While the Kirghiz lived at higher elevations, the Sariqoli approached this area from the northern low-lying villages. The Wakhi, who were stranded as refugees from Afghanistan about a century ago, founded the settlement of Dafdar at 3400 m.a.s.l. in the heart of the Taghdumbash Pamir with the consent of the Chinese authorities (Kreutzmann 1996). All three groups compete for the fodder resources within the Taghdumbash Pamir (Figure 4).

Since the Chinese Revolution in 1949 and the formation of the Tajik Taxkorgan Autonomous County in 1954, collectivization has taken place and rural communes (*gungshe*) were established in the villages. The role model, from the neighbouring



Source: adapted from H. Kreuzmann 1996, p. 222

Figure 4 Dardar. Competition for pastures and their utilization



Plate 2 Wakhi women preparing *ijin* (felt) as a side product during their stay in the high pasture, Kashgasu, Dafdar, Taxkorgan County, Xinjiang, China (5 August 1991)

Source: Hermann Kreutzmann

republics, was implemented by Chinese revolutionaries and their Soviet advisors. Basic infrastructural assets such as schools, police stations, post offices, health posts and barefoot doctors, commune administrations, shops and mosques have been provided in all communities of the Taghdumbash Pamir.

In post-revolutionary times the number of livestock increased by a factor of 4.75 to reach 128 800 head in 1984. During the following decade growth slowed down and in 1994, the number of livestock (Bactrian camels, horses, donkeys, yaks, cattle, sheep and goats) was 147 586. Natural grazing provides the most important local resource for animal husbandry: the area covered by grasslands extends to 6.09 million *mu* (1 *mu* = 0.067 ha of which 97.6% is natural grazing while 0.13 million *mu* are irrigated meadows). More than two-thirds of the overall economic turnover of Taxkorgan County is derived from animal husbandry.

In 1960, self-sufficiency in food and fodder production was achieved in Taxkorgan County (Xinjiang) for the first time since the Chinese Revolution. Since 1982 the majority of the 11 townships and former people's communes (*renmin*

gungshe) have been equipped with a veterinary station supplying vaccines and extension services to the farmers. Experiments with fat-tailed sheep (*dumba, dumbash*) have been executed and their proportion in the regional flocks has increased. A veterinary station specializing in yak breeding was established in Mazar in the heart of the Taghdumbash Pamir, which utilizes the local knowledge of Sariqoli, Wakhi and Kirghiz shepherds who are employed there. About 400 people live at the Mazar breeding station which accommodates about 5000 sheep and 500 yaks. Much bigger herds of yaks are kept by the Wakhi (Plate 2) and Kirghiz of the Kara Chukur Valley which drains the westernmost Taghdumbash Pamir. This side valley has become the only Kirghiz-dominated pasture region in Taxkorgan County. Recently livestock production has become more profitable and has found a ready regional market at Taxkorgan bazaar.

Modernization has reached the Wakhi and Kirghiz here in a 'Chinese' way. Economic liberalization and political authoritarianism remain the conceptual bases. Consequently both groups residing in Xinjiang cannot profit from their location in a border region. Although positioned along the Karakoram (KKH) or Pak-China Friendship Highway

severe travel restrictions apply to Chinese citizens, and a metal fence was erected along the Khunjerab Pass section to restrict clandestine movements and smuggling. Thus, generating additional income from non-agrarian resources in this peripheral region is extremely difficult. This is particularly problematic because of the low degree of participation of Kirghiz and Wakhi in education programmes and professional training. Given the overall levels of economic growth in China these communities are less affected by this growth than Wakhi and Kirghiz in other countries in Central Asia (Kreutzmann 1996, 215–34).

Kirghiz pastoralists in Kara Köl (Kizil Su Autonomous District, China)

The Kirghiz of Kizil Su traditionally followed a long-distance nomadic migration cycle between the summer grazing grounds in the Pamirs and the irrigated oases of the mountain forelands. Their winters were occupied with herding and other business opportunities in the towns of Kashgar and Yarkand. This migration pattern has been interrupted within the last 50 years and nowadays the Kirghiz nomads and their herds are confined to the Pamirs all year round (Figure 5); they only leave the Pamirs to bring their flocks to Sunday markets at Kashgar or Yarkand.

The pasture system has been adjusted to the prevailing economic and political conditions. The herds of the Kara Köl Kirghiz average 12.2 yaks, 98.2 sheep and 40.1 goats, as well as 1.5 horses, 1.4 donkeys and 2.5 Bactrian camels. In comparison, in 1976, the people's commune of Subashi (Karakul) owned, on average, 0.5 horses, 0.3 camels, 3.5 yaks and 74.9 sheep and goats per household. The total number of livestock in this period was around 10 300 animals. Besides state ownership of flocks, private property rights for a limited number of animals had been assured for the pastoralists. The carrying capacity of accessible pastures was estimated at 40 000 animals, but by 1991 the total head of livestock exceeded 30 000. In comparison with the overall livestock development in Aqto County², where livestock numbers grew by a factor of 1.3 from 1976 to 1991 and cattle numbers by 1.65, the growth in Kara Köl is out of proportion to the county as a whole (cf. Friederich and Kreutzmann 2000). Here in a remote high-altitude yak- and sheep-breeding area, livestock numbers grew three times faster. It appears that in this area the relaxed attitudes of the Chinese authorities towards agricultural and livestock production, especially since the 1978 reforms, have led to increased market orientation. The quality of pastures has also been improved

through irrigation and fencing of meadows. Grass is cut by scythe and winter fodder is stored to cover the long period of meagre natural grazing in the winter settlement (*kishlok*) of Subashi at an altitude of 3600 m.a.s.l.

In Aqto County about a quarter of the population class themselves as Kirghiz (approximately 38 000 people in 1993), while three-quarters of the residents in the high mountain pastures claim to be Kirghiz pastoralists (25 500 people, cf. Friederich and Kreutzmann 2000, 50). Aqto County borders the outskirts of the city of Kashgar, and the former and present migration routes from the Pamirs to Kashgar bazaar lie within the county. The *kishlok* of Subashi is like other former communes (*dadüy*), equipped with similar infrastructure and institutions to those in Tajik Taxkorgan Autonomous County and with a veterinary post to control the quality and health of animals. Despite the harsh environmental conditions the animals raised in these productive pastures compete very well in the profitable markets of the urban oases along the Southern Silk Route in the Tarim Basin. The Kirghiz are respected as one of the most affluent livestock-breeding communities of the region (Plate 3). In several interviews it was stated that recent developments have permitted them to operate successfully and that there was no cause for them to be envious of Kirghiz in neighbouring states.

Kirghiz exodus from, and return to, the Afghan Pamirs

The Great and Little Pamir, within Wakhan Woluswali of Badakhshan Province (Afghanistan), have been studied extensively up to the 'last exodus' of the Kirghiz nomads to Pakistan in 1978 (cf. Shahrani 1984). Their fate is one of the more prominent cases where border delineation has interrupted traditional migration patterns.

In 1978, nearly all Kirghiz (the inhabitants of 280 yurts) fled to Pakistan in the aftermath of the Afghan Saur Revolution and prior to the invasion by the Soviet Army. When the Kirghiz left the Afghan Pamirs they left their wealth behind as only a small herd of 6000 animals was taken across the high passes to Pakistan. Rahman Kul alone left behind 16 000 sheep and goats and more than 700 yaks, 15 horses and 18 Bactrian camels; while the whole community in the Afghan Pamirs possessed more than 42 000 animals (Dor and Naumann 1978; Shahrani 1979). By comparison, the majority of Wakhi existed on a much lower economic level. Wakhi farmers utilizing the Pamirs for summer grazing had to compete with rich Kirghiz nomads who controlled most of these Pamirs and some impoverished Wakhi took up jobs as shepherds for

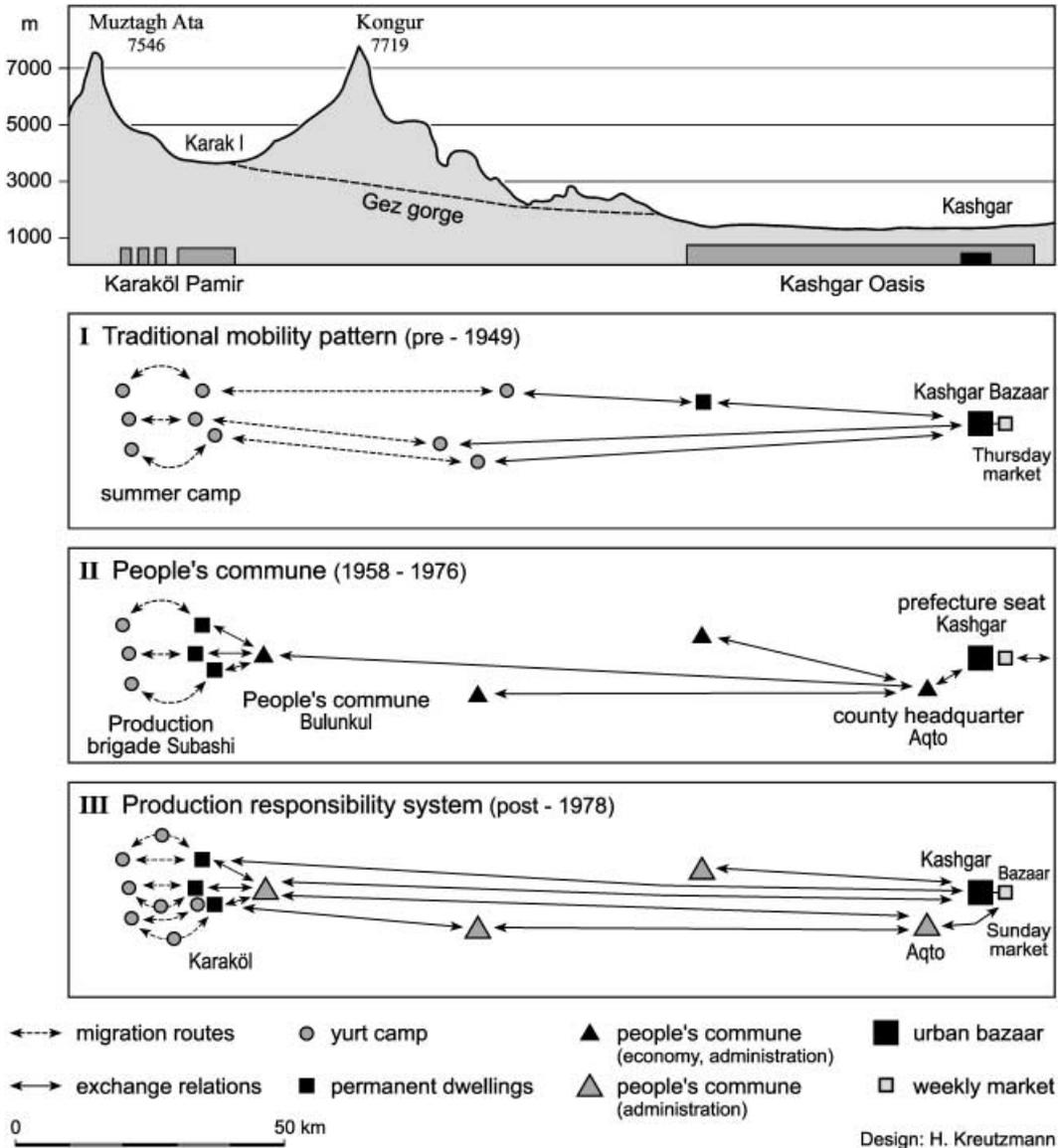


Figure 5 Mobile livestock economy and exchange relations of Kirghiz pastoralists in Kara Köl

Kirghiz herd owners. Eventually they turned to nomadic strategies, one of the rare cases of farmers becoming nomads.

In August 1982 Rahman Kul migrated to Eastern Anatolia with his followership of 1132 Kirghiz (cf. Dor 1987; Shahrani 1984). A Kirghiz community was established in Kurdish territory as a government resettlement scheme which provided each household with ten sheep and goats as well as three cattle; none of their livestock were moved to

Turkey. Rahman Kul became the village head of the community of Ulupamir Köy where he died in 1990. The leadership was transferred to his eldest son. Presently this community has grown to 2000 members and follows a combination of sedentary agriculture and animal husbandry with a herd size of 7000 sheep, 1000 goats, 6000 cattle and 70 horses. Last summer (2002) there was no sign of them leaving this part of Turkey for an uncertain future in High Asia.



Plate 3 Once a year Kirghiz shepherds drive down their sheep flocks from the Kara Köl Pamir to Kashgar via the Friendship Highway, Bulunkul, Kizil Su, Xinjiang, China (7 September 1995)

Source: Hermann Kreutzmann

Almost unnoticed, a small group of 200 Kirghiz refused to follow their *khan* to Turkey and returned to the Afghan Little Pamir in October 1979. Under the leadership of Abdurrashid Khan who utilized previous ties to the KGB, and a permission granted by Pakistan's President Zia-ul Haq, they established themselves in Soviet-occupied Wakhan and have remained there since. The community had grown to 102 yurts in Pamir-e Kalan (Great Pamir) and 135 yurts in Pamir-e Khurd (Little Pamir) by 1999 (Plate 4). The number of yaks is around 1400 and there are 9000 sheep and goats, 160 horses and 90 Bactrian camels. Any form of animal husbandry has been limited to subsistence survival strategies in recent years as traditional exchange lines have been interrupted due to the adverse political climate. Presently these Kirghiz are engaged in livestock breeding and in limited barter trade with entrepreneurs from neighbouring Hunza in Pakistan (Figure 6). The itinerant traders supply basic necessities in exchange for yaks and sheep, and livestock products such as wool, hides, yak tails and *qurut* (protein-rich cake from boiled-down and dehydrated butter milk). Nevertheless, human-

itarian aid from outside is regularly needed to meet basic food requirements. Abdurrashid Khan remembers the period of Soviet occupation in the Afghan Pamirs as the most comfortable period of his life. Prospects for the future are bleak and negotiations with the Government of Kyrgyzstan have started. Up to now, the majority of Kirghiz have refused to leave the fertile Pamir pastures for an uncertain future in the Alai Valley of Kyrgyzstan. Among all the Kirghiz groups studied, the least change in survival strategies has occurred amongst these Kirghiz. No school and no dispensary or hospital are located in the Afghan Pamirs, neither are there any bazaars or shops. Bartering of livestock products and animal husbandry organized through a migratory cycle between winter and summer camps remain the prime occupations of this community.

Wakhi mountain farmers in Gojal (Hunza, Pakistan) and Wakhan (Afghanistan)

There could be no bigger contrast than that between the Wakhi mountain farmers of Pakistan

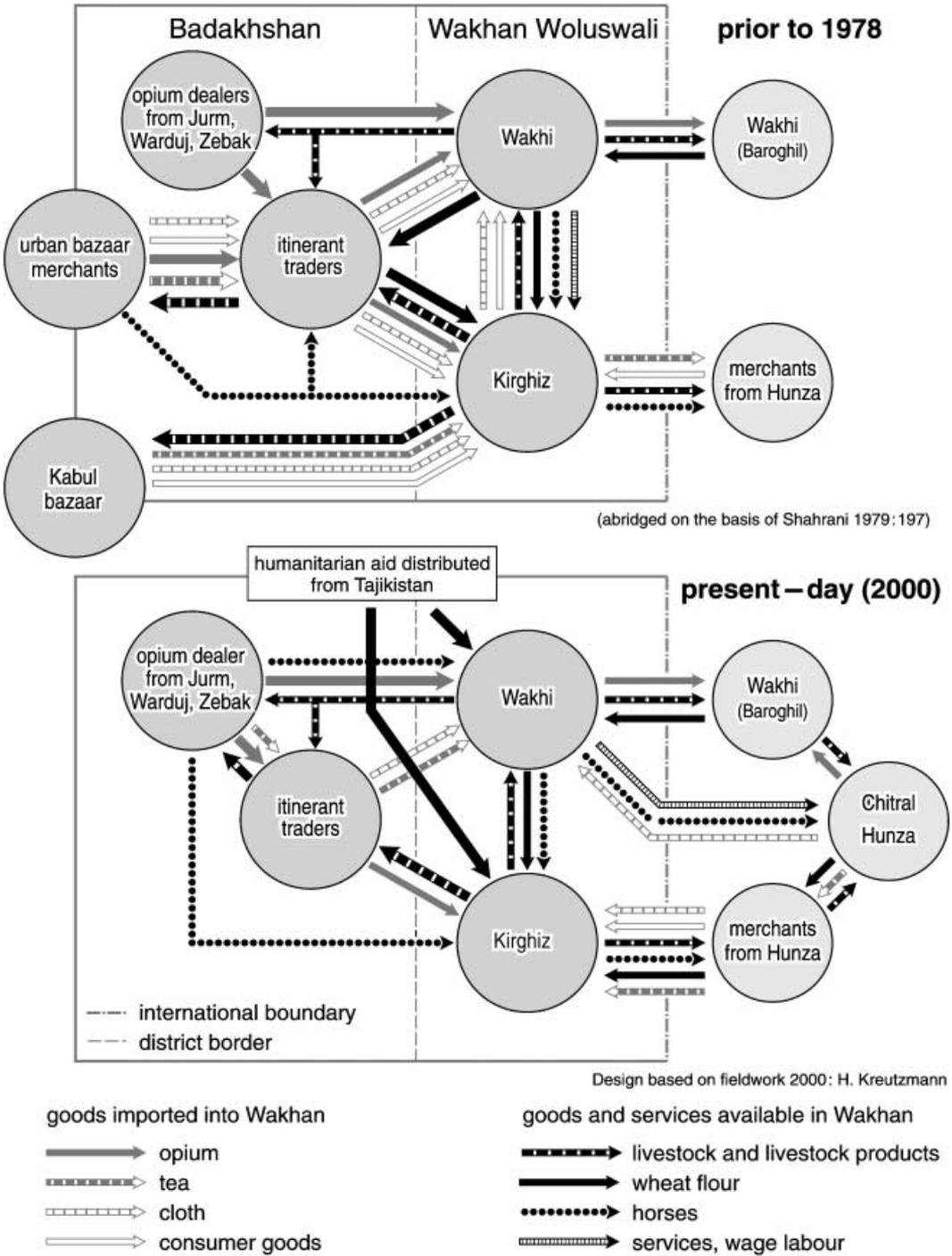


Figure 6 Exchange relations in Afghan Wakhan prior to the crisis and today



Plate 4 Kirghiz women in the Kichik Pamir (Little Pamir) discussing whether to leave their pastures for an exiled life in Kyrgyzstan, Kara Jilga, Little Pamir, Afghanistan (10 June 2000)
Source: Hermann Kreutzmann

and Afghanistan. High mountain farmers in Wakhan (Afghanistan) follow a strict subsistence strategy and are barely able to survive on the basis of their fields (Plate 5) and pastures. The old capital of the Wakhi, Qala-i Panja, is located in Afghan Wakhan within the agricultural fields (cf. Figure 1). The ruined fort symbolizes the declining autonomy and there is currently little state authority. For example, local warlords still expropriate livestock and food grains from local farmers, whilst simultaneously profiting from the barter of opium against livestock. Before the Afghan crisis bureaucrats from Kabul were sent to Khandut, the administrative centre of Wakhan. Nowadays, however, the spiritual authority of Wakhan, Pir Ismail Shah, has replaced outside players and is only accountable to the secular commander-cum-warlord of Eastern Badakhshan, Sador, and his sub-commander Jan Mamad from Warduj. Pir Ismail Shah represented Wakhan in the Loya Jirga in Kabul in 2002. His representation was enabled by UN intervention and not by regional support of the armed self-appointed *mujahedin* rulers.

Locally the situation is characterized by production strategies which have been known for a long time. The exchange partners for barter trade (cf. Figure 6) are missing due to interrupted and declining exchange relations. Thus the population of 1050 households and 9300 people (1999) is currently heavily self-dependent and subsistence-orientated. Consequently a very important component of Wakhi livelihoods – the non-agrarian part of the household income – is absent in the present political and economic conditions, thereby critically endangering subsistence livelihoods. People from here regularly cross the border into Pakistan to offer livestock and their personal services as wage labourers in exchange for basic necessities like flour. Here mobility again is used as a coping strategy. Without these opportunities and strategies survival could not be guaranteed in isolated and remote Wakhan.

To a lesser degree we find poor Wakhi communities in Pakistan: in Baroghil (Yarkhun Valley, Chitral), in Darkot (Yasin) and Ishkoman (Figure 1); but in Gojal (Hunza) levels of development are very different. The Wakhi living here have profited

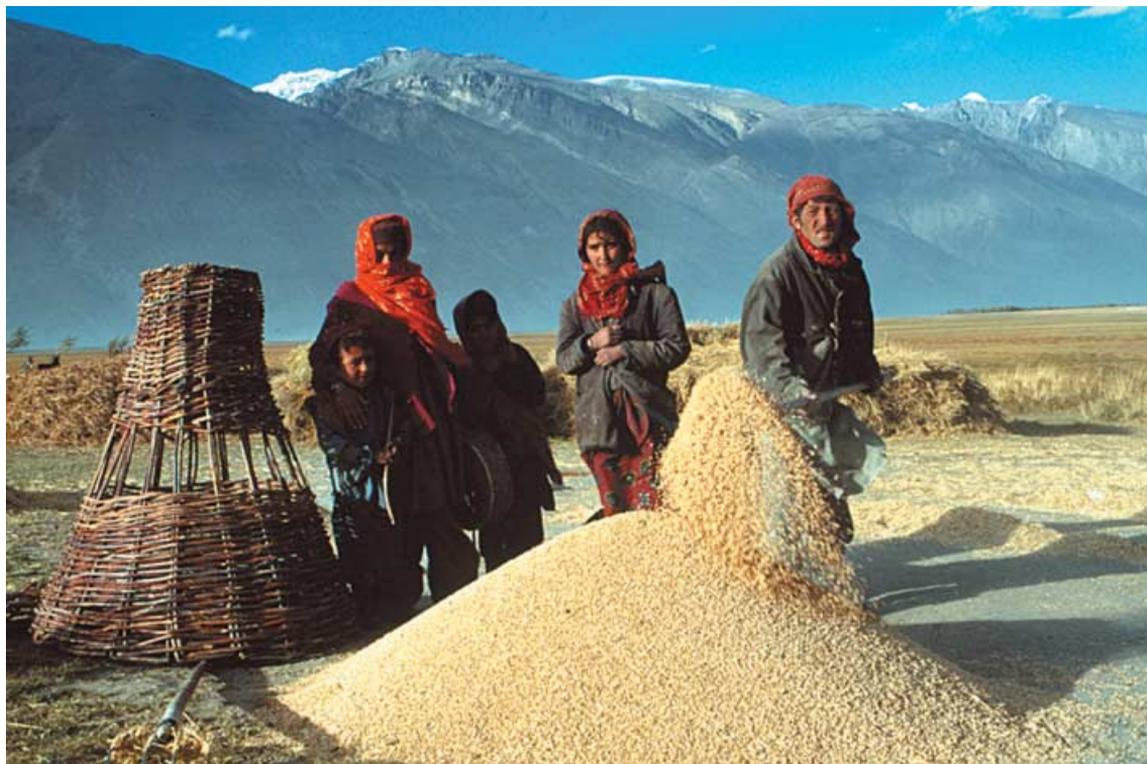


Plate 5 Wakhi farmers have harvested their staple food grains in a predominantly subsistence economy in Pigash, Wakhan Woluswali, Afghanistan (12 October 1999)
Source: Hermann Kreutzmann

substantially from the development efforts of the Aga Khan Development Network (AKDN) and from migration. As a long-term strategy the AKDN tried to improve the infrastructure by setting up a health network, and educational and rural development institutions in addition to efforts by the Government of Pakistan. The Wakhi of Gojal adopted educational goals in an impressive manner. Nearly all boys and girls nowadays attend schools, and many have experienced further education which has resulted in them taking up professional careers, reducing their dependency on agriculture (Felmy 1997). Many Wakhi are working in urban centres in northern Pakistan such as Gilgit, as well as cities like Islamabad and Karachi. Some have migrated to the Gulf States, the USA and Canada. Education and entrepreneurship are the role models here, although after the events of 11 September 2001 the prospects for tourism and trade have reached their lowest levels for more than two decades.

In Gojal we find a case where outside intervention and subsidies support different communities to

expand their sources of income and to build a more diversified foundation for survival in these harsh environments (Kreutzmann 1994). Comparable external support could only be found in the former Soviet Union where basic infrastructure was funded from the centre and provided to even the remotest locations. In principle the same strategy was followed in China, although the success rate has been lower than in the USSR, especially in the field of education.

Animal husbandry as part of combined mountain agriculture has ceased to be the major survival strategy in Gojal. Nevertheless, the pastoral property rights are a major cause for disputes (Plate 6) among neighbouring villages. Cash crop production of potatoes promises much higher returns and is less time-consuming. Access to the Karakoram Highway – the major artery linking Pakistan with China – has become an additional asset (Kreutzmann 1995 2000) and Gojali Wakhi are involved in the Pakistan–China trade as much as they are in commercial and professional enterprises elsewhere in Pakistan.

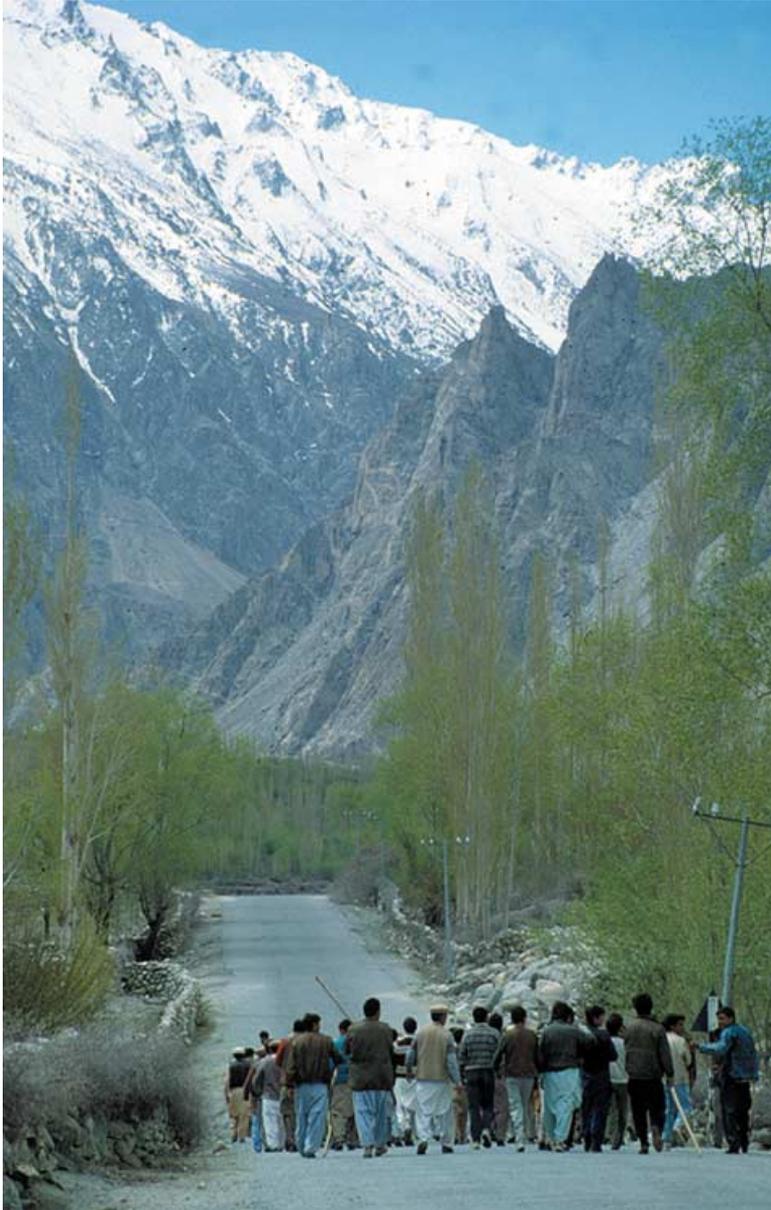


Plate 6 Wakhi mountain farmers have assembled to defend their pastoral property rights against the neighbouring community, Gulmit, Gojal, Hunza, Pakistan (29 April 1990)
Source: Hermann Kreutzmann

Future prospects: continuity of challenge and response

The challenges to the Kirghiz and Wakhi have been many and the responses have been quite varied. Challenges from outside have occurred

mainly in terms of political pressure and external domination of peripheral regions. The Wakhi and Kirghiz communities have come under political control from nation states with varied levels of (vested) interest in their resource bases. In the economic sphere, concepts of modernization – whether

capitalist or communist – were implemented in the name of development and improvements in living conditions. In the face of these external influences, the Wakhi and Kirghiz seem to stick to elements of their pastoral traditions while at the same time exploring new opportunities.

The positions and experiences of Wakhi and Kirghiz in Western High Asia are fragmented as the boundaries between the scattered community territories indicate, but they have never been a coherent unit. Geopolitical events have forced both communities to adjust frequently to altered circumstances and they have developed coping strategies to do so. The observation that the effects of international politics reach deep into the peripheral valleys and plateaux of remote high mountain regions might be surprising for some, but confirms that the concept of security survival overrides the idea of these areas as refugia. Their struggle for survival appears to be in pursuit of territorial control. The search for security takes place in a familiar mountain habitat and pastures they claim to be their own.

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Notes

- 1 Kirg. refers to the Kirghiz names, Pers. to the Persian names.
- 2 Administratively, the Kara K l grazing zone forms part of Aqto County, which is one of the four sub-units of the Kizil Su Autonomous Oblast.

References

- Aga Khan Development Network** 2002 AKF activities in Tajikistan Tajikistan report 2002 A summary of the foundation's activities Dushanbe, Tajikistan
- Aga Khan Rural Support Programme** 2000 *An assessment of socio-economic trends and impact in Northern Pakistan (1991–1997) Findings from AKRSP'S farm household income and expenditure surveys Gilgit* (mimeo)
- Bobrinskiy A A** 1908 *Gortsy verkhov'ev Pyandzha* (Mountain dwellers of the upper Pyandzha valley) A.A. Levenson, Moscow
- Curzon G N** 1896 The Pamirs and the source of the Oxus *The Geographical Journal* 8 15–54, 97–119, 239–64
- Dor R** 1987 Return to Karagunduz. With the Kirghiz in Turkey *Central Asian Survey* 6 61–72
- Dor R and Naumann C M** 1978 *Die Kirghisen des afghanischen Pamir* (The Kirghiz of the Afghan Pamirs) Akademische Druck- und Verlagsanstalt, Graz
- Dunmore Earl of (Murray C A)** 1893 *The Pamirs: being a narrative of a year's expedition on horseback and on foot through Kashmir, Western Tibet, Chinese Tartary, and Russian Central Asia* 2 vols John Murray, London (reprint Vanguard Books, Lahore 1996)
- Ehlers E and Kreutzmann H** eds 2000 *High mountain pastoralism in Northern Pakistan* Franz Steiner Verlag, Stuttgart
- Felmy S** 1997 *The voice of the nightingale. A personal account of the Wakhi culture in Hunza* Oxford University Press, Oxford
- Friederich M and Kreutzmann H** 2000 Oytagh – Sozio- konomische Transformationsprozesse in der Peripherie: Produktion und Gesellschaft im westlichen Kun Lun Shan (Oytagh – socioeconomic transformation processes in the periphery: production systems and society in the western Kun Lun Shan mountains) Unpublished report to the Deutsche Forschungsgemeinschaft Erlangen, Germany
- Funnell D and Parish R** eds 2001 *Mountain environments and communities* Routledge, London
- Gordon T E** ed 1876 *The roof of the world, being the narrative of a journey over the high plateau of Tibet to the Russian frontier and the Oxus sources on Pamir* Edmonston and Douglas, Edinburgh
- Herbers H** 2001 Transformation in the Tajik Pamirs: Gornyi-Badakhshan – an example of successful restructuring? *Central Asian Survey* 20 367–81
- Humphrey C and Sneath D** ed 1999 *The end of nomadism? Society, state and the environment in Inner Asia* Duke University Press, Durham NC
- Huntington E** 1905 The mountains of Turkestan *The Geographical Journal* 25 22–41, 139–158
- Huntington E** 1907 *The pulse of Asia. A journey in Central Asia illustrating the geographic basis of history* A. Constable, London
- Huntington E and Cushing S W** 1924 *Principles of human geography* John Wiley, London
- Jaworskij J L** ed 1885 *Reise der russischen Gesandtschaft in Afghanistan und Buchara in den Jahren 1878–79* (Journey of the Russian Embassy to Afghanistan and Buchara during 1878–79) Costenoble, Jena
- Kreutzmann H** 1994 Habitat conditions and settlement processes in the Hindukush-Karakoram *Petermanns Geographische Mitteilungen* 138 337–56
- Kreutzmann H** 1995 Globalization, spatial integration and sustainable development in Northern Pakistan *Mountain Research and Development* 15 213–27
- Kreutzmann H** 1996 *Ethnizit t im Entwicklungsproze . Die Wakhi in Hochasien* (Ethnicity in development. Wakhi communities in High Asia) Dietrich Reimer, Berlin
- Kreutzmann H** 1998 The Chitral trade triangle: rise and decline of Central Asian trade, 1895–1935 *Asien-Afrika-Lateinamerika* 26 289–327

- Kreutzmann H** 2000 Improving accessibility for mountain development. Role of transport networks and urban settlements in **Banskota M, Papola T S and Richter J** eds *Growth, poverty alleviation and sustainable resource management in the mountain areas of South Asia* Proceedings of the International Conference, 31 January–4 February 2000 Kathmandu, Nepal Zentralstelle fuer Ernaehrung und Landwirtschaft (Food and Agriculture Development Centre), Feldafing 485–513
- Kreutzmann H** 2003 People and mountains. Perspectives on the human dimension of mountain development in **Jansky L** ed *Conservation of mountain ecosystems* United Nations University, Tokyo (in preparation)
- Lambertin V** 2001 Le yak. Systèmes d'élevage et filière viande (The yak. Systems of pasturing and animal husbandry) Unpublished diploma thesis, Montpellier
- Mamadsaid M and Bliss F** 1998 Socio-economic change in Gorno-Badakhshan A monitoring report of the MSDSP 1997–1998 Khorog unpublished
- Olufsen O** 1904 *Through the unknown Pamirs. The Second Danish Pamir Expedition 1898–1899* William Heinemann, London (reprint Greenwood Press, New York 1969)
- Ortner S** 1989 *High religion. A cultural and political history of Sherpa Buddhism* Princeton University Press, Princetown NJ
- Shahrani M N** 1979 *The Kirghiz and Wakhi of Afghanistan. Adaptation to closed frontiers* University of Washington Press, Seattle and London
- Shahrani M N** 1984 Afghanistan's Kirghiz in Turkey *Cultural Survival Quarterly* 8 31–4
- Skeldon R** 1985 Population pressure, mobility, and socio-economic change in mountainous environments: regions of refuge in comparative perspective *Mountain Research and Development* 5 233–50
- Snyesreff A J** ed 1909 *Eastern Bokhara* A secret collection of geographical, topographical and statistical material concerning Asia vol. 29 translated in the Intelligence Branch Division of the Chief of Staff, Simla, India
- Streefland P H, Khan S H and van Lieshout O** eds 1995 *A contextual study of the northern areas Gilgit* (mimeo)
- Thompson M** 1997 Security and solidarity: an anti-reductionist framework for thinking about the relationship between us and the rest of nature *The Geographical Journal* 163 141–9
- van Spengen W** 2000 *Tibetan border worlds. A geohistorical analysis of trade and traders* Kegan Paul International, London
- Wood J** 1841 *A personal narrative of a journey to the source of the river Oxus by the route of the Indus, Kabul, and Badakhshan* John Murray, London