

# *The Karakoram Highway: The Impact of Road Construction on Mountain Societies*

HERMANN KREUTZMANN

*Centre for Development Studies  
Geographical Institute  
Free University of Berlin*

## **I. Introduction**

The opening up of regions in the high mountains for motorized traffic has led world-wide to consequences concerning the penetration of these formerly remote areas.

Not only have running-times and means of transport been reduced through the modern routes, but also radical developments in the mountains have been induced. In this context physio-geographical and socio-political frame conditions are of predominant importance for the installation of functional communication systems. Especially in the high mountain regions of Asia relief, snow-covers in passes, glacial movements, earthquakes, water level fluctuations of rivers at fords and limited possibilities of fuel, fodder and foodstuff supplies all restrict the chances for the development of major trade routes.

Yet, more important were the security of the routes and the struggles for power in the mountains over slave trade and exchange possibilities for certain products which influenced the flowering and decay of the famous Silk Road (cf. Herrmann 1910, 1915; Richthofen 1877).

All these factors which were crucial in the formation of a trade network covering the Hindukush, Karakoram, Pamir and Himalayan mountains in a widespread way, can only partially explain the recent extension of metalled roads (Table 1). After the decolonization of the Indian subcontinent there were preponderantly strategic reasons in the extended Kashmir conflict area for the development of the com-

This paper is an extended and revised version of an article in *Die Erde* 118 (Heft 1, 1987), pp. 37–53.

TABLE I  
*Trans-montane Metalled Road Systems in Hindukush, Karakoram and Himalaya.*

Road	Mountain range	Pass (in m)	Altitude of pass (in m)	Length of road (in km)	Period of construction/opening of road (year)
Kabul-Qizil Qala 'Salang Road'	Hindukush	Salang	3600	406	1965
Karora-Chilas 'Indus Valley Road'	Karakoram/Himalaya	Shangla	2150	248	1959-65
Thakot-Kashgar 'Karakoram Highway'	Karakoram	Khunjerab	4600	1150	1964-78
Abbottabad-Gilgit 'Kagan route'	Karakoram/Himalaya	Babusar	4173	420	1948-49
Gilgit-Skardu	Karakoram	—	—	210	1950-68
Jammu-Srinagar	Himalaya	Banihal	2196	330	1955-60
Srinagar-Leh	Himalaya	Fatu La	4100	435	1962-74
Leh-Thoise	Himalaya	Khardung La	5636	80	1980
Yarkand-Gartok	Himalaya	Khitai	5341	1200	1956-57
Birgunj-Kathmandu 'Tribhuwan Rajpath'	Himalaya	Daman		221	1953-56
Kathmandu-Xigazê 'Arniko Highway'	Himalaya	Zanglu	5481	500	1963-67
Kalimpong-Xigazê	Himalaya	Natu La	4310	370	

Source: Kreutzmann 1987: 38.

munication network: the point was to underpin territorial claims through military presence and to guarantee the supply of the garrisons.

From an economic-geographical point of view it is very interesting to analyse the effects of such a measure which is induced from outside and not based on regional planning on infrastructure, exchange patterns between mountains and plains, integration efforts of the central government, job creation, mobility and opening up of resources (cf. Grötzbach 1976).

Consecutively follows the question of the intensification and orientation of the economic dependence within the regional context. The Karakoram Highway (KKH) which connects the Hunza Valley with Pakistan serves as a case study<sup>1</sup> to visualize some of these aspects (fig. 1).

<sup>1</sup> This study was made possible through funds of the German Research Foundation (Deutsche Forschungsgemeinschaft). From Sept.-Dec. 1984 and from Mar.-Nov. 1985 fieldwork was executed in Hunza, additional archive studies took place in Feb.-Mar. 1986 and Aug. 1988 at the India Office Library & Records in London. My thanks go to all supporters in Hunza who made this project feasible and to Detlef Engel (cartography) and Sabine Felmy (translation).

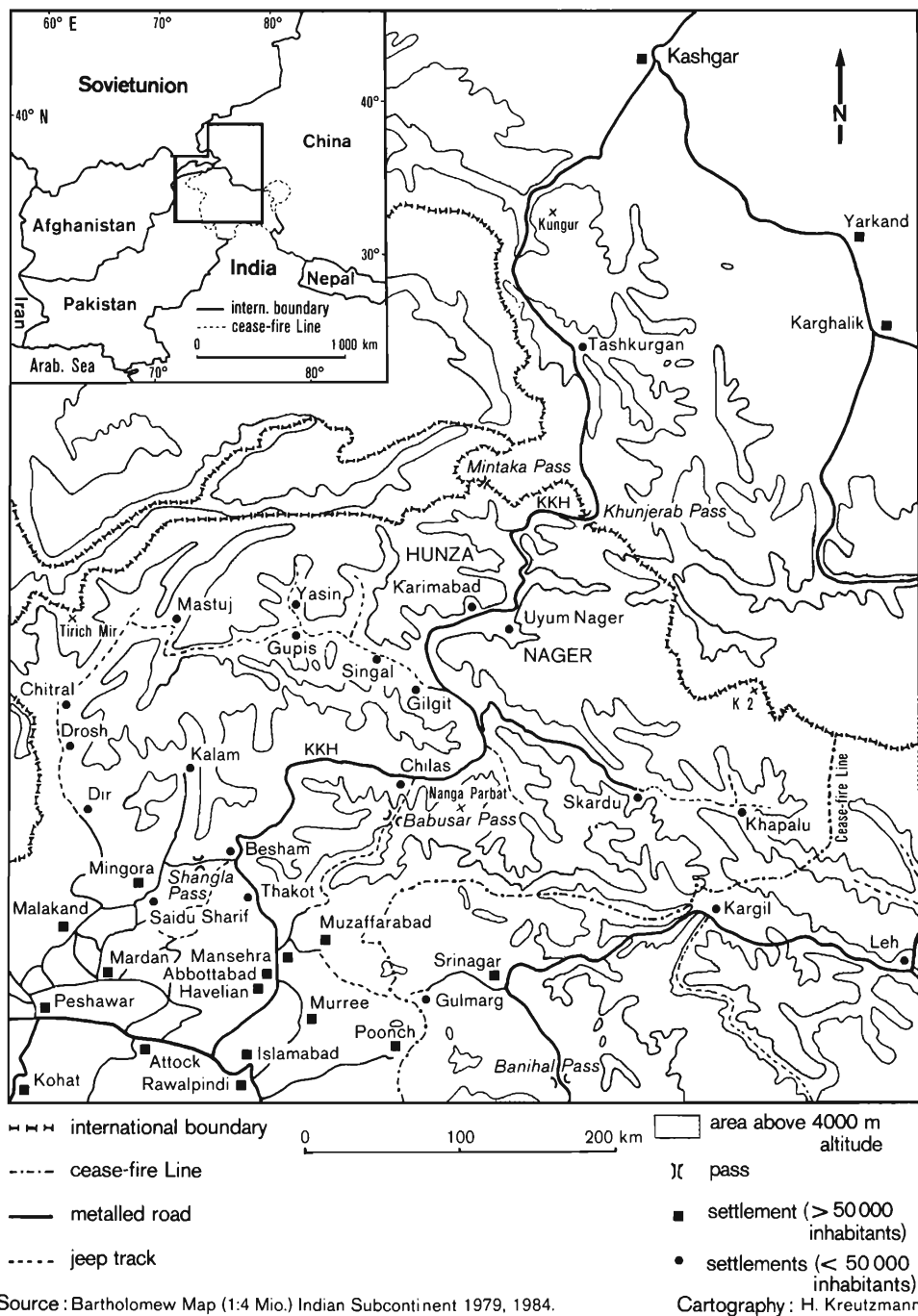


Fig. 1. Road network in the Karakoram.

Source: Bartholomew Map (1:4 Mio.) Indian Subcontinent 1979, 1984. Cartography: H. Kreutzmann

## II. The Study Area

The Northern Areas of Pakistan essentially cover the former Gilgit Agency of British India and are given different names like Dardistan (Jettmar 1982; Müller-Stellrecht 1979: 21–2; Leitner 1894) or Kohistan (Allan 1984; Staley 1982) which are not used locally. The problem of definition is caused by a division of the area into semi-independent territories which maintained their autonomy at least nominally until the recent past. Two types have to be distinguished: autonomous principalities which covered most of the Northern side-valleys of the major rivers (Indus, Gilgit) or part of it are supplemented by so-called 'republics' with acephalous political organization in segmentary societies (Staley 1969: 225–43).

To the principality-type of state belongs Hunza, where until the integration into Pakistan's administrative structure in 1974 a local ruler—*mir* or *tham*—held the sole authority in domestic affairs. The *tham* ruled an ethnically mixed population composed of four different ethnic groups: Burusho, Wakhi, Shina speakers and the Dom. These form the social group of Hunzukuts as they will be termed when dealing with the inhabitants of Hunza. Their permanent settlements are located in the desert steppe zone of the Hunza Valley, and the Shimshal and Chupursan tributaries, where irrigated agriculture in oases with additional livestock-keeping forms the traditional pattern of subsistence economy.

With an average annual precipitation below 150 mm (measured at valley stations), *barani* (rainfed) agriculture is impossible while crop raising depends solely on irrigation. As the Hunza river cuts its bed into an alluvial canyon, mainly irrigation water from re-entrants is led to the village lands.

As in other high mountains (cf. Allan 1986) there is a sequence of ecological zones above the permanent settlements and up to the area of permanent ice which covers more than one-quarter of Hunza's territory. The intermediate zones are utilized by a complex system of *Almwirtschaft*, which describes landuse in high mountains that combines crop-raising with livestock-keeping while optimizing the resource potential of different ecological zones (fig. 2).

In contrast with the social structure of Pakistan's provinces (Punjab, Sind, Baluchistan, North-West Frontier Province) we find in the Northern Areas a fairly equal distribution of landholdings which are predominantly small. The average landholding of approximately

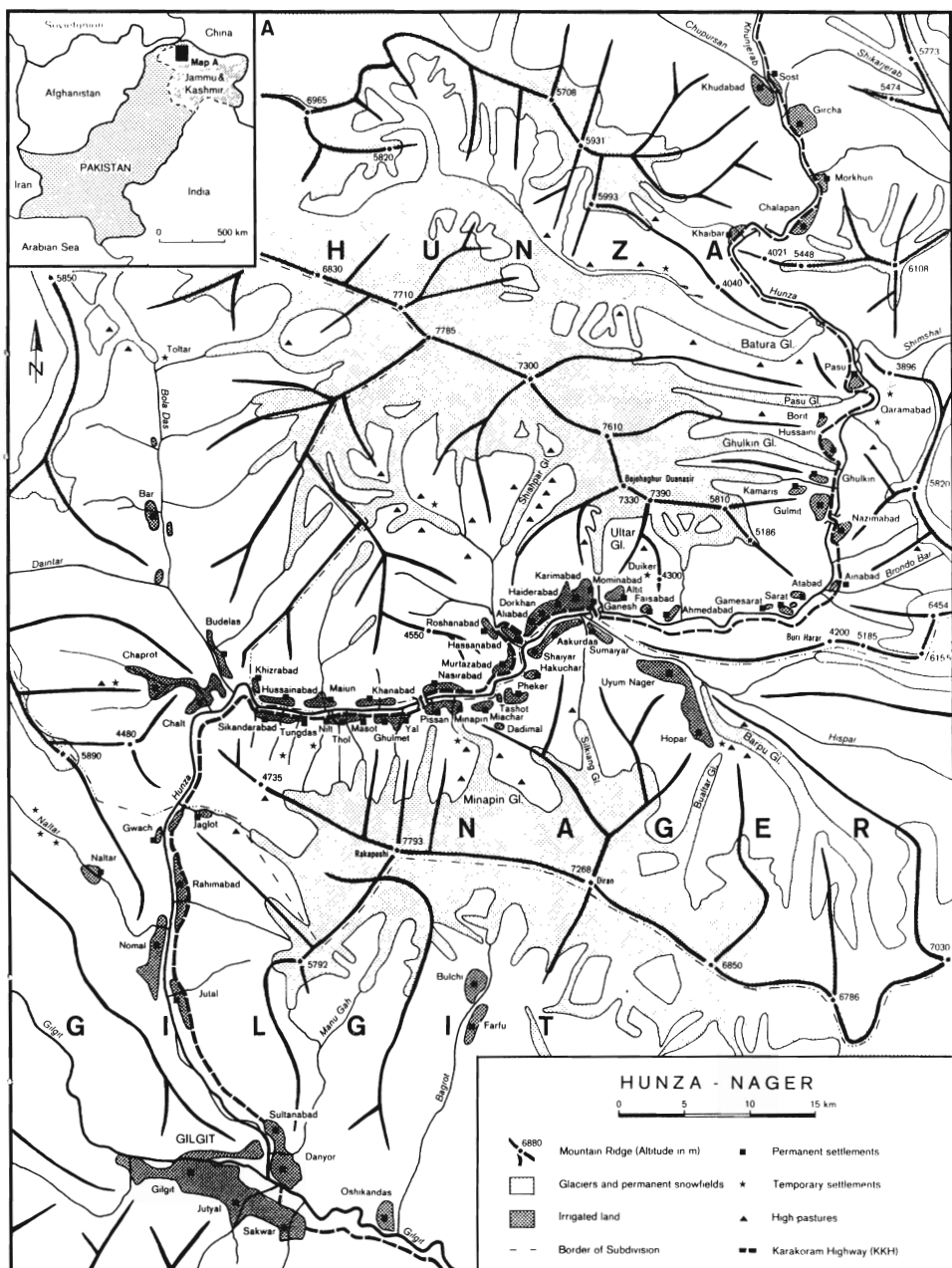


Fig. 2. Hunza-Nager.

Source: Schomberg 1936; Pillewizer 1956; Schneider 1967, NI43-2, NJ43-14

Design: H. Kreutzmann

one ha per household is usually scattered in several parcels in different areas of the village land.

An insufficient production of regular supplies for a growing population (in 1931 Hunza consisted of 13,533 inhabitants compared to 27,797 inhabitants in 1981) has been a major obstacle in improving the living standard of a people who were mainly dependent on subsistence farming. In different historical periods this problem was tackled by appropriate methods, which differed according to the socio-political circumstances.

### III. Historical Development of Road Networks and Economic Exchange Patterns

Hunza represents neither a typical *Pafßstaat*, controlling major mountain passes on important trade routes between Central Asia and the Indian subcontinent nor does it form an isolated mountain valley without any outside contacts. This principality participated in a variety of ways in Inner Asian trade through access to important branches of the Silk Road (Richthofen 1877: 488–507), especially the Badakhshan–Kashgar and Kashmir/Ladakh–Yarkand branches. In the nineteenth century Hunza became an important pawn in the ‘Great Game’ between the rival colonial powers, Russia and Great Britain. For further discussion it is useful to divide the periods of exchange patterns into four phases and analyse them in detail (fig. 3).

#### 3.1 *Origin of Hunza’s tribute relations to China and Kashmir (1761–1891)*

With the annexation of Eastern Turkestan to the Middle Kingdom in 1759, the *tham* Khisro intended to preserve the sovereignty of Hunza by paying tribute to the Emperor of China personified in the Hakim Beg in Yarkand or the Amban of Kashgar. This formal dependence resulted in a lucrative exchange of gifts: Hunza’s annual tribute of 15 *miskal* (approx. 75g) of gold dust (Müller-Stellrecht 1978: 18) was exchanged for Chinese products of multiple value (silk, cotton, tea, pottery). Members of the annual exchange delegations utilized their opportunities to barter goods in Yarkand and Kashgar in small quantities.

Loyal political relations to China—which were proved in several military encounters in Eastern Turkestan when the *tham* of Hunza

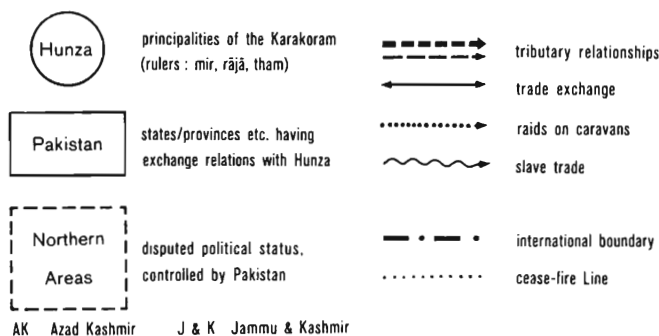
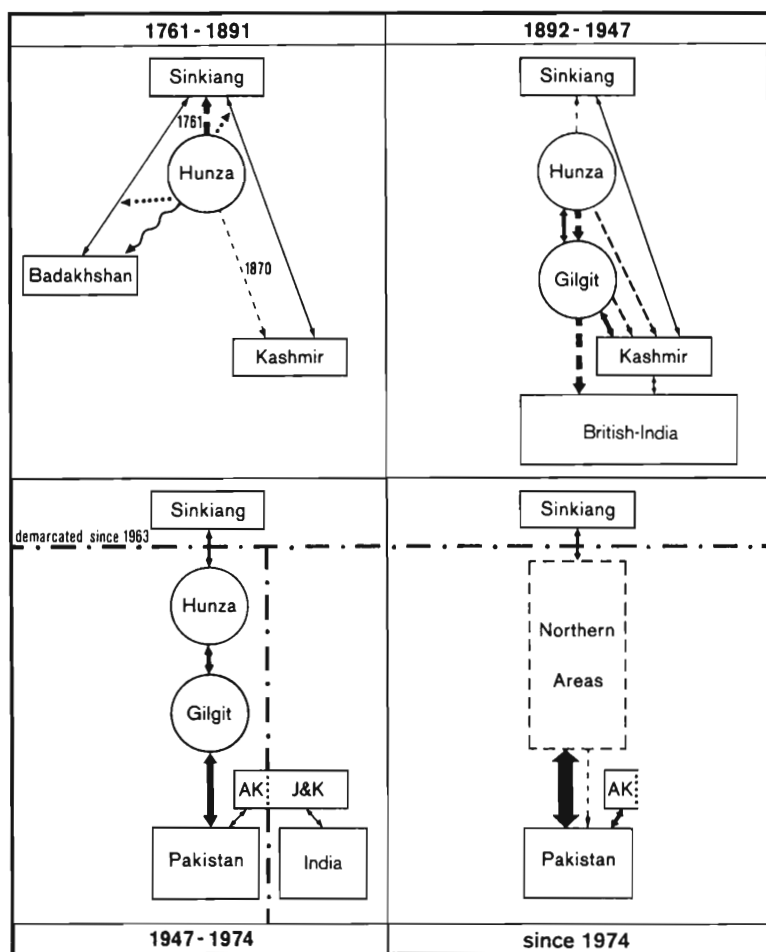


Fig. 3. Historical development of Hunza's exchange relations.

supported the Chinese authorities—resulted in increased resources for the Hunza economy. Extension of grazing grounds and tax-generating areas of Hunza to the North, i.e. Tagdumbash Pamir, Sarikol and the Raskam Valley, allowed intensified drawings from a livestock economy while the pastures of Kirghiz nomads were cut down and resulted in abridged migratory patterns centred in Eastern Turkestan.

The *tham* of Hunza enjoyed substantial influence in territories under Chinese control to the extent of tolerating Hunzukur's plunderings of caravans on the major trade routes. These events led to several exchanges of diplomatic notes between Kashgar and Baltit but did not affect the good relations of mutual benefit (cf. Alder 1963; Müller-Stellrecht 1978, 1981; Rawlinson 1869: 14). Resources from these attacks of Hunza robbers covered a substantial part of the *tham*'s income of valuable goods while his subjects gained only livestock and food supplies. Over a period of a century the exchange patterns of Hunza were oriented solely towards North, i.e. the oases of the Silk Road.

The treaty of Amritsar in 1846 which gave the Maharaja of Kashmir, Gulab Singh, territorial rights over the '... hilly or mountainous country, with its dependencies situated to the eastward of the river Indus and westward of the river Ravee, ...' (Aitchison 1909: 264) marks the start of British interest in the so-called 'pacification' of the Northern Frontier. Forty years later it forms an integral part of the 'forward policy' in North-West India. The 'Hunza Campaign' of 1891 marks—from the British point of view—a successful intervention when the territory of Hunza was formally annexed to Kashmir's sphere of influence. Kashmir's interest in Hunza focused on the abandoning of caravan raids as they reduced the important income of the Maharaja from inner-Asian trade. This explains several campaigns against Hunza which regularly resulted in total defeat of the Kashmir troops. Hunza was never conquered before the victorious 'Hunza Campaign' led by British officers (cf. Huttenback 1975). Nevertheless Hunza had already opened diplomatic and tributary relations to Srinagar by 1870, resulting in further profits from the exchange of gifts and gold dust (cf. Drew 1875: 457; Hassnain 1978: 38). This period indicates for the upper stratum of Hunza society (*tham* and *wazir* families) that their household resources were derived not only from subsistence agriculture. Formal political relations as a tributary to the influential neighbours China and Kashmir paradoxically left important space for autonomy, even for territorial expansion and participation in trade, despite lack of surplus production in agricultural goods.



### 3.2 *Colonial era 1892–1947*

Within the strategic framework of the 'forward policy', Gilgit Town formed the centre of British and Kashmir administration. The former agricultural settlement profited from an excellent strategic location near the confluences of the Hunza, Gilgit and Indus rivers. Gilgit Town centred around the fort; it was the military headquarter and at the same time it functioned as the distribution point for supplies which had to be delivered from as far as the 22-stages-distant Kashmir. The shortage of local grain required an accelerated improvement of the mule track via Bandipur, Burzil Pass (4200 m), Astor and Bunji which formed the only line of communication. Up to 1894 makeshift bridges and rafts were replaced by suspension bridges at strategic points (cf. Alder 1963: 231; Hassnain 1978: 17; Jettmar 1978: 59–70; Knight 1895: 286–7). Indirect Rule was established in 1892 with the investiture of Mir M. Nazim Khan who, during his 46-year reign, executed loyalty up to expectations of the British representatives and thus enjoyed absolute power in his principality. The political relations to China were cut off only in 1937 when the loss in grazing grounds and taxes was compensated by extra subsidies and grants to the *tham* by the British authorities. Trade across the Hunza Valley did not get a boost from these developments; the traditional trade routes—Badakhshan to Kashgar and Leh to Yarkand (fig. 4)—retained certain advantages to the traders. Two reasons were: difficult terrain, and high road taxes imposed by the *tham* of Hunza and Nager (IOR/2/1084/289: 139). Fig. 5 shows data for a short period when the trade volume was comparable. The Political Agent in Gilgit (1942), Major Cobb, comments on the importance of the Gilgit route: '... The Gilgit–Kashgar route has never been a prosperous trade route nor is there any likelihood of its becoming so on a large scale. The Leh route was always considered to be the most suitable route for trade with Sinkiang and then only for limited quantities of valuables such as charas and silk. There are few baggage animals in Gilgit, all convoy mules being brought from Mansehra [NWFP] and Bandipur [Kashmir State].' (IOR/2/1086/306: 14).<sup>2</sup>

The northernmost consulate of British India in Kashgar was linked to the imperial communication network via Hunza: From Misgar (the end of the telegraph line which was completed in 1918) runners from Hunza operated and delivered mail, messages and files. These ser-

<sup>2</sup> Transcripts/Translations of Crown-copyright records in the India Office Records appear by permission of the Controller of Her Majesty's Stationery Office.

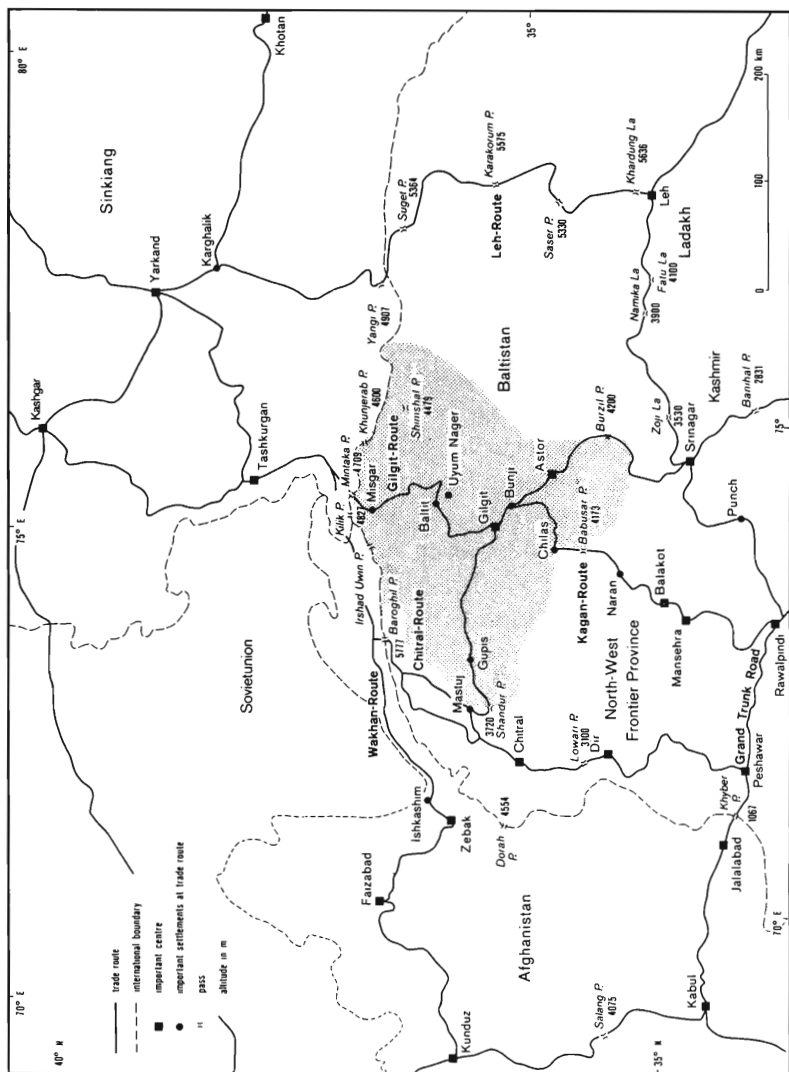


Fig. 4. Important trade routes between Turkistan, Afghanistan and British India in 1935. Source: N.N. 1965; Intern. world map: sheets NI42, 43, 44; Kazak 1937; Le Coq 1926; Neve n.Y., Preller 1924. Cartographer H. Kreutzmann

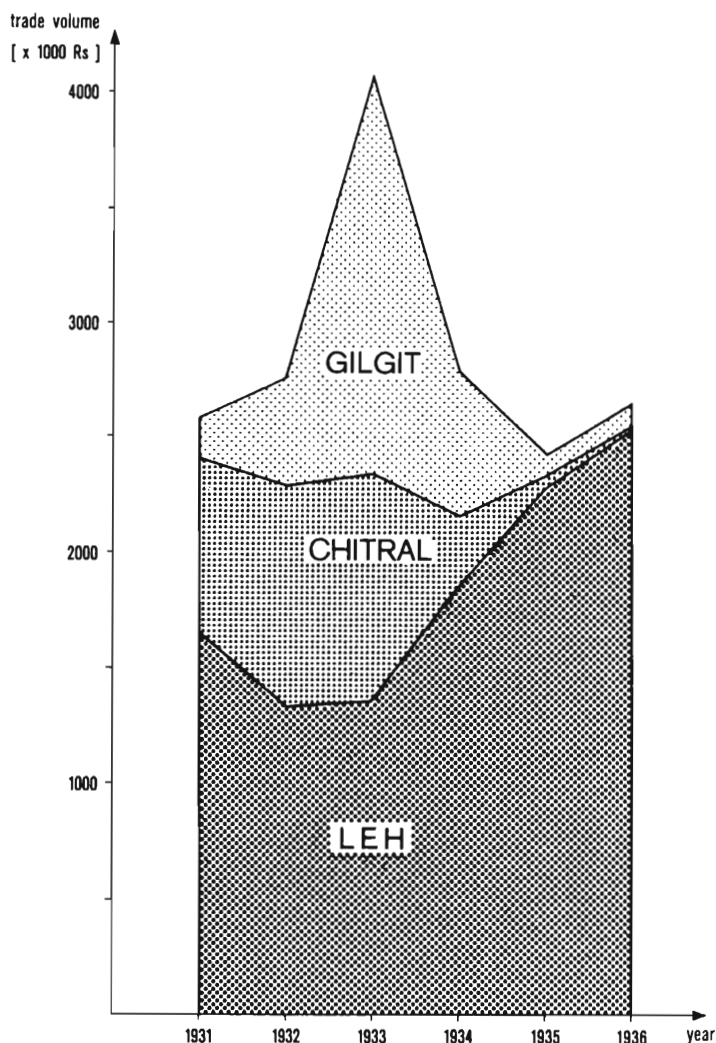


Fig. 5. Distribution of trade between India and Sinkiang according to trade routes (1931-1936).

Source: India Office Records/2/1076/232

vices—as messengers, guards and irregular military duties within the Gilgit Scouts—form, besides subsistence agriculture, early employment opportunities for Hunzukuts.

A period of exchange relations with Turkestan is followed in colonial times by an orientation to the South, i.e. Gilgit and British India via Kashmir (fig. 3). A first phase in Hunzukuts' outmigration occurred when the Gilgit administration offered cultivable land to the

tham of Hunza in the vicinity of Gilgit Town, hoping for better supply conditions for their garrison. Settlers from Hunza who thus evaded taxation and forced labour inside Hunza cultivated from 1912 onwards the lands of Matum Das (renamed in Pratabsinghpura; present name: Rahimabad, cf. IOR/2/1075/217: 50-54; IOR/2/1086/286: 11; Singh 1917: 27) and since 1937 Oshikandas (cf. IOR/2/1085/296: 23-7) at the mouth of the Bagrot Valley, where they constructed irrigation leats and terraced the lands.

Trade on the other side was solely controlled by merchants from 'down country'.<sup>3</sup> The range of merchandise consisted mainly of goods which possessed an exchange value between India and Sinkiang with little importance to the people of the Gilgit Agency who bartered small quantities of surplus dried fruit and local woollens. In 1935, there was not a single shop in Hunza and Schomberg (1935: 117) observed: '... there are few men in Hunza who can afford to drink tea on special occasions, ...'

At the end of World War II plans for construction of a road suitable for motor vehicles connecting Sinkiang and India were discussed. General Chiang Kai-shek was intrigued by the idea of receiving supplies via the Karakorams in his struggle against Japanese occupation forces and Mao Zedong's Red Army. In the span of one year 70,000 labourers and army staff were supposed to build this road by Spring of 1946 (cf. IOL/P&S/12/4609: 6-15). This project never even got started (N.N. 1951: 81).

### *3.3 Hunza's connection with Pakistan 1947-1974*

With the partition of the Indian subcontinent the Kashmir dispute between India and Pakistan began. In this conflict situation the communities of the Karakoram immediately opted for Pakistan. The Kashmir war resulted in a cease-fire line which cut the main trade route between Kashmir and Gilgit Agency. Until today this line forms the *status quo* border between Indian Jammu & Kashmir and Pakistan's Azad Kashmir. Pakistan hurriedly developed the Babusar route connecting Chilas and the Kagan Valley into a road passable by

<sup>3</sup> This term is used in colonial times to distinguish the in-group of Hunzukuts and neighbouring mountain people from the out-group of Hindu civil servants and Kashmiri soldiers and traders who mostly profited from this activity. Nowadays the inhabitants of the Northern Areas subsume the rest of Pakistan under the term 'down country'.

jeep (completed in 1949, cf. *The Times* 22.6.1949). India, on the other side of the border, lost the access to her part of the Vale of Kashmir from the Domel–Rawalpindi sector and created a new life-line via the Banihal Pass. The Red Army's control of Sinkiang resulted in closing the borders. In the winter of 1950/51 all relations of Hunza into the North were ended (Stephens 1953: 490). Within a few decades the Anglo-Russian confrontation had been transformed into an Indo-Pakistani stalemate by the unchanged strategic importance of the Northern Areas!

The economic exchange relations of Hunza were channelled to Gilgit Town where Ismailis from Hunza and Pathans of the NWFP filled the vacant posts in the bazaar left by the former Hindu and Kashmiri merchants. The Pakistan Government supported road construction and in 1957 the first jeep reached Baltit (in 1983 renamed into Karimabad). The only road to down country led through Babusar Pass (4173 m), which was open to motor transport only for a few months during summertime. This precarious situation led as early as 1949 to first blue prints for an all-weather road connection between NWFP and the Gilgit Agency (Moore 1979: 143). Ten years later these plans materialized with the start of the construction of the 'Indus Valley Road' (see Table 1). The Indo-Pakistan war of 1965 saw most of the roadwork completed (Kamal 1979: 19). This event initiated intensified relations between Pakistan and China which were fairly good since the border treaty of 1963 and triggered new agreements (1966, 1967) in support of the construction of the 'Friendship Highway'. The routing follows the headwaters of the Hunza in the Khunjerab Valley and the pass with the same name (4600 m), contrary to the traditional Mintaka pass route which is from a technical point of view easier to tackle. Strategic reasons encouraged a new route further east of the Soviet and Afghan borders (cf. N.N. 1965: 52 for Mintaka).

The Chinese section (Kashgar to Khunjerab) of the Karakoram Highway (KKH), as this road is nowadays called, was not completed until May 1968 (Woodman 1969: 310). On 24 August 1969 this unmetalled road saw the first trade caravan for two decades traversing into Sinkiang from Gilgit Town (Qamar 1975: 11).

Work between Khunjerab Pass and Thakot was interrupted during the secessionist war in East Bengal in 1971 but afterwards immediately continued. In 1975 the Karakoram Highway could be negotiated by trucks and further extensions and metalling continued until the official opening ceremony in 1978. During the final five years

foreign visitors were prohibited in the Northern Areas, to veil the extent of Chinese participation of an estimated 10,000 engineers and labourers (cf. Chaudri 1978; Kamal 1979: 19; Schaller 1980: 77–8) supporting the Pakistani army pioneers of the Frontier Works Organization (FWO).

Parallel to the construction of the KKH the Pakistan Government abolished the mirdoms of the Karakoram and Hindukush. Prime Minister Z. A. Bhutto deprived the local chiefs—*raja*, *mir*, *tham*—of their home rule rights, including levying of taxes and communal labour (*rajaki*), in 1972. The case of Hunza formed an exception, because the *tham* of Hunza acted as the Aga Khan's representative for Central Asia. After consultations with Prince Karim Aga Khan, the present time spiritual leader of Hunza's Ismailis, Mir Jamal Khan had to follow suit in 1974 and was compensated with a Government pension like the one his neighbouring former rulers received.

Since then the people of the Northern Areas have enjoyed preemption from direct taxes as well as introduction of subsidies on basic items such as wheat flour, kerosene oil, powdered milk and sugar. The Government of Pakistan covers the cost of transport and facilitates the distribution of the goods at down country prices (Bhutto 1972: 171; Jettmar 1977: 53). The 'Northern Areas Transport Corporation' (founded 1974) employed in 1987 more than 315 persons to facilitate transport of civil supply commodities and public transport into the Northern Areas as well as across the border into Xinjiang.

#### IV. Social Change in Hunza

The construction of the Karakoram Highway was a task accomplished by Chinese and Pakistani army personnel, more or less exclusively and self-sufficiently. Their supplies were brought from outside the Northern Areas and job opportunities for local contractors and labourers were negligible. The link of the historical Silk Road with the colonial Grand Trunk Road<sup>4</sup> (Peshawar–Lahore–Delhi–Calcutta) via the Karakoram Highway induced or at least amplified social change in the Northern Areas despite the strategic background of its undertaking.

<sup>4</sup> The Grand Trunk Road follows an older track of the Moghul period. Under the reign of Akbar the road system was well developed with a major track connecting the densely populated agricultural regions of Northern India.

#### 4.1 *Trade between Pakistan and China*

The exchange of goods between Pakistan and China has increased overall in recent years and contributes to 5% of Pakistan's foreign trade (fig. 6). Up to now, the truck caravans on the Karakoram Highway ply irregularly between Gilgit Town and Kashgar and vice versa. Trade delegations negotiate barter agreements once a year. The Pakistani partner organization of the 'National Chinese Trading Organization' was from the beginning the 'Northern Areas Trading Co-operative (estd. 1968)' in Gilgit in which local shareholders are united. With the increase of trade more private entrepreneurs try to get a share of the lucrative business. Pakistan offers leather goods, shoes, cotton cloth, medicines, tobacco and from the Northern Areas woollen cloth, dried apricots, almonds, and walnuts in exchange for light footwear, clothes, pottery, felt carpets, honey, tools, silks, bicycles, harvesting equipment, agrarian tools, and green tea from China. The overall exchange via KKH has increased in recent years, but has not excelled the overall growth rate of Pakistan-China trade (fig. 7).

Besides institutionalized trade caravans haj pilgrims contribute to an exchange of goods. On their way from Xinjiang Autonomous Province to Mekka they cover part of their expenses by trading Chinese goods. In 1985, about 1200 pilgrims came this way, which shortens their journey dramatically (*The Muslim* 5.8.1985; 18.7.1985). In increasing numbers individual Pakistani travellers make overland journeys to a friendly neighbouring country while engaging in some business on their itinerary. Since Autumn 1982, when local people could travel into Xinjiang via KKH, Hunzukuts have taken the opportunity of visiting relatives or renewing their friendships across the border. For stranded Kashgari traders of Gilgit Bazaar who had not seen Xinjiang since the 1950s (and for Hunzukuts with family relations and property there) the intermediate dead-end road had opened again.

Overall, the traffic density on KKH is much less than on down country roads of the same size. A survey done in October 1981 gave the daily numbers of passengers on the different sectors as: Abbotabad-Thakot, 969; Thakot-Gilgit, 444; Gilgit-Hunza, 44 (Government of Pakistan 1983: 17).

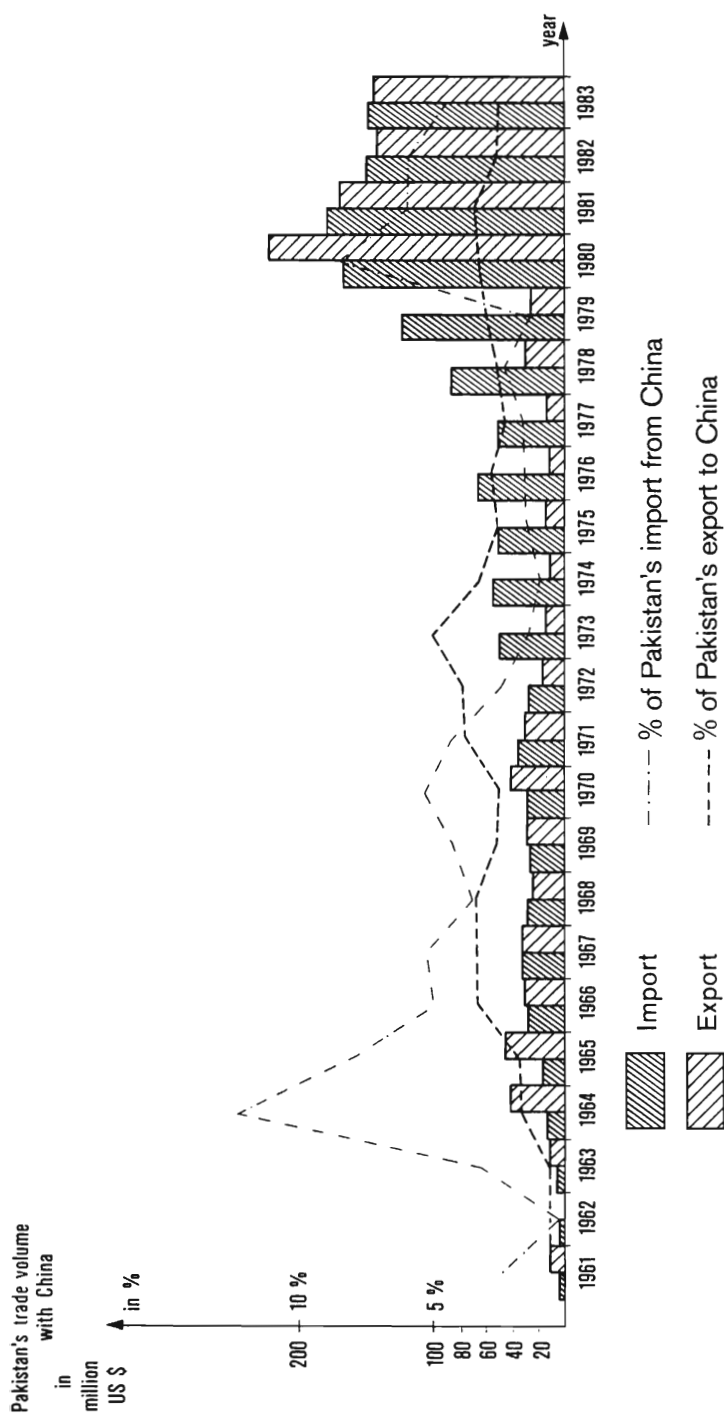


Fig. 6. Exchange of goods between Pakistan and China, 1961-83.

Source: Statistisches Bundesamt Wiesbaden 1974: 84; Statistisches Bundesamt Wiesbaden 1985: 55-8; Vertzberger 1983: 637-52



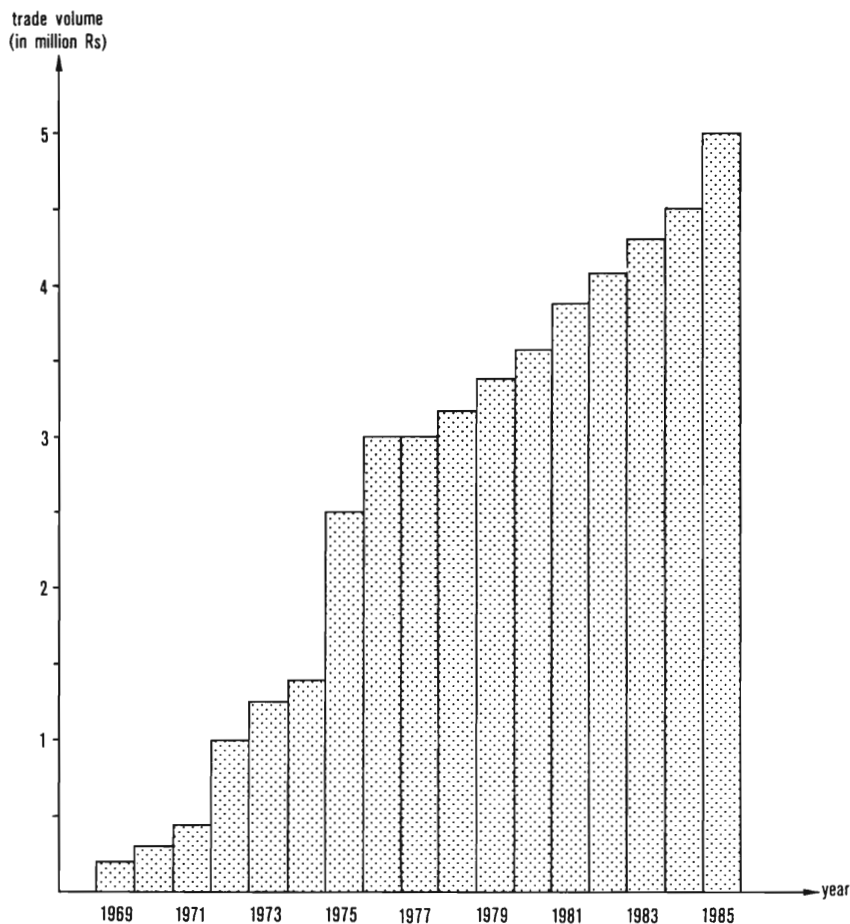


Fig. 7. Trade volume between Gilgit and Kashgar 1969–83.

Source: Müller-Hofstede 1987: 87

#### 4.2 Intraregional traffic and commerce

The Karakoram Highway shortens the *economic distance* (Aerni 1984: 340) between down country and the Northern Areas dramatically and enables the administration to execute a more effective political control. Reduced costs of communication sustain an externally supplied administrative organization. The cost of transport was cut by 50% to presently 35 Rs/maund (1 maund = 37.32 kg) for the distance from Rawalpindi to Karimabad. The exchange relations between Gilgit Town and down country improved since the opening of the KKH.

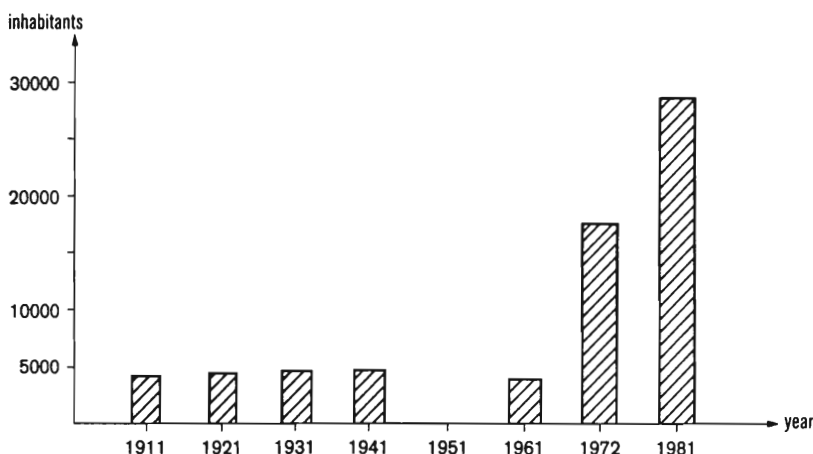


Fig. 8. Population growth in Gilgit Town 1911–81.

Source: Census of India 1941, xxii, p. 49; Government of Pakistan 1975: 12; Government of Pakistan o.J.

Gilgit Town had become the administrative and trade centre of the Northern Areas with a fast-growing population (fig. 8). The growth primarily accounts for an increase in the male population with a share of 62.1% of the inhabitants of Gilgit Town (32,754 in 1985). Such disproportions (164 males for every 100 females, AKRSP 1986: 108) are typical for migration targets.

Gilgit Town forms a central marketplace for the Northern Areas where goods of periodical and episodic use are purchased. Previously, before the jeep-age, Gilgit possessed a bazaar of importance for the resident colonial administration. The nowadays dominant 'jamat khana bazaar' was founded in 1948 near the premises of the Ismaili religious community centre (= jamat khana). Hunzukuts filled the gap in the tertiary sector that re-migrating Hindu, Sikh and Kashmiri traders had left after the partition of British India. Pensions of Hunza mercenaries and civil servants formed the base for new enterprises which were mainly composed as partnership undertakings.

In Hunza itself the first shops started business in the 1960s when regular jeep transport allowed continuous supplying of Central Hunza and especially of Baltit, the principality's headquarters. Limited funds were predominantly utilized for the demand in basic foodstuffs which were regularly in short supply. With the KKH and the attached Rural Works Programme the number of Multipurpose Cooperative Societies grew to 21 in Hunza alone. The sponsoring

institutions originated in President Ayub Khan's 'Basic Democracies', were continued in Bhutto's era as the 'Integrated Rural Development Programme', and changed name again after Zia-ul-Haq's takeover into 'Local Bodies and Rural Development'. All cooperative stores are located near the KKH or link road of 1981 which connects Aliabad with Karimabad. Two-thirds of the population of Hunza have access to this road network. Overall, including jeeptracks, 96% of all settlements in Hunza can be reached by motorized transport. This is an outstanding figure compared to other Asian high mountain regions, or neighbouring valleys of the Northern Areas.

Nowadays the distance between Gilgit and Central Hunza can be covered within three hours. Up to 1960 three days on foot was the minimum time to reach the regional centre. The only public transport, a bus of the 'Northern Areas Transport Corporation' (NATCO), leaves Upper Hunza (Ghujal) for Gilgit early in the morning and returns in the afternoon. To make up for the transport deficit two private buses, 15 wagons and 20 jeeps operate between the major settlements of Hunza and Gilgit. Traffic density is highest in summer. During wintertime the demand for transport decreases: most of the vehicles ply only once a week. This pattern is modified by jeeps which belong to the civil and military administration, development agencies and tourists. Cooperative societies and building sites episodically get their supplies by truck from Gilgit or down country. In general, the density of traffic on the KKH in the Hunza Valley is rather low and decreases while travelling North. Commuting between Central Hunza and Gilgit on a daily basis hardly occurs owing to bus fares which cost 16–20 Rs for the 100 km journey; 60–80% of the daily wages of a labourer or carpenter would be needed to cover the travelling expenses.

#### *4.3 Migration patterns and division of labour*

In colonial times, the mir of Hunza continuously emphasized to the British authorities in Gilgit the lack of arable land and resource potential. Extensive amelioration in Hunza itself in the form of irrigated stretches of land could not reduce a regular deficit in food supplies which resulted in periods of famine each Spring. With the levying of the Gilgit Scouts in 1913, Hunzukuts got non-agricultural job opportunities for the first time. Since then the number of

mercenaries has steadily increased. Similar phenomena are well documented in the Swiss Alps and Nepal (cf. Rhoades and Thompson 1975: 548).

At the beginning of this century waste lands around Gilgit were offered to settlers from Hunza who in great numbers started irrigating these tracts. While in 1930 the population of Hunzukuts in Gilgit Town amounted to a few hundred (Lorimer 1935-1938, I: XXXIV), 14,000 Hunzukuts are estimated to be living in and around Gilgit Town today. This number is quite high compared to the residential population of 27,797 in Hunza (Government of Pakistan 1984). Besides Hunzukuts living in the Northern Areas there are 3000-5000 who migrated to Karachi. This city is preferred to other major urban centres (like Lahore, Faisalabad, Peshawar, Rawalpindi-Islamabad) because of the close relationship between the Ismaili communities in Pakistan which are divided mainly between Karachi and Sind and the Northern Areas (95% of the population in Hunza belongs to the Ismaili faith). The khoja<sup>5</sup> Ismailis of the South command, as successful traders and merchants in Karachi, a different social and economic position compared to the Ismaili farmers of the North. The affluent khoja community in Karachi supports fellow Ismailis from the North who come as migrants to Karachi seeking jobs and further education. This advantage provides Hunzukuts with better job opportunities than their Shia neighbours from Nager and Bagrot, who lack comparable partnerships and support in down country. Those migrants work mainly in the police, army and as labourers.

Migrants returning to the Northern Areas often start businesses (shops, trades and transport). Their savings and pensions allow their families to buy additional subsidized food supplies and help to cover the deficit in agricultural home production. The majority of households in Hunza have to rely on a non-agrarian income, which is highest among those families who receive transferred money from their overseas family members. When those migrants return home they invest in jeeps, tractors and wagons. Most of the modern agricultural equipment that can be hired and some of the newly erected shops and hotels belong to former overseas migrants, who secure a regular income for their relatives from rents, etc. Their actual numbers amount to about 100 Hunzukuts.

Generally speaking, the migration pattern in Hunza changed from

<sup>5</sup> Those Ismailis belong to the khoja branch whose ancestors were converted from the Hindu Lohana caste to Ismailiya and live nowadays mainly in Maharashtra, Gujarat (India), Sind and in East Africa.

seasonal migration during colonial times, to one composed of long-term absence, which can become permanent for people moving to Gilgit. Temporary absence can mean 18–25 years of army service or an equal period in Karachi or overseas. In connection with male outmigration the division of labour changed, too. The major burden of agricultural work was transferred to women and old people, while the children attend schools in high numbers (>90%). At present there is a lack of manpower in Hunza, and during peak seasons (distribution of fertilizers, harvest) agricultural labourers are hired from Baltistan who work for daily wages of 25 Rs (in 1985: 1 US \$ = 12 Rs).

#### *4.4 Changes in the agrarian economy*

The additional income from non-agrarian jobs makes up for the agricultural production deficit which amounts to 25% on average in the Gilgit District and reaches a maximum of 58% in Karimabad in Hunza (Saunders 1983: App. 1; Tariq Husain 1985: 23–4). These foodstuffs are imported from down country. The first governmental survey on production feasibility in the Gilgit Agency & Baltistan (Abdullah 1972) stated that the Northern Areas can never be self-sufficient in agricultural production and suggested therefore more emphasis on valuable products like fruits, nuts and potatoes which could be exchanged for grain from the Punjab. All development agencies which were established since the 1980s follow this strategy that accelerates the integration process of the Northern Areas into Pakistan and increases the mutual economic exchange relations eased by an improved infrastructure (mainly the Karakoram Highway). The agencies legitimize their programmes owing to the fact that the Northern Areas' per capita income is only half of the Pakistan average.

The 'Northern Areas Works Organization' (NAWO) already initiated projects during the construction of the Karakoram Highway when military personnel extended the physical infrastructure of jeeproads, bridges, schools and hospitals/dispensaries throughout the region. A second Government-sponsored project started in 1981: The 'Community Basic Services Programme' (CBS) aims at improving the basic hygienic conditions (pure water pipes, traditional birth attendance, etc). CBS is represented in 50 of the 500 settlements of Gilgit District.

In the field of agriculture, internationally funded institutions like the FAO/UNDP sponsored 'Integrated Rural Development Programme' (IRDP 1981-86) cooperating with the Agricultural Department in Gilgit and the 'Aga Khan Rural Support Programme' (AKRSP, since 1982) have been trying to introduce the latest knowledge in developing small landholdings. Their activities included construction of irrigation channels, sedimentation tanks, protective bunds, jeep tracks etc., combined with an emphasis on mechanization (use of tractors and threshing machines) and the introduction of high-yielding varieties and mineral fertilizer. Fertilizer is made available at subsidized rates and by short-term loans. Training and extension services should support the objective of increasing the overall agricultural productivity. The developing agencies assisted the farmers in marketing surplus products and cash crops. In this context the KKH plays an important role: Traditionally, only dried apricots and walnuts were sold in the Gilgit market. With financial and logistical help of AKRSP, farmers opened up new markets for their products (apples, almonds, potatoes, vegetables) down country. An even greater success was the potato programme of the FAO-experts who extended the range of this tuber which, because of the high input of fuel (firewood is scarce in Hunza), had not been able to replace grain as the major staple in the local diet. The 'Gojal Seed Potato Grower Association' tries to export to down country virus-free seed potatoes which previously had to be imported from overseas. Their target is an annual production of 2500 t of seed potatoes substituting half of the imported seed. The associated farmers consider the different timings of plant growth in Hunza and down country and changed the seasonal pattern in a manner that makes the Hunza seed available in Punjab at the beginning of the planting period for *rabi* crops (Whiteman 1985: 113). Partner of the Ghujal farmers is one private company from Lahore. So far they have produced the following: 1983, 2 t; 1984, 100 t; 1985, 1000 t = 1.4 million Rs. So far 600 smallholders of Hunza are participating in this potato project. Other regions of the Northern Areas (Yasin, Ghizr, Ishkoman) with a similar ecological set-up are excluded owing to lack of roads (Whiteman 1985: 114).<sup>6</sup>

Another field of experimentation is the production of vegetable seeds which are meant to be marketed in down country. Both measures of intensification provide the farmer with a higher output from the same field and increase his income, which—if sustainable

<sup>6</sup> At present the jeep track between Gilgit and Shandur Pass in the Gilgit Valley is under construction to become a metalled road in the near future.

over a longer period—could lead to be a major source for some farmers' households. With growing outmigration there are at present only a very few households in Hunza which can rely only on agriculture. The recent changes in Hunza in the field of agriculture result in a transformation from subsistence farming to cash-crop production, which is profitable only in certain ecological zones near to the KKH. On the other hand, marketable cash crops cannot fully compensate for the enormous import of food supplies (flour, milk powder, vegetable fat, sugar, meat) from down country. These have to be paid for with migrants' money. The flow of goods on the KKH directed towards the North and the cost of transportation for non-subsidized goods remains relatively high.

#### *4.5 Exploitation of natural resources*

In former times the mineral wealth (mainly rubies) of the mountains belonged to the person extracting it. Since the Pakistan administration took over, Government institutions do the prospecting and issue licences. All discoveries have to be registered and submitted at the 'Gemstone Corporation of Pakistan Ltd' (founded in 1979) with branch offices at the 'Ruby Mines' in Gilgit and Aliabad.

Panning for gold traditionally formed part of the *corvée* for the mir. The lower social strata of Hunza society were forced to pan the annual amount of gold which was needed for the tribute of gold dust Hunza had to deliver to the Amban in Kashgar and the Maharaja of Kashmir (cf. Lorimer 1935–1938, II: 249; Müller-Stellrecht 1979: 73, 115, 124).

Since the abolition of mirdom in Hunza mobile groups of maruts (goldwashers) have penetrated further North into the Hunza Valley. Nowadays they are the only professional gold-seekers and make a small living by panning the very fine gold dust out of the alluvial deposits of glacier meltwaters. The exploitation of other mineral resources like china clay in Murtazabad and marble near Khaiber has started but is limited by lack of electricity and its dependence on the extension of link roads as the potential buyers of these commodities operate their businesses at the southern end of the KKH (near Havelian).

Although the cutting of wood is restricted in Nager and is controlled at check-posts (mainly at bridges, for example at Chalt), the smuggling of timber and firewood is flourishing. The demand

increased to such an extent that in Karimabad timber from Chilas (220 km further South) is brought in by the truck load.

Ice blocks from glaciers form another valuable resource. In summer local people cut ice blocks from Pisan and Minapin glaciers to sell in the bazaar of Gilgit for cooling purposes. Similar procedures are known from Bagrot (Grötzbach 1984), Chitral and Swat.

## V. Conclusion

The exchange patterns of Hunza were transformed in different historical periods. While in pre-colonial times outside contacts existed only through tribute relationships with the neighbouring powers of China and Kashmir as well as through caravan raiding, the system changed after the 'Hunza Campaign' of 1891. This external influence caused a growing dependence of Hunza on down country that can be demonstrated on different levels.

From a rather secluded society where the mir enjoyed the right of granting leave to his subjects and which he enforced strictly, Hunza has changed into a region where outmigration is quite common. Due to job opportunities and communal contacts the range of migration differs with respect to distance, length of absence and number of migrants. While the social structure inside Hunza was traditionally linked to the size of landholdings, this measure has lost its singular importance. Nowadays social position is judged by a number of different criteria, such as level of education, income and possession of vehicles, agricultural equipment, construction machines, hotels and shops. These means of production are mainly concentrated in the services sector and financed by migrants.

Political changes caused further integration of the Hunza Subdivision into Pakistan's administrative bodies and economic system, which can be shown by analysing the supply of basic necessities. While Hunza was in former times nearly self-sufficient in foodstuffs, at present it is relying on subsidized supplies from down country which have to be purchased through migrants' contributions. Despite an increasing number of migrants the resident population continues agricultural production, somewhat altered by developing agencies and a reduced workforce but fulfilling the task of securing the basic income without giving up any resources. Production of cash crops forms a new means of agriculture in a region where there is limited amount of land for subsistence farming. Owing to marketing opportunities via KKH some areas are reserved for profitable cash crops.



The Karakoram Highway did not itself cause developments in the region but it offers the infrastructure which supports and accelerates certain processes. Mobility and exchange patterns are thus focused on Pakistan's centres and the KKH contributed in integrating the Hunza Valley into Pakistan and increasing the dependence on support.

## References

- Abdullah, M. 1972. 'Report on Prospects of Agricultural Development in Northern Areas (Gilgit & Baltistan)'. Islamabad, unpublished paper.
- Aerni, K. 1984. 'Alpine Cross-Routes and Intra-Alpine Development', *The Transformation of Swiss Mountain Regions*, ed. Brugger, E. A. et al. Bern and Stuttgart, esp. pp. 327-49.
- The Aga Khan Rural Support Programme (AKRSP) 1986. 'Third Annual Review 1985'. Gilgit, unpublished paper.
- Aitchison, C. U. 1909. *A Collection of Treaties, Engagements and Sanads relating to India and Neighbouring Countries*, Vol. 11. Calcutta.
- Alder, G. J. 1963. *British India's Northern Frontier 1865-95. A Study in Imperial Policy*. London.
- Allan, N. J. R. 1984. 'Ecological Effects of Land Intensification in the Central and Eastern Hindukush', *Eichstätter Beiträge* 12, pp. 193-211.
- Allan, N. J. R. 1986. 'Accessibility and Altitudinal Zonation Models of Mountains', *Mountain Research and Development* 6, pp. 185-94.
- Bhutto, Z. A. 1972. *Speeches and Statements. July 1, 1972-September 30, 1972*. Karachi.
- Chaudri, A. T. 1978. 'Sino-Pakistan Co-operation Crystallised', *Dawn Overseas Weekly* III, 44, pp. 1-16.
- Drew, F. 1875. *The Jummoo and Kashmir Territories*. London.
- Government of Pakistan 1983. *Tourism on Karakorum Highway. A Survey Report*. Islamabad.
- Government of Pakistan 1984. *1981 District Census Report of Gilgit*. Islamabad.
- Grötzbach, E. 1976. 'Überlegungen zu einer vergleichenden Kulturgeographie altweltlicher Hochgebirge', *Tagungsbericht und wissenschaftliche Abhandlungen*. 40. Dts. Geographentag Innsbruck. Wiesbaden, pp. 109-20.
- Grötzbach, E. 1984. 'Bagrot. Beharrung und Wandel einer peripheren Talschaft im Karakorum', *Die Erde* 115, pp. 305-21.
- Hassnain, F. M. 1978. *Gilgit. The Northern Gate of India*. New Delhi.
- Herrmann, A. 1910. *Die alten Seidenstraßen zwischen China und Syrien*. Berlin.
- Herrmann, A. 1915. 'Die Seidenstraße vom alten China nach dem römischen Reich', *Mitteilungen der Geographischen Gesellschaft Wien* 58, pp. 472-500.
- Huttenback, R. A. 1975. 'The "Great Game" in the Pamirs and the Hindukush: The British Conquest of Hunza and Nagar', *Modern Asian Studies* IX, pp. 1-29.
- India Office Library & Records: IOI./2/P&S/12/4609; IOR/2/1075/217; IOR/2/1084/289; IOR/2/1085/296; IOR/2/1086/286.
- Jettmar, K. 1977. 'Sozialer Wandel am Karakorum Highway', *Indo-Asia* 19, pp. 48-55.
- Jettmar, K. 1978. 'Brücken und FlöBe im Karakorum', *Heidelberger Jahrbücher* 22, pp. 59-70.
- Jettmar, K. 1982. 'Kafiren, Nuristani, Darden. Zur Klärung eines Begriffsystems', *Anthropos* 77, pp. 254-63.

- Kamal, N. 1979. 'Karakoram Highway: A Nation-Building Effort', *Strategic Studies* II/3, pp. 18-31.
- Knight, E. F. 1895. *Where Three Empires Meet*. London.
- Kreutzmann, H. 1987. 'Die Talschaft Hunza (Northern Areas of Pakistan): Wandel der Austauschbeziehungen unter Einfluß des Karakoram Highway', *Die Erde* 118 (Heft 1), pp. 37-53.
- Leitner, G. W. 1894. *Dardistan in 1866, 1886 and 1893*. Woking.
- Lorimer, D. L. R. 1935-1938. 'The Burushaski Language', *Instituttet for Sammenlignende Kulturforskning, Serie B. Skrifter* XXIX, 1 (1935), 2 (1935), 3 (1938). Oslo.
- Moore, R. A. 1979. *Nation Building and the Pakistan Army 1947-1969*. Lahore.
- Müller-Stellrecht, I. 1978. 'Hunza and China (1761-1891)', *Beiträge zur Südasiensforschung* 44, Wiesbaden.
- Müller-Stellrecht, I. 1979. *Materialien zur Ethnographie Dardistans (Pakistan), Teil 1: Hunza*. Graz.
- Müller-Stellrecht, I. 1981. 'Menschenhandel und Machtpolitik im westlichen Himalaya', *Zentralasiatische Studien* 15, pp. 391-472.
- Muslim*, The 5.8.; 18.7.1985, Islamabad.
- N.N. 1951. 'The Sinkiang-Hunza Frontier', *Journal of the Royal Central Asian Society* 38, pp. 73-81.
- N.N. 1965. 'Ancient Routes through the Pamirs', *Central Asian Review* XIII, 1, pp. 44-54.
- Qamar, A. S. K. 1975. *Lure of the Karakorams*. Rawalpindi.
- Rawlinson, H. C. 1869. 'On Trade Routes between Turkestan and India', *Proceedings of the Royal Geographical Society* XIII, pp. 10-23.
- Rhoades, R. E. and S. I. Thompson. 1975. 'Adaptive Strategies in Alpine Environments: Beyond Ecological Particularism', *American Ethnologist* 2, pp. 535-51.
- Richthofen, F. von. 1877. *China. Ergebnisse eigener Reisen und darauf gegründeter Studien, Bd.I*. Berlin.
- Saunders, F. 1983. *Karakorum Villages*. Gilgit, technical report FAO/UNDP PAK 80/009.
- Schaller, G. B. 1980. *Stones of Silence. Journeys in the Himalaya*. London.
- Schomberg, R. C. F. 1935. *Between the Oxus and the Indus*. London.
- Singh, T. 1917. *Assessment Report of the Gilgit Tahsil*. Lahore.
- Staley, J. 1969. 'Economy and Society in the High Mountains of Northern Pakistan', *Modern Asian Studies* III, pp. 225-43.
- Staley, J. 1982. *Words for My Brother*. Karachi.
- Stephens, I. 1953. 'Politics and Apricots (Hunza and Nagir)', *The Geographical Magazine* XXV, pp. 489-95.
- Tariq Husain 1985. 'The Diffusion of Agricultural Innovations in Smallholder Mountain Agriculture in Northern Pakistan'. Chicago, unpublished paper.
- Times*, The 22.6.1949, London.
- Vertzberger, Y. 1983. 'The Political Economy of Sino-Pakistan Relations', *Asian Survey* XXIII, 5, pp. 637-52.
- Whiteman, P. T. S. 1985. *Mountain Oases*. Gilgit, technical report FAO/UNDP PAK 80/009.
- Woodman, D. 1969. *Himalayan Frontiers: A Political Review of British, Chinese, Indian and Russian Rivalries*. London.