

# **Geographical Research on the History of the Cultural Landscape of Southern Mustang**

**The Land Use Map of Kagbeni as a Basis<sup>1</sup>**

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## **1. Programmatic layout of the study, aims and methods**

Within the Nepal-German Project on High-Mountain Archaeology (cf. SHRESTHA, 1992-93) the geographical research project is concerned in particular with historical-genetical research into rural settlements and their historical environment in the Central Nepal Himalayas, above all in the region of southern Mustang District. One main goal of the project is to study the settlement history and with it the history of the natural and cultural landscape of the present-day Mustang District, which for centuries, perhaps in fact for millennia, has been a region of habitation despite its harsh and unfavourable environmental conditions.

Such being the overriding aim, the project falls

methodologically within the bounds of historical-genetical settlement geography, which in Central Europe looks back over a long tradition of research. First of all, it is concerned with questions linked to the past - e.g. the origin of settlements, establishing motives for the founding of settlements and the preference for particular sites - and, secondly, with questions relating to the development history (genesis) of settlements or settlement regions. A precondition for any explanation of settlement origins and growth, however, is an accurate collection and description of data. The retrospective method (JÄGER, 1973) offers one way of viewing the problem. It works from the premise that the present-day appearance of a cultural landscape, and thus also the settlement situation, can only be clarified on the basis of the past and should therefore be studied by going backward in time.

In adherence to this method, the present project attempts to trace the development of the settlement region step by step into the past from the present and to educe the forces influencing the settlement process (e.g. natural, economic, social, political). Conversely, stages in the past cultural landscape can be better understood and explained by insights into the current situation. In line with this, the purpose of the localized study of the patterns in Kagbeni's cultural landscape is:

1. to describe and classify present-day land use and settlement structures in their geographical and ecological setting,
2. to provide insight into the land use and settlement systems, and
3. to enable preliminary formulations concerning the historical land use and settlement development.

In order to meet these goals, the following field surveys were conducted:

- obtaining the cadastral maps and copying the land register;
- mapping land use on the basis of the cadastral maps;
- asking local farmers about the land use system (cropping calendar, irrigation system, harvest yields, income structure, pasturage);
- interviewing local experts on the genesis of the settlement;
- in collaboration with W. HAFFNER: the disposition of settlement and fields within the ecological environment;
- in collaboration with the cartographer R. KOSTKA: the disposition of the settlement and farmland within their topographical setting;
- in collaboration with the linguist R. BIELMEIER: a survey and transcription of toponyms.

The research was carried out during field trips to southern Mustang in October/November 1991 and March/April 1993; the area under study, however, was already known from previous visits in 1983, 1984 and 1987. Since the project is still in its beginning stages, many questions that arise during the analysis of data collected in the field will be answered only during succeeding studies. Nevertheless, first results are available in the form of the land use map of Kagbeni (cf. map enclosed), a detailed account of which will be offered here.

## 2. Why Kagbeni?

There were several reasons to begin the geographical settlement studies in Kagbeni (cf. aerial photograph enclosed):

### a) The location of the settlement

Given its location in the northern Nepal Himalayas (Fig. 1), its environmental features (dry high mountain region) and its Tibetan-speaking population, Kagbeni can be assigned to the region of the High Himalayas characterized by Tibetan culture and tradition, in which the project of the research programme as a whole is spatially concentrated (cf. Fig. 2, HAFFNER & POHLE, in the present volume). What makes the settlement particularly interesting is its location along one of the historically most important trade routes of Nepal - the one leading up the Kali Gandaki through the main chain of the Himalayas and joining the Nepalese middle ranges and the Ganges lowlands with the Tibetan plateau in a nearly ideal manner. In addition, however, from Kagbeni there are also routes leading to points west, to the regions of Dolpo and Jumla, as well as to points east, to the region of Manang, linking these areas to the main trading route.

#### b) Witnesses of the past

In order to be able to reconstruct the settlement history of a region, a prerequisite is evidence of former conditions, which may be present, for example, in the form of historical texts or settlement ruins. This favourable situation obtains in the case of Kagbeni. Thus, for the period after 1790, numerous edited and translated Nepali administrative documents already exist (cf. PANT & PIERCE, 1989; REGMI, 1970-89). Besides these Nepali documents, however, Tibetan written material has been discovered by D. SCHUH and colleagues and been made available for further research purposes. They are primarily texts of the *bem-chag* genre, in which matters relating to village polity are addressed (cf. SCHUH, 1990, 1992). As witnesses of the past, along with the written sources, there are settlement relics in the close vicinity of Kagbeni - for example, the anthropogenic caves on the other side of the Kali Gandaki as well as the ruined settlements of Phudzeling and Kak Nyingba. Additionally, the now greatly dilapidated palace ruin in the middle of the village bears witness to the former significance of Kagbeni as a feudal power.

#### c) Practical reasons of research

With other projects within the focus programme having already begun their surveys in Kagbeni, favourable conditions obtain there for interdisciplinary collaboration. Alongside the Tibetological project that has been analysing historical texts (D. SCHUH, C. RAMBLE), a detailed ground plan of the locality has been produced by the architects (N. GUTSCHOW and colleagues) based on a terrestrial-photogrammetric survey (R. KOSTKA). Individual edifices, particularly the run-down palace, were measured in detail to analyse the architectonics and architectural history of the buildings. Samples of building timber were taken for dendrochronological dating and analysis by B. SCHMIDT (cf.

SCHMIDT, 1992-93); these have enabled a first assessment of the age of building material and a determination of the various stages of construction. In cooperation with the linguistic project (R. BIELMEIER, S. GEORG), the toponyms in and around Kagbeni have been registered and a topographic map incorporating the toponyms is now under preparation. What - from the point of view of settlement geography - was of decisive importance for the choice of Kagbeni was, alongside the interdisciplinary approach, above all the existence and availability of cadastral maps and land registers, without which a mapping of land use and ownership would have been impossible.

### 3. The land use map of Kagbeni

Five cadastral maps drawn to a scale of 1:1250 and the topographical map of Kagbeni drawn to a scale of 1:2500 (cf. KOSTKA, in the present volume) served as the cartographic basis for the mapping of land use. Whereas the large-scale map of KOSTKA is based on a terrestrial-photogrammetric survey undertaken in 1991 and as such reflects current topographical conditions, the cadastral maps date to a survey in 1975 conducted by the Survey Department. The latter thus needed to be worked over and brought up to date during the field survey. The main reason why a combination of thematic and topographic map was chosen was because the setting of settlement and fields within their natural environment is made immediately apparent, more so than it would have been by way of description, no matter how detailed. Besides data on topography and land use, the map contains additional information concerning the function of buildings and the crop calendar of Kagbeni obtained during the field surveys.

### 3.1 The natural setting

In the region of Mustang District, the Kali Gandaki flows for long stretches within a broad riverbed of recent fluvial material. The riverbed narrows at the settlement of Kagbeni (2820 m) due to the fan plain of the Dzong Chu on the orographically left side of the valley and the outcropping rock on the right (cf. aerial photograph). Here the two banks are only a few meters apart, so that they can be connected by a bridge. The Dzong Chu drains the Muktinath valley from east to west for a length of about 10 km, cutting ever deeper into the sediments of the Tibetan marginal synclinorium (cf. HAGEN, 1969) the farther west one goes. The detritus created by it is transported down to the confluence with the Kali Gandaki, where it is deposited in a fan plain up to 1.5 km wide and with a maximum thickness of 30 m. The settlement and the fields of Kagbeni are laid out on the fluvial fan plain of the Dzong Chu, a location that has numerous natural advantages to offer for both settlement and farmland:

- the relatively flat terrain facilitates the layout of houses and fields,
- irrigation water is readily available from the riverbed of the Dzong Chu,
- and further, the soil of the fan plain contains a large amount of silt, a good precondition for tilling the soil.

Alongside these natural advantages, however, note should also be taken of possible hazards arising from such a location (cf. HAFFNER & POHLE, in the present volume). Whereas the Dzong Chu accumulates large amounts of sediments along the fan plain, which may lead to mud-flows and the deposit of rubble, a high risk of erosion exists on the banks of the Kali

Gandaki. Terrace rims frequently break off as a result of the river's constantly shifting its course and in the process variously undercutting the fan plain. In comparing the cadastral maps of 1975 with the state of the 1991 mapping, one learns, for example, that both individual parcels of land and buildings have been swallowed up by the Kali Gandaki. This applies particularly to the numerous fields at the edges of the southern fan plain along the Kali Gandaki (Fig. 2, part C) and the houses that stood close to the terrace rim (A).

To the north and south, the fan plain of the Dzong Chu is hemmed in by older river terraces. These consist of quaternary sediments, have relatively steep sides up to the level of the terrace and are only sparsely covered by vegetation. In spite of this, they still serve as pasture land, particularly in the winter, when the cattle are driven daily to the grazing grounds located outside the village.

Whereas the settlement site of Kagbeni can be judged to be favourable as far as topographical factors are concerned, reservations arise from the climatic point of view. Kagbeni is situated as an irrigated oasis in the middle of an arid mountain landscape which, in this portion of it, lacks all forest covering, and which is openly exposed to strong winds. Due to the north-south orientation of the Kali Gandaki valley, a large-scale exchange of air takes place between the Himalayan foreland and the high plateau of Tibet. In conjunction with the local slope wind circulations, this leads throughout the year to daily recurring strong valley winds, which may attain extreme velocities (cf. HAFFNER & POHLE, in the present volume). Whereas the villages in the side valleys of the Kali Gandaki, like the ones in the upper Muktinath valley, are far less affected by the large-scale air currents, Kagbeni lies in the

major channel of air and from noontime on is openly exposed to the onset of strong winds. This situation makes itself felt in the form of adaptational principles governing the layout of the settlement and the method of house construction. Exposure to wind must likewise be regarded as unfavourable for crop cultivation, given that a heavy dispersal of fine soil particles negatively affects soil fertility. Attempts made to harness wind energy for the generation of electricity have so far failed. A wind power station hooked up to an electric power grid was constructed for Kagbeni in 1988 in the area of Phola Thanga, but it has only functioned for one month, as the rotor blades of the "wind wheels" were unable to cope with the extreme winds.

Even though no climate-related data are available from Kagbeni, precipitation and temperature records from the neighbouring stations of Jomsom and Marpha in the south and Ghami in the north (all three in the Kali Gandaki valley) convey an approximate idea of the climatic situation.<sup>2</sup> Thus precipitation figures decrease continuously as one proceeds up the valley. If an average of 372 mm of precipitation was registered annually during the period 1971-84 in Marpha, the stations of Jomsom and Ghami (1973-84) attained values of only 257 mm and 193 mm. Precipitation figures for Kagbeni ought to lie between those of the latter two stations mentioned. Such low precipitation values have consequences for crop cultivation, which is impossible in Kagbeni without irrigation, all the more so given that the wind and high radiation values greatly reduce air humidity. Temperature conditions, on the other hand, have to be regarded as advantageous, especially for the cultivation of crops. With an annual average temperature of 11°C (Jomsom, 1981-84), two harvests per year are possible in Jomsom and Kagbeni, and the variational span of cultivable

products is relatively large. Despite this, in Kagbeni continental climatic conditions already prevail, which are felt in large maximum deviations in yearly and daily temperatures (cf. MEURER, 1982). Whereas the average monthly temperatures in the winter (January) in Jomsom lie around 3°C, they attain values in July/August of around 18°C (1981-84).

### **3.2 The land use pattern**

In spite of its elevation at 2800 m and a pronounced aridity of climate, the natural conditions for growing crops in Kagbeni must be assessed in generally favourable terms. This is reflected both in the intensity of land use and in the crop yields.

#### **3.2.1 The layout of field terraces and irrigation channels**

The land of Kagbeni in use for agricultural purposes is an oasis of irrigated fields, encompassing the whole area of the fluvial fan plain, which is sharply delimited by walls from the surrounding pasture land (cf. map enclosed). Upstream, beyond the region of the fan plain, and not indicated on the land use map, lie two other smaller stretches of village land, one each on the orographically left and right river banks of the Dzong Chu (area approx. 3 ha). According to cadastral data, the entire area of surveyed land in use in Kagbeni (excluding pasturage) comprises 63.9 ha. Of this, 19.4 ha fall under river and path surfaces, 2.4 ha under channel and pond surfaces, 2.6 ha under wasteland, and approximately 4 ha have been built upon (houses and stables), so that the land in use for agricultural purposes in the end covers an area of only 35.5 ha. This is an extremely small figure in view of the fact that a

single middle-sized operation in Germany has something on the order of this amount of land to work with. In Kagbeni, however, the farmland is distributed among 53 households (Tab. 1), so that only about 0.67 ha of land on the average is available per household. It soon becomes clear that households in Kagbeni cannot live only from the crops they produce but must secure further income through livestock, trade or tourism.

The agricultural area on the fluvial fan plain is divided by the Dzong Chu into two parts (cf. Fig. 2), a smaller area to the north (A), on which the settlement is situated, and a larger area to the south. The latter in turn can be subdivided into three parts, with area (D) encompassing the higher lying terrace level, several field terraces of which are situated on steep slopes. Area (B) is on the same level as (A) and represents a lower riverbank terrace of the Dzong Chu, while area (C) has been built up out of both material from the fan plain of the Dzong Chu and from the deposits of detritus from the Kali Gandaki. This subdivision of the fan plain is of primary significance with regard to the quality of farmland; further, it gives an idea of the period of time these areas have been under cultivation. According to information supplied by local farmers, the fields in Sango (B) and Son (A) are of better quality, with their selling prices being accordingly high. The fields in area (C) and (D) are of lesser quality, the former for climatic reasons, the latter because of the topographical setting. Area (A) is also said to be the oldest farmland of Kagbeni, and it is not surprising that the oldest cultivated land is also the most valuable.

The fields are all terraced and levelled for irrigation purposes by means of stone walls (*singi tsikpa*) buttressing the terraces. The shape of the fields is determined both by the contour of the

terrain and by irrigation constraints, and in addition is the outcome of land inheritance practices. A fundamental distinction must be made between the clearly delineated land use plots (*singa*) - signified on the map by dotted lines - and the land tenure plots (*sing dagpo*), the latter of which can be identified only from the cadaster. The land tenure plots in Kagbeni are very small, for the most part situated randomly, and are of triangular to hexagonal shape. In individual portions of the agricultural land one can make out regularly laid out strips or blocks, as is the case above all in area (A), where the irrigation technique has conduced to such a division.

The traditional law of inheritance that used to be practised in Kagbeni was that of primogeniture. In traditional Kakpa society, which was built on fraternal polyandry, the eldest son inherited the whole of the land property, the second-born of three sons was sent to a monastery and the youngest worked on the fields of the eldest. The village land was thus divided among a fixed number of families, whose land holdings theoretically could not be divided (*trongba* estate). Within the past 30-40 years, however, the law of inheritance has changed, presumably due to the land reform measures taken during the fifties and sixties and the introduction of the Panchayat system in 1962.<sup>3</sup> Today the fields are distributed equally among the sons, the daughters being provided with a trousseau. The consequences of the new inheritance practices can be seen already in the fact that the agricultural land is extremely parcelled, the individual farm size and the ownership of land are very small, and the fields of any one farmer nowadays lie scattered over the whole of the agricultural area of the community.

The irrigation of the agricultural land is carried out exclusively by way of channels (*yura*), which

tap the water from the Dzong Chu approximately 2 km above Kagbeni. As the area drained by the latter extends up into the glacier regions of the Damodar and Muktinath Himal, the river flows with water throughout the year. Today there is no lack of water for irrigation in Kagbeni, as stated explicitly by local informants. The channels run along the slope on both sides of the valley and consist mainly of open conduits, though at several places they are covered over as a precaution against landslips. Intervening rock is bridged by open bamboo pipes. The channels are subject to a high degree of evaporation and runoff, but as the quantity of water is sufficient, such loss is not significant. Numerous distribution channels branch off from the main conduits; only the largest ones are indicated on the land use map. For irrigation purposes, the fields are subdivided by mounds of earth (*nangma*) that run perpendicularly to the irrigation channel at intervals of about 3 m. Similarly, along the side, a mound of earth separates the field from the irrigation channel, with one opening to the channel between each of the mounds (*ka*), which can be closed with a stone according to need.

Although today in Kagbeni there is water enough to irrigate the fields, this was not always the case. According to Dorje Thakuri, the long-time Pradhan Pancha of Kagbeni, a good portion of the irrigation network was paid for by the Thakali *subbas* (local tax collectors). For example, the irrigation on the orographically left side of the Dzong Chu valley (Sango Yüra) was purportedly built by Yeta Subba 50 to 60 years ago, including the dammed-up pond (Dzingu). Water was collected in the pond during the night, and in the morning the fields were irrigated. Nowadays the running water is enough to irrigate the whole agricultural land even with the pond being out of use. It is not really surprising that the initiative to construct the new system of channels came from

persons of high standing. According to local informants the Thakali merchants manipulated the village people by lending money at high interest rates. In doing so, they soon developed an economic stranglehold over the village people and gained possession of the land of those most indebted to them (cf. FÜRER-HAIMENDORF, 1975:168). In the case of Kagbeni, for example, the irrigation system was improved only in the area where Yeta Subba owned most of the land. Whereas the irrigation facilities on the orographically left side of the valley thus are of more recent date, those on the right side were said to be very old. Since the old center of Kagbeni lies in this area, it seems quite plausible that area (A) represents the oldest part of the village farmland.

### 3.2.2 Crops and cropping systems

Two harvests a year are possible in Kagbeni (cf. cropping calendar on the map enclosed) thanks to the favourable temperature ranges and irrigation facilities. The staple crop is **barley**; the second harvest brought in is usually buckwheat, though it may also be potatoes or field vegetables. The cropping calendar commences with the sowing of barley in the middle of December of the preceding year. With its six months and ten days, winter barley has the longest ripening period of all crops and can be harvested only at the end of June or the beginning of July. If the winter has been very cold, the harvest occurs only after 6 1/2 months. In that case, however, not much time is left for preparing the fields for the planting of buckwheat. In Kagbeni a traditional kind of winter barley (*ne*) is cultivated, comprising two varieties of Himalayan covered barley (*soma ne* and *singtok*) that NAKAO (1956) has identified as *Hordeum vulgare* L. s. convar. *hexastichon* var. *hypathorum* and convar.

*intermedium*. No Tibetan naked barley is planted in Kagbeni, as is done, for example, in northern Mustang. Winter wheat is said to have formerly been planted in place of winter barley (cf. also KAWAKITA, 1956). According to local farmers, however, the harvests were very poor, so that now the practice has been discontinued. In addition it was mentioned that wheat has a somewhat longer vegetation period and therefore the buckwheat harvest was often at risk.

The second most important staple crop in Kagbeni is buckwheat. After the barley has been harvested, the fields are immediately ploughed, fertilized and, at the end of July and beginning of August, sown with buckwheat. A longer fallow period is not possible at this time since, given its ripening period of 108 days, the buckwheat must be harvested at the end of October or beginning of November, before the occurrence of the first frost. At the time the mapping of land use was undertaken in Kagbeni, the buckwheat harvest had just begun, with a delay in comparison with the neighbouring villages. Great haste was called for, as the first overnight frosts had already set in (14th Oct.  $-3^{\circ}\text{C}$ ). In spite of a large contingent of labourers, including helpers from Mustang, Dolpo and Gorkha, a failure of the crop could no longer be prevented. In that year, obviously, the monsoon ended earlier, the clear nights became colder more quickly, and the fields exposed to the Himalayas, such as those in Sung (C), were damaged by frost. After the harvest, the buckwheat is left in the fields for about one week to dry, before being transported to the village for threshing. Even though part of the harvest is lost during the transport, the people in Kagbeni, unlike those in surrounding villages, have not yet made the transition to threshing in the fields. They also have their own way of sowing, which occurs before ploughing the fields and may also cause some loss. After the harvest has been

brought to the village, the cattle will be put out to pasture on the fields. In the meantime, the ploughing and the next round of fertilizing are begun. Following this, the fields lie fallow for about one month, only to be sown with barley and then reploughed in December. Buckwheat is undoubtedly a traditional crop in the Himalayas. According to MATSUOKA (1956), two cultivated species can be distinguished, which are planted only in the summer and can thrive to just below the maximum elevation possible (approx. 3900 m); *Fagopyrum esculentum* and *Fagopyrum tataricum*, the latter being cultivated only over 1500 m. In Kagbeni only *Fagopyrum esculentum* (*gyabre*) is utilized, while *Fagopyrum tataricum* (*thop*) is widespread in Muktinath and Lubra. According to MATSUOKA (1956) the former is among the oldest crops in the world and is now grown in Japan, China, other Asian countries, America and Europe.

Instead of buckwheat potatoes may be the crop following barley in the same year. The species in question ripens very quickly and is planted about 15 days before the buckwheat would have been (middle of July). Having a ripening period of three months, it is harvested in the middle of October. Another, slowly ripening species of potato is also planted, but it permits only one harvest per year. It is sown at the end of February or beginning of March and is harvested at the end of August or beginning of September. The planting of potatoes was introduced to Nepal at the end of the last century and has since been practised very successfully, particularly in the high mountain regions. As may be seen from the cropping calendar (cf. map enclosed), it fits seamlessly into the cropping system. As field vegetables, radish (*lou*) and beans (*bonde*) were reported to be cultivated traditionally in Kagbeni. The sowing occurs at the same time as buckwheat, in July/August. Following a ripening



period of three months, the vegetables are harvested right after the buckwheat. Numerous other vegetable species (cauliflower, cabbage, tomatoes, onions, spinach), most of them only recently introduced, are cultivated predominantly in gardens.

Alongside crops meant for human consumption, maize is planted in Kagbeni exclusively as fodder, particularly for goats and horses. It is sown in May/June and harvested after about three months, in August/September. Maize represents a new crop for Kagbeni, though its function as a supplementary fodder for the livestock should not be downplayed. While it grows there close to its maximum possible elevation, the cobs, according to local informants, nevertheless ripen. A greater danger for the maize harvest is represented by the jackals, which were observed in large numbers in the Dzong Chu valley close to Phudzeling.

Although apricot and peach trees count among the traditionally planted tree species in the valleys of the dry Inner Himalayas, their cultivation has only recently been improved systematically. In the Kali Gandaki valley the establishment of **fruit plantations** has been carried out now successfully for approximately 25 years. Getting their knowledge from the Horticulture Farm in Marpha, many Kakpa families have by now gone over to planting fruit trees in their gardens - primarily apple trees, apricots (*chuli*) and peaches (*khambu*). A small private apple orchard was created in Tangasa about 16 years ago. The apple harvest in Kagbeni is so good that a surplus is produced in spite of the local demand, including that of tourists and pilgrims. The only problem at the moment is the limited market for the fruits and their products, such as jam.

Apart from the fruit trees, numerous willows and poplars have in recent years been planted along

the irrigation channels, in the riverbeds and in areas subject to erosion, particularly within the framework of various projects. They not only contribute to stabilizing the soil but also serve an important function as a source of fodder (willows) and, in the end, of firewood and construction timber (poplars).

### 3.2.3 Harvest yields and income structure

The harvest yields achieved in Kagbeni, with the exception of the potato harvests, must be said to be very good, lying above the average values of the neighbouring villages (Tab. 2). Particularly high are the yields of barley, which not seldom bring up to an 18-fold return on the invested seed. The buckwheat harvest, producing a maximum yield of 10 pathi, can also be assessed as good. It must be realized, of course, that the yields depend heavily on the changing influence of the weather from year to year, which may shorten the cultivating period and thus place particularly the buckwheat harvest at risk.

The high yields in Kagbeni are due, in the first place, to natural preconditions that are relatively favourable for agricultural pursuits (calcareous, silty fan plain soils, suitable thermic properties, sufficient irrigation); secondly, they are the result of intensive farming. Thanks to the planting of a winter and summer crop, the vegetation period is optimally exploited, crop rotation is practised to help better regenerate nutritive substances in the soil, the irrigation technique is optimally employed and, finally, fertilizing is carried out by means of qualitatively high-grade goat dung. One innovation is the practice of multiple cropping, which in Kagbeni comprises various forms of relay and mixed cropping (cf. BEETS, 1982:3). In relay cropping, for example, potatoes and

buckwheat, maize and buckwheat, or potatoes and radishes are cultivated simultaneously in the same field. These combinations all have the purpose of preventing an unbalanced removal of nutrients from the soil, such as would happen from the cultivation of a single crop. The present-day system of land use in Kagbeni shows very clearly that the farming population keeps an open mind with regard to innovations. Experiments have been made not only with the cultivation of new food plants (potatoes, maize, vegetables, fruits) but also with new forms of cultivation (multiple cropping). If the cultivation proved to be ecologically suitable and sustainable, it was integrated into the traditional land use system; if not, as in the case of winter wheat, it was quickly given up.

In spite of the high yields, the harvest in Kagbeni, according to local informants, is enough to feed only about one-fifth of the local population for the whole year. The remainder of the population must buy additional food grains, and this they do particularly in the case of rice. The reason for the lack of self-sufficiency in grains lies primarily in the small size of fields, that is, in the small size of the land holdings of the majority of the population. In spite of the lack of agriculturally exploited land, it seems that the Kakpa are at present not prepared to expand their holdings to neighbouring areas. Both in Sangda and in Phudzeling, the recultivation of abandoned fields was discussed during the Panchayat period. In the case of Sangda, the idea was rejected because valuable pasture land would be forfeited there. In Phudzeling, still no Kakpa family is willing to till fields because the area has a bad reputation according to mythological tradition. Instead, the latter area has been offered to the government for planting apple orchards, but this has not yet occurred. One basic factor that militates against the expansion of fields, however, is the lack of

available manpower in Kagbeni. Even today the labour force is not large enough for the sowing and harvesting periods, so that helpers from the surrounding regions have to be hired. For this reason alone, the cultivation of remote fields is hardly feasible.

In open contradiction to the actual scarcity of agricultural land is the fact that 63 plots were not being cultivated at the time the land use map was being compiled. The reasons for this will become clear from a look into the land register and at the topographical features of the parcels. The numerous abandoned fields that are grouped around the wind power station were sold by the farmers for the construction of the station. The other unused fields are in part government land or *guthi* land, that is, land that is either community property or in the possession of monasteries. Several abandoned fields, however, belong to one of the richest men in the village, who has only his optimally situated parcels under cultivation. Further, a number of abandoned fields are located at spots that are endangered by erosion, where planting appears to be too risky - for example, where a terrace rim has fallen off into the Kali Gandaki, or beneath the irrigation channel running between levels (D) and (B) of the fan plain. Some parcels have presumably been lying fallow for years, as indicated by the high concentration of *Artemisia* on them. Another reason that may have led to the abandonment of some fields is the emigration of individual families from Kagbeni. According to information supplied by local informants, approximately 18 families have moved to Nagaland (Northeast India) and three or four families to Kathmandu during the present generation.

Since agriculture alone is not sufficient to sustain the village population of Kagbeni, most households combine agriculture with animal

husbandry and trade or tourist-related activities. Mixed economies are a characteristic feature for most of the mountain dwellers and seem to be traditional in the case of the Kagbeni population as well, although the emphasis on one or the other branch may have changed during the course of time. Today agriculture in irrigated fields provides the population with the bulk of its food supplies, and herding is an important subsidiary branch of their economy. Mainly goats are raised, but in addition every family keeps three to six cows, and some have a pair of *dzo*. The *dzo* are primarily used for ploughing and come from Solu Khumbu. In the whole village there are only three *yak*, and they come from Dolpo. Moreover, each Kakpa family owns at least one horse. Several families (five or six) also have mules, which are put to use for the winter trade with Pokhara and also for the annual trading trips to Tibet.

Cattle and goats are kept in separate herds, which are watched over by professional herdsmen (*drokpa*), with four or five families combining their herds into a single large one. The high-mountain pastures are all located beyond the borders of the land use map, in the valley of Sangda and between Taye and Kagbeni. They stretch over a range of different elevations and are replenished in seasonal rotation. Only goats and bulls, however, are taken to the highland pastures, whereas cows, *dzo* and horses remain back in the village. For about one month in winter (November), all animals are confined to their village stalls. Whereas the goats are daily driven during this period to pastures near the village, the bulls, *dzo*, horses and mules graze on fallow fields. Hay and maize serve as the principal supplementary fodder during winter. A concentrated fodder is prepared for the bulls, consisting of *tsampa* mixed with dried and boiled radishes. The supply of meat in Kagbeni cannot satisfy the needs of the entire population, so that additional

purchases, particularly of goats, are necessary from Tibet.

Along with stockbreeding, trade has traditionally been an important means for the Kakpa of supplementing their income. If in earlier times they were engaged primarily in the trade of salt and grain with Tibet, their trading activities shifted to places in India, following the political change in Tibet and the halt of the border trade. According to local informants, there were three people who built up their trade in Nagaland, in the extreme northeastern part of India, later sending for their family members and other relatives. Since then 18 Kakpa families have gone to live in Nagaland. If the selection of the migrants' trade goods once covered wool, musk, bear's liver and other medicaments, today they sell primarily clothing from Hong Kong along with numerous souvenirs. Some have achieved a respectable standard of living, the fruits of which they share not only with their relatives back in Kagbeni but also with the village as a whole, in the form of contributions for the *gompa* and public conveniences. At present, trade with Tibet is once again possible on a small scale, and once a year the Kakpa make a six- to eight-day trek to Likze Bazar to sell cotton and numerous other goods for daily use. From Tibet they bring back sheep, goats, salt and tea to Kagbeni. Besides this, the Kakpa also trade with the Lopa in northern Mustang, to whom they sell principally food grains.

With the opening of Nepal, tourism in the Kali Gandaki valley has developed into an increasingly attractive source of income for, among others, the Kakpa. Whereas in 1983 a total number of 21,119 tourists applied for a trekking permit covering the Annapurna, Manang and Jomsom Trek, in 1989 the number increased to 36,484.<sup>4</sup> About the half of them are doing the whole tour round Annapurna and only a portion of the tourists spend the

night in Kagbeni; many find quarters either in Muktinath or Jomsom. Still, there are by now seven lodges and seven shops in Kagbeni (1993), some of which draw a sizeable income from tourism.

### 3.3 The settlement pattern: a preliminary analysis

The rise in economic status that Kagbeni has undergone in recent years thanks to tourism on the one hand and foreign trade on the other is clearly observable in the present-day pattern of settlement. While the main village with its old center lies in the northern area (A) of the fan plain and forms a compact group of buildings, about 15 years ago construction was begun to found a new part of the settlement on the opposite side of the Dzong Chu (cf. map enclosed). There the houses are laid out one next to the other in rows, or else at present stand isolated, along the main travel route. Three lodges and three shops alone were newly erected. There has been a clear tendency for people to abandon their houses in the center of the village in order to construct newer, more spacious buildings on the periphery. The advantages are obvious: whereas the houses in the old part of the village are built extremely close to one another and nested one above the next, with the living space being relatively small and unlit, the houses in the new part of the settlement can be laid out more commodiously. A good example of this is the building of Nilgiri Lodge, which has a frontal length of 31 m, in comparison to a norm of only a few metres in the village core. In terms of infrastructure, too, the new part of the settlement is also well developed: there is a source of potable water, lines have been laid for electrification and the main travel route, of course, runs

through it. However, the new location does have one drawback, and that is its extreme exposure to wind. Whereas the form of nested construction protects people from the wind in the old part of the village, the newly constructed isolated buildings are highly exposed to it - a disadvantage that can be at least partially compensated for by the use of glass windows.

Administratively, the village today belongs to Mustang District and, on a lower level, to the Kagbeni Village Samiti (former Village Panchayat), which comprises six permanent settlements of which Kagbeni is the largest one (Tab. 1). According to census figures, in 1981 Kagbeni had 239 inhabitants distributed among 53 households (Tab. 1). The latest population records of April 1993 collected on *gaon samiti* level, report a population of 326 inhabitants in 65 households. The insular location of settlement and surrounding fields in the middle of a steppe-like high-mountain semi-desert is characteristic of the Kali Gandaki valley in the region of Mustang District. These settlements often lie several kilometres apart from one another so that, at 3.6 persons/km<sup>2</sup>, the population density is extremely low (Mustang District, census 1981).<sup>5</sup>

According to an old administrative system of districting, four regions are distinguished from north to south within Mustang District - Lo, Baragaon, Panchgaon, and Thak -, which still exist as regional designations (Fig. 1). Kagbeni belongs to the region of Baragaon, which comprises 18 or 19 villages today. In 5 of them a Tibeto-Burman language is spoken, in contrast to the others, including Kagbeni, where a western Tibetan dialect predominates (BIELMEIER, 1988; RAMBLE, 1990). Not only due to their Tibetan language but also because of their Tibetan religious and cultural traditions, the inhabitants of Kagbeni are called **Bhote** by their

southern neighbours, though they call themselves Kakpa.

### 3.3.1 Evidence relating to the founding and the genesis of the settlement

Little has been known up to now concerning the founding of the village. According to a story told by Dorje Thakuri, Kagbeni arose from the fusion of two older villages, those of Phudzeling, which lies upstream along the Dzong Chu and has since fallen into ruins, and Kak Nyingba, south of Kagbeni along the Kali Gandaki (cf. Fig. 4, HAFFNER & POHLE, in the present volume). The mythological tale told by him regarding the abandonment of the two villages concerns a demon, with the head of a lion and the body of a serpent, that supposedly killed off the inhabitants of Phudzeling and Kak Nyingba. It was a *lama* from Lubra (Yangton Lama) who finally managed to put an end to the killing by giving the demon *torma* to eat. An annual *torma* ritual for the demon is still held; it is called, simply, *lhabsang* and takes place next to the chorten on the way to Lubra, which still belongs to Kagbeni today. The surviving inhabitants of the two villages, which in the story are called upper Kak (Kak-tö) and lower Kak (Kak-mä), are said to have afterwards founded a new settlement, the present-day Kagbeni.

The story told by Dorje Thakuri contains striking parallels to the well-known legend concerning the founding of the Bon monastery of Lubra by the so-called Yangton Lama. It has been described by JACKSON (1978) on the basis of historical texts, by KRETSCHMAR (1985) on the basis of oral tradition, and by RAMBLE (1983) from a comparative perspective combining historical texts and oral tradition.

The Bonpo texts analysed by JACKSON (1978: 202ff.) mention a *lama*, called Yang-ston Shes-rab-rgyal-mchan, who is said to have come from Tsang in Tibet and to have lived from 1077 to 1141(?). In order to learn a certain orally transmitted meditational practice (*Zhang zhung snyan brgyud*), he wandered around for years in search of the Bon lama Rong-sgom-rtogs-med-zhig-po, until he finally found him in Lo. According to JACKSON, the texts provide no evidence that Yangton visited Serib (a kingdom corresponding roughly to the area of Baragaon) or spread Bon teachings there, but he did journey to Lo and stayed there for a while, thus setting a precedent that would be followed by his descendants (JACKSON, 1978:214). Of Yangton's three children, his second son became known as Klu-brag-pa, the founder of Bon in Serib, after having first subdued the local deity of Lubra (Klu-brag), a village in a side valley of the Kali Gandaki south of Kagbeni. It is not certain, however, that the founding of the Bon monastery in Lubra goes back to him directly. The exact point in time when this event occurred is likewise unclear - that is, whether Klu-brag-pa went to Lubra before or after his ordination, which he received at the age of 30 in Tsang (1161?). He is said to have died at 84 (1215?), but his lineage continued, particularly in Dolpo, where it developed into an important line of Bonpo priests (JACKSON, 1978:206).

Kagbeni is mentioned only marginally in the historical textual sources.<sup>6</sup> The place referred to in them is in every case obviously old Kak (Kak Nyingba), the ruins of whose houses still stand, clearly visible, on a low river terrace of the Kali Gandaki approximately 2 km south of present-day Kagbeni. On the basis of remarks in the texts, one may assume that Kak Nyingba must have

existed at the time of these events, namely in the middle of the 12th century.<sup>7</sup>

In the orally transmitted stories, according to RAMBLE (1983:276ff.) and KRETSCHMAR (1985), there is likewise mention of a Yangton Lama who searched for Rong-Togme-Shigpo-Lama and who finally found him in Lo. The latter revealed to Yangton Lama that he, Yangton, was the only person in a position to subdue a demon that was devastating the villages in Baragaon. In the oral tradition, in contrast to the written sources, a change of bodies occurs, with the aged Rong-Togme-Shigpo-Lama assuming the youthful body of Yangton Lama.<sup>8</sup> Regardless of this, however, both of the narratives recorded by RAMBLE and KRETSCHMAR tell of demons and "man-eaters" and of how the demons' destructive activities were put a halt to by the spiritual powers of Yangton Lama. Kak is mentioned in them only in passing, but it is described as having already been destroyed, the abandonment of the village being ascribed to the voracity of the demons.<sup>9</sup>

According to KRETSCHMAR (1985), Yangton Lama passed through the ruined village of Kak and met up with the demon in the still uninhabited and thickly forested region of Lubra. He forced the demon to renounce his eating of humans and promised him as compensation an offering of *torma* and *chang*. According to RAMBLE (1983:279), Yangton Lama arrived at the village of Kak, "which was at that time located about a mile south of the present village" and "was being plagued by a pair of demons (*srin-po*), who would capture and devour its inhabitants at every opportunity. The fact that the village was abandoned is attributed to their voracity."

The great similarity in names and the account of very similar events suggests that the story told by Dorje Thakuri is a local variant of the well-known legend of the founding of the Bon monastery of Lubra by the so-called Yangton Lama. What is new is the fact that not only Kak Nyingba but also Phudzeling is said to have been destroyed by demons, and that the surviving inhabitants of both settlements apparently founded present-day Kagbeni. The abandonment of the two settlements is also told of in the narratives of other, older villagers. The mother of Pema Gurung, moreover, gave an interesting explanation of the meaning of the village name of Kak: *bkag* or *skags* means in Tibetan 'to stop', the connotation being to stop the demons.

One can only speculate at present about the true motives for the abandonment of Phudzeling and Kak Nyingba. It is perhaps significant that the mystifying story of Dorje Thakuri was recounted in connection with a report about natural hazards (floods caused by the outburst of a glacier lake). What is beyond doubt, in any case, is that both Phudzeling and Kak Nyingba were laid out in areas of the river terraces at risk from erosion, namely the edges that were subject to crumbling, and that parts of both settlements are now washed away. In the case of Kak Nyingba, all of its fields are said to have been swept away by the Kali Gandaki. What is striking in Kak Nyingba, though, is the fact that the house ruins still standing along the terrace edges exhibit clear traces of fire. Numerous remains of charred beams as well as distinct burnt layers have been attested to in soil profiles taken during the last field trip. Another reason for the abandonment of the settlement that almost suggests itself is the outbreak of an epidemic (consumption of human flesh!).

This is by no means certain, however; it is known,

in the case of Phudzeling, for example, only that the idea of returning to the settlement and resuming the cultivation of its fields is rejected by the present-day population of Kagbeni on grounds that the region is haunted by evil spirits. Herdsmen with their animals are the only people to venture temporarily into it. It may be taken as probable, however, that Phudzeling and Kak Nyingba have some connection with present-day Kagbeni, as both areas are administratively part of Kagbeni, and questions of their use are settled in Kagbeni.

Again, up to now, the only information about when the settlement was abandoned has been vague. To judge by the textual sources, there are reasons to believe that old Kak must have still been in existence during the lifetime of the so-called Yangton Lama, which fell within the 12th century. If one can believe the orally transmitted narratives, Kak Nyingba had already been destroyed by the time the *gompa* was founded in Lubra. There is no mention of present-day Kagbeni in any of the sources dealing with this period available up to now, and this suggests that it arose at a later point in time.

Interesting results can be expected from the archaeological excavations with regard to the time during which Phudzeling was inhabited. Preliminary datings of settlement material have already been obtained by A. SIMONS (forthcoming), and they span the period from 300 B.C. to 1650 A.D. Own samples of earthenware fragments from house walls in Phudzeling were dated by means of thermoluminescence dating (TL dating) to the 14th and 15th centuries (date of the conflagration: A.D. 1331  $\pm$  111; A.D. 1403  $\pm$  68; A.D. 1413  $\pm$  95; A.D. 1453  $\pm$  63).<sup>10</sup> Samples for dating (14C, TL, dendrochronology) were likewise taken in Kak Nyingba during the last field trip, but there are as yet no results.

The caves of Sapce Dak, built into quaternary conglomerates, may perhaps be one of the oldest settlement-related elements on the land use map of Kagbeni. Nowadays inaccessible, they are framed by solid bedrock of cretaceous age on the orographically right side of the Kali Gandaki valley, opposite Kagbeni at an elevation of about 2860 m. Two *chorten* are observable in them from afar. The question arises as to whether this row of approximately 15 caves are affiliated with the larger cave systems of Phudzeling and Mebrak in the upper Dzong Chu valley, which were obviously used as dwellings, and with the more extended cave systems of the Kali Gandaki valley in adjoining areas to the north and south. The caves of Sapce Dak were hardly likely to have been convenient dwellings, given the steepness of the slope and their exposure to the wind. Their strategically favourable location is unmistakable, however. One has a wide view not only over the Kali Gandaki valley to the north and the south but also over the Dzong Chu valley. If their use as dwellings, on a site that affords little opportunity for carrying out improvements, appears to be very improbable, then they may have been formerly used for surveillance or scouting purposes, and possibly later for religious purposes. At present, however, one can again only speculate and wait for the systematic excavations to provide a clear answer. Nowadays access to the caves is greatly hampered by rolling stones, and the use of them as retreats impossible. Two caves on the northern slope above Kagbeni (Simbu Phu), alongside which a meditation hut has been built, at present serve this purpose.

Likewise still uncertain is the age of the ruins of Thana, located on the higher lying river terrace (D) above Nilgiri Lodge, and the purpose they once served. Only the remains of a large building have survived to the present day: a foundation of stone fragments on top of which a wall of pressed

clay (*gyang*) was erected. According to elder villagers, however, a settlement once existed there. The remains of numerous foundation walls that at present appear above the surface of abandoned fields suggest that this is the case. According to Pema Gurung, the land of Thana was once owned by the (royal) Rhewo family. He himself bought a number of fields from them and later sold them to the Wind Power Project, after the land proved to be agriculturally unproductive. All attempts to cultivate it failed, principally because the irrigation of the fields repeatedly caused them to subside, as a result of which the foundation walls of houses and numerous shards and bone fragments were uncovered. During excavation work for Nilgiri Lodge the construction workers are said to have come across extensive bone and shard material as well. Of particular note in this connection are the remains of a *mane* wall that directly abuts on Nilgiri Lodge to the south. The wall purportedly once stood in Thana but was moved downhill, having faced collapse at its former location at the edge of a terrace; moreover, people disliked taking the long and steep path up to Thana to perform their daily ritual circumambulations. The *mane* wall has since been relocated a second time, up to the middle of the main route to Kagbeni, where it presently, together with a *chorten*, marks the southern boundary of the village.

In the opinion of elder villagers of Kagbeni, Thana was founded before the founding of present-day Kagbeni, and after Kak Nyingba and Phudzeling had been abandoned. There is the statement of an old man from Tiri that Thana was formerly a military garrison. "Thana" in Nepali means "police post", thus, according to Pema Gurung, a fortress (*dzong*) may have at one time stood there; the exposed topography of the site favours this assumption. Interesting conclusions on the former use of Thana may be

expected from Tibetological research (D. SCHUH, C. RAMBLE) following the edition of the *bern-chag*. Dating samples collected from the ruins of the house in Thana during the last field sojourn are currently being analysed.

The first reliable information concerning political events and construction activities in Kagbeni has come from the studies of D. SCHUH and colleagues. It dates to the Tibetan medieval period, the time of the founding of the fortresses. Written sources reveal that the palace of Kagbeni, now in ruins, was built in the middle of the 15th century by a Tibetan noble family (SCHUH, 1990, 1992). The palace continues to give Kagbeni the look of a settlement that at one time was the center of feudal power. But whether the settlement and palace arose simultaneously or whether the settlement site was being used even earlier is as yet little known. Up to now there are indications only of the age of the palace, dated dendrochronologically by SCHMIDT (1992-93:32) to 1558, as well as that of individual houses, none of which, with one exception until now, matches the date of the palace. There is, moreover, a discrepancy between the earliest possible dates that supporting beams from the palace could have been felled, determined dendrochronologically, and the information provided by historical documents regarding the construction of the palace. The difference, some 100 years, may be due to a number of reasons, concerning which one need not at present speculate. One should wait for the results of further dating and the architectural-historical interpretations of B. SCHMIDT and N. GUTSCHOW, who gathered extensive samples in Kagbeni that can be analysed dendrochronologically.



### 3.3.2 The layout and physiognomy of the settlement

If one looks at the physiognomy of the village and the form that house lots take, then a number of principles governing layout may be discerned, and therewith various phases in the development of the settlement. Four sections of the village may be distinguished in its present-day being on the basis of the shape, size and arrangement of house lots.

The center of the village (Kak Nang), situated on the northern fan plain region (A) and abutting directly on the steep slope of the river terrace of the Kali Gandaki, forms the oldest part of the village. The most striking features of it are that its houses have irregular ground plans, are constructed so as to impinge on and even vertically overlap one another, and that they form semicircular groups around an open space (Te). Even the palace building (Khar) is oriented around the open space, though it was erected on the other side of it, opposite the settlement. The old core of the village is delimited by narrow alleys and tunnel-like passageways (Te Hrangtang, Hrangtang Munakpa). The buildings adjoining at present to the north, east and south are likely to be more recent since their placement, in contrast to the nested manner of construction in the center of the village, is regular and oriented parallel to the pathway through the village (Phi Hrangtang), particularly in the northern and eastern sections. The statement, by one of the descendants of the royal family, that there were formerly no houses situated around the palace, such houses have been erected later, confirms this assumption. Today numerous buildings of the old center of the village have been abandoned, some have visibly decayed, and still others have been swept away through erosion along the river

terrace of the Kali Gandaki. Some houses, standing directly on the edges of the river terrace, are highly at risk to the forces of erosion and for this reason are no longer inhabited. The palace itself likewise lies in ruins. This came about not because of military conflicts but rather as a result of gradual decay (SCHUH, 1992) as well as, according to Dorje Thakuri, an earthquake.

The parts of Kagbeni that adjoin the old center to the north and east are of more recent origin, as their houses are situated in regular fashion along both sides of the pathway, thus adhering to the scheme manifested by linear settlements like "street villages". Of the two, the eastern sector (Angyn), in which the Red House Lodge is located, represents the older part of the settlement. Thus construction timber taken from the Red House Lodge could be dated by SCHMIDT (1992-93:30) to 1653 as the year of felling. The houses that were built along the pathway on both sides of the *mane* wall in the northern sector of the settlement (Kak Phi) are of relatively recent age. In part they are newly erected administrative buildings (post office, production credit office for rural women), built only approximately ten and six years ago. The *mane* wall, a characteristic feature of villages settled by Tibetan groups, has been completely integrated into the village scheme today. Its original location, however, lay outside the village. It is evident that the particular topography of the fan plain has determined the course of the settlement's recent expansion. Above all it has been the riverbeds from the Kali Gandaki and Dzong Chu that set limits to growth: the settlement could only expand out over irrigated fields.

One of the most recent phases of expansion is the settlement of the southern area of the fan plain (C). According to local informants, the old

customs post (Kakdeni; giving another connotation to the meaning of Kak) together with a storehouse was once located there, facing the big *chorten*, but no other buildings beyond these. New buildings have been added only during the past 15 years. They are again oriented, in their placement, to the main pathway. Only public buildings (school, children's clinic, shelter for pilgrims) deviate from the norm established by the pathway through the village. The large number of public buildings and buildings serving other than only dwelling purposes, are a characteristic feature of the new section of the village, whereas in the old center there are, with the exception of the palace, only houses and farm buildings.

The various developmental phases of the village of Kagbeni can be deduced not only on the basis of its physiognomic settlement structure but also on that of the architectural form of its houses. Whereas the houses in the center of the village display an irregular ground plan, are located compactly one against another and stacked one over another up to four storeys tall, the new houses along the pathway have a rectangular ground plan for the most part and are usually two storeys in height. Domestic and utility areas that in the old village center were ensured by constructing in multiple storeys are now obtained by a more spacious layout. If, due to lack of space, the houses in the center of the village are largely planned without courtyards, the architectural style and house type exemplified by Thakali houses with their large courtyards (cf. KLEINERT, 1983) predominate in the northern, more recent settlement area. Some of these buildings (the present-day health post, police check post) were built as late as the 1960s by Khampas, who established a supply point in Kagbeni.

In this context, it is noteworthy that the surveyors of the H.M.G. Survey Department, in dividing up the settlement into wards, evidently took their bearings from the structure of the ground plans: the present-day ward boundaries coincide exactly with the settlement areas described above.

While a number of expansionary phases can be seen, on the basis of a physiognomic study of settlement structure, to have occurred within the village, a more exact analysis is required to date them absolutely. Dendrochronological datings or other scientific dating techniques, a study of the architectonic and historical features of buildings, and information gleaned from historical textual sources may advance this undertaking. What one local informant said should not go unheeded in this connection. He pointed out that the walls of houses were traditionally built of pressed clay (*gyang*), whereas clay bricks, commonly in use for house construction in large parts of Tibet, have almost totally gained the upper hand in later times. Since clay bricks are apparently less durable, however, people in Kagbeni have now reverted to constructing methods employing pressed clay. Building shape and materials in themselves, then, are a further indication of the relative ages of settlement areas.

If finally a comparison is made between the present number of households (1981 = 53 HH, 1993 = 65 HH) with data from the last centuries (60 HH, cf. SCHUH, 1992; RAMBLE, forthcoming), then it is interesting to note that, despite phases of village expansion, on the whole no noteworthy increase in population has occurred. The low number of households in the year 1981 is due to the migration of families involved in distant trading ventures (Nagaland). The almost invariant number of households over a period of centuries may be ascribed to the *trongba* system formerly practised in Kagbeni, that is, to the

former polyandrous social structure (cf. SCHULER, 1987), under which new households were kept from being formed, at least not in the same village.

#### 4. Summary

It is obvious that the present state of knowledge concerning the origins of Kagbeni and other settlements in Mustang District is still very fragmentary after only two years of field research, being scarcely more than an inventory of facts; indeed, all the more unanswered questions have arisen. Even if nothing definitive can as yet be said about the chronological status of abandoned settlement sites, their former function or their historical significance, nevertheless the multiplicity and spatial concentration of abandoned settlement sites, particularly in Baragaon, may be highlighted as one important finding (cf. HAFFNER & POHLE, in the present volume). Even in such a spatially restricted area (ca. 1.6 km x 1.1 km) as is documented on the land use map of Kagbeni, no less than six different types of abandoned sites can be found: anthropogenic caves, an abandoned village site, the palace remains, abandoned fields, numerous house ruins and the remains of religious structures. Furthermore, two other abandoned villages, Phudzeling and Kak Nyingba, though outside the area covered by the map, are directly connected with present-day Kagbeni. This concentration of phenomena associated with abandoned sites suggests that the region has had an extremely dynamic settlement history, one marked by the decline and the recurring founding of settlements, and more particularly by a frequent shifting of settlement sites. Explanatory models based on one simple cause - this much may be said already - will not sufficiently capture the complex history

and dynamics of settlement processes.

Ecological factors may be held responsible for many features of settlement change. Topographical conditions are decisive above all else in the choice of settlement sites, with the availability of irrigation water for village fields being an unvarying criterion when that choice is made in arid regions. The shapes of houses and the layout of settlements can be interpreted, to a certain extent at least, as adaptational strategies in dealing with dry climates marked by strong valley winds. A compact, closed village layout with the construction of flat-roof houses is dominant. Further, each political, economic and religious epoch has left its own distinct stamp on the face of the settlement. Thus the effects of the consolidation of Tibetan culture is recognized on specific buildings and monuments, such as those of the palace of Kagbeni. Moreover, numerous structural features of a religious nature have left their mark on the settlement and make clear that it fell within the sphere of Buddhist influence. The spacious houses laid out around courtyards in the Thakali style constitute the chief legacy from the period of the *subbas* and *Khampas*. The influence of the contemporary nation-state is felt in the numerous "functional buildings" (school, health post, police check post etc.). The numerous lodges and shops are an immediate outgrowth of the relative upturn in the economy that Kagbeni has experienced over the past ten years due to tourism.

Despite the dynamics of settlement processes, however, specific settlement features have also been preserved over periods of hundreds of years. Principles governing the choice of sites, the use of locally available building material, and religious and cultural formative features have obviously remained constant throughout extended periods of time and have determined the face of the -

largely unified - cultural landscape of the dry inner valleys of the High Himalayas.

A similar constancy may be observed in the structural features relating to agriculture. It is noteworthy, for example, that presumably the same crops are sown today as were during the period of the use of the caves. The chief cultivable products in Baragaon are still three types of barley, two of buckwheat and one of wheat (cf. SIMONS, 1992-93). Nor are the irrigation systems likely to have altered in any fundamental way over the years, having continued to rely principally on gravitational flow. The laying out of irrigated terraces and the intensive use of fertilizer in tilling are further characteristics of the agricultural tradition. Thus recourse may be had to current land use structures in order to explain historical forms and systems of cropping; the former represent, in fact, an immediate precondition for an understanding of the latter.

### Notes

1. The article was translated from the German text into English by Philip Pierce. The toponyms and other local terms were transcribed by Roland Bielmeier.

2. The climatological data were calculated from the "Climatological Records of Nepal", published by "His Majesty's Government of Nepal (H.M.G.)" in 1977, 1982, 1984, 1986, Kathmandu.

3. According to FÜRER-HAIMENDORF (1975: 168) the system of self-contained villages and with that the trongba system, broke down wherever in Baragaon Thakali merchants developed an economic stranglehold over Bhotia villages. In fact, however, the trongba system still existed in

several villages of Baragaon much longer and could even be surveyed by SCHULER (1987) during her investigation in 1976. In Kagbeni it was said by local informants that the trongba system was only recently given up, about three years ago.

4. The data were obtained from: H.M.G., Department of Tourism, 1984: Nepal Tourism Statistics 1983, p.43, Kathmandu; JHA, P.K., 1992: Environment & Man in Nepal. Know Nepal Series, No. 7, p. 70 Kathmandu.

5. H.M.G., Central Bureau of Statistics, 1981: Statistical Year Book of Nepal 1991, 3. ed., Kathmandu.

6. The texts analysed by JACKSON (1978) are: dPal-ldan-tshul-khrims (1904-1972): Sangs rgyas g.yung drung bon gyi bstan pa'i byung ba brjod pa'i legs bshad bskal pa bzang po'i mgrin rgyan, Dolanji (H.P.), Tibetan Bonpo Monastic Center; and Tenzing Namdak (ed.), 1972: Sources for a History of Bon, Dolanji (H.P.), Tibetan Bonpo Monastic Center. Both texts were also utilized by RAMBLE (1983) and supplemented by another text he discovered in Lubra: "... the lineage history of the clan of the Yang-ngal priests." (Yang-ngal gdung rabs, RAMBLE, 1983:270)

7. In JACKSON (1978:205) the following is noted: "In nearby Kag an old childless couple divided up their possessions and offered them to two local priests ...". In RAMBLE (1983:275) one reads: "Trashi Gyaltzen went riding on a mare which had a foal. His patrons in Kag (near Lubra) saw him off on the plateau ..."

8. In KRETSCHMAR (1985) the change of bodies is reversed, with the aged Yangton Lama assuming the body of the youthful Rong-Togme-Shigpo-Lama.

9. The textual sources tell of both demons and snake deities living in the valley of Lubra. In Dorje Thakuri's narrative there is an account of a demon with the head of a lion and the body of a snake. Snakes as earth and water deities symbolize in ideal terms such natural events as floods or mud flows.

10. The TL dating was carried out by Dr. Irmtrud B. Wagner at the "Forschungsstelle Archäometrie der Heidelberger Akademie der Wissenschaften am Max-Planck-Institut für Kernphysik".

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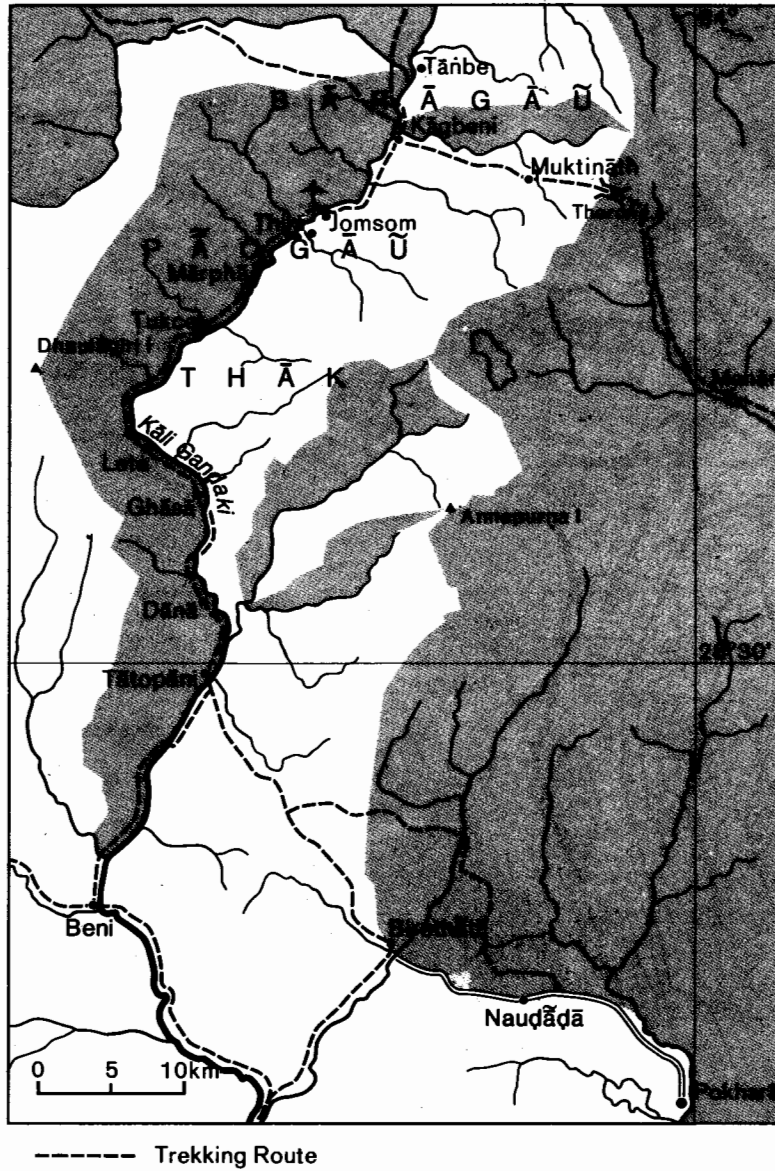


Fig. 1: The location of Kāgbeni in the Kāli Gaṇḍaki Valley

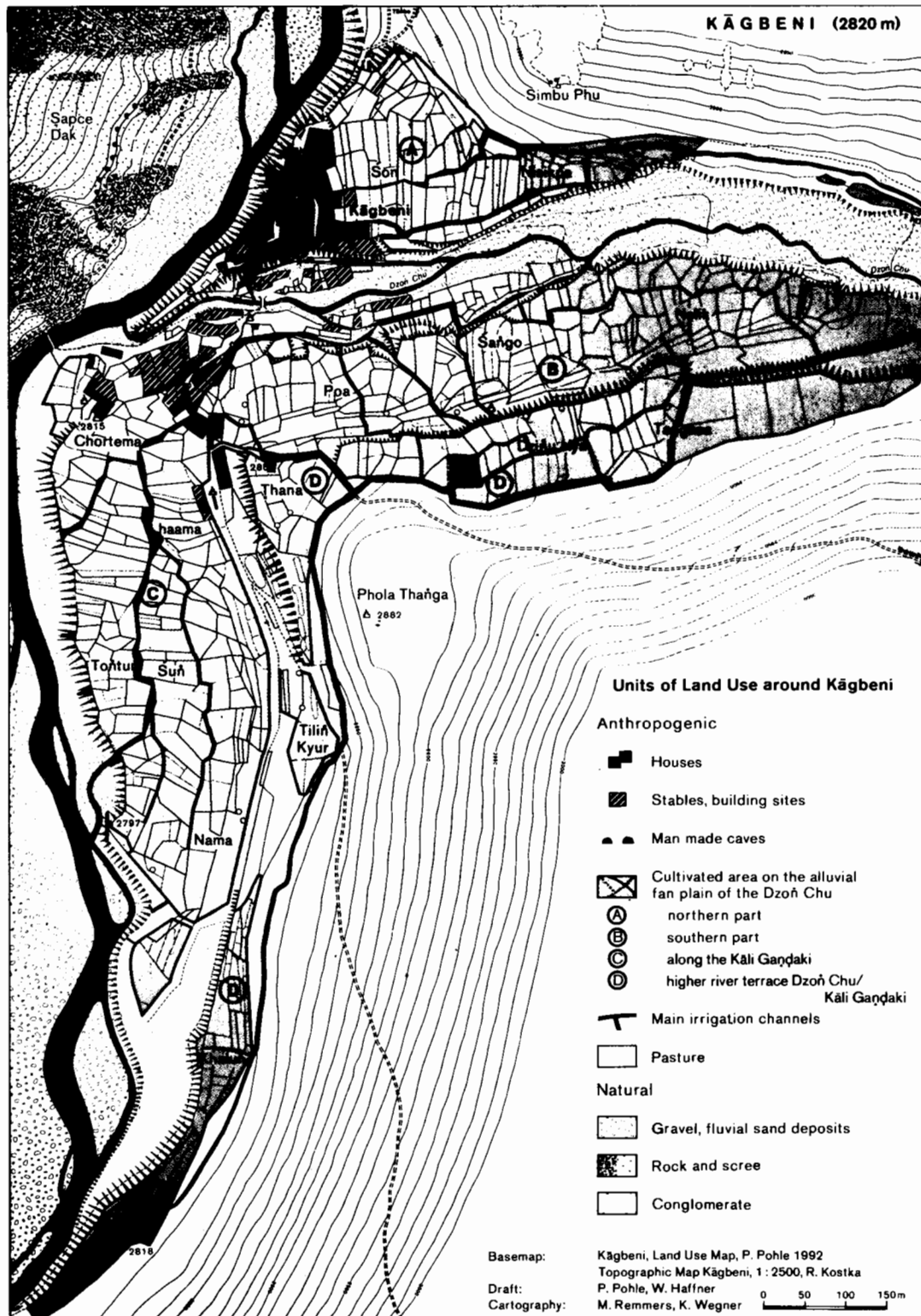


Fig. 2: Units of Land Use around Kägbeni (2820 m)



**Tab. 1: The population of the permanent settlements of the Kagbeni "Village Panchayat" according to the census of 1981<sup>1</sup>**

Settlement <sup>2</sup>	Ward No. <sup>2</sup>	Population	Male	Female	Household	Pers./Household
Sangda	1	83	42	41	16	5,2
Dankardzong	2/3	204	85	119	47	4,3
Phalak	4/5	189	80	109	42	4,5
Pagling	6	124	66	58	26	4,8
Kagbeni	7/8	239	114	125	53	4,5
Tiri	9	111	57	54	25	4,4
Kagbeni Panchayat	1-9	950	444	506	209	4,5

<sup>1</sup> CENTRAL BUREAU OF STATISTICS: Population Census 1981. Individual check list.  
(Data unpublished, copied by the author 1983, Kathmandu)

<sup>2</sup> District Gaon Samiti Office, Jomsom 1991

**Tab. 2: The harvest yields in Kagbeni (2.820 m)**

Amount of seed	Harvest yields	Harvest classification
1 pathi barley	13-14 pathi	average
	18 pathi	maximum
	10 pathi	minimum
1 pathi buckwheat	6-7 pathi	average
	10 pathi	maximum
1 pathi potatoes	3-4 pathi	average
	5 pathi	maximum
	2 pathi	minimum
1 pathi maize	40 pathi	average
	50 pathi	maximum
	30 pathi	minimum

Survey 1991, 1 pathi = 4.5 litre