Important Trade Routes in Nepal and Their Importance to the Settlement Process

-Rainer Graafen and Christian Seeber

1. Introduction

The aim of the Trade Route Research Project is to map the historically important trade routes in the region being examined by all the projects in the multifaceted study "Settlement Processes and State Formation in the Tibetan Himalaya". Brief descriptions of the trade routes with reference to their significance for the settlement process are also to be prepared. In trade and transport geography it is considered a certainty that settlements (residential settlements, castles, monasteries, etc.) and trade routes are inseparably bound together. In very many cases the growth or decline of settlements can be directly attributed to the building of new trade routes or the extension of existing ones. It has been demonstrated that the construction of a route results in the establishment of businesses connected to the transport of goods and passengers (for example, boarding houses and roadside taverns) and in the creation of other transport-related establishments (castles for safeguarding the route, customs posts, etc.). Larger villages and cities often develop at the beginning of trade routes. People settle preferably near trade routes because with them they have the possibility of quickly reaching other places, such as markets and administration centres.

2. Results of the research of old cartographic and written sources from the archives of the India Office Library and Records and the British Library (both in London)

Towards the end of the 18th and the beginning of the 19th century, increasing numbers of Englishmen travelled to Nepal. Among other reasons, including strategic ones, they undertook this journey to establish trade channels between

India and Tibet. Among the significant travellers at that time were William Kirkpatrick, Charles Crawford and Francis Hamilton. Many maps and travel reports prepared by them are kept in the India Office Library and Records as well as in the British Library. Old maps are particularly valuable sources for trade route and transport research because they show the appearance of the cultural landscape, including the courses of the trade routes, for a relatively large area at a particular point in the past. Some old maps are listed in bibliographies; here it is mostly a matter of the most valuable items (cf. specially for the archives in London: L. Boulnois: Bibliographie du Népal Volume 3; Cartes du Népal. Paris 1973. - H. Gurung: Maps of Nepal. Bangkok 1983). However, very many maps, plans and sketches that are filed away in documents, files or travel reports are not recorded in any bibliography.The following paragraphs will introduce some of the important old maps which we discovered in London and on which South Mustang is shown. The oldest map on which this area appears was prepared in 1802-03 by Charles Crawford (cf. illustration 1) and has the following title: "A Map of the NEPAUL TERRITORIES and other PORTIONS of the HIMALAYA MOUNTAINS, delineating: - the headwaters of the Ganges from Gangoutree, Kedarnath, and Badreenauth; - the source of the Western Gunduck from Mustang on the north of Mukteenauth, with the situation of the course of the Brimpootra beyond... Also routes through Nepaul from Dugartcheh (Shigatze) on the east, to Gangoutri and Durdwaur on the west". (scale, about 1:918.700; size 1290/750 mm). On this map the landscape is portrayed in a very simplified and genralized manner, owing to the rather poor knowledge of map-making at this time. The mountains, for example, are rendered as little hills, and all the villages are drawn uniformly on the leftbank of the Kali Gandaki. Nevertheless, this map contains much meaningful information for the trade route researcher: around 1800 there was already a good route through the Kali Gandaki Valley. In addition, religious sites along the routes are also indicated. The comment "Here the Saligram Stone was found" appears next to Muktinath, and south of Mustang one sees the note "Saligram here found".

Much more exact than the map by Crawford is the "Sketch Map of Western Nepal... With Routes by various explorers", scale 1:506.880, prepared in 1887/88 by Colonel H.C.B. Tanner and Rinzin Nimgyal (cf. illustration 2). After about 1850 the procedure of triangulation was used in Nepal, so that measurement and, therefore, cartographic information became more exact and truer to reality. On this map broken lines show the course of streams, double broken lines show the routes of rivers, and dotted lines indicate the path taken by the explorers. Even if all the routes existing at that time are not recorded, but instead only those used by the explorers, one can at least say that they mostly sought out the best and fastest routes. From this point of view, the trade route researcher can determine among other things that the route from Kagbeni, through Marpha, Lete, and Ghasa and to Dana crosses the river seven times. There were, therefore, seven bridges along this route, indicating that the route through the Kali Gandaki Valley was already well built up at that time. Moreover this allows one to recognize that some stretches of the route have remained unchanged to this day, for example the stretch from Kagbeni to Dolpo. One also sees that many other stretches have lost importance in recent times, as for example the stretch between Tukche and Lete and Dana, where the path leaves the right bank and changes over to the left bank.

From about 1900 even more exact maps were prepared. An example of this is "Tibet and

adjacent countries" (scale 1:2.500.000), a map prepared under the leadership of Colonel Sidney Gerald Burrard, published around 1915, and clearly showing the channels of trade between India and Tibet. On these maps the trade routes through the Kali Gandaki Valley occupy a key position in trade in the Himalaya. The especially dense settlement of South and North Mustang corresponds to the importance of the trade along this route. Here there are considerably more existing settlements than in parallel valleys, which have no or only poorly developed routes to Tibet.

3. Exploration of routes in the research area (Fig. 1) [approach and results after first fieldtrip 1/1992 in Thak Khola, South Mustang and the Muktinath Basin]

3.1. Physico-geographical conditions of route constructions in the research area

In the Kingdom of Nepal the Kali Gandaki Valley represents a natural contact between two large regions. The valley was and continues to be a direct communication between Tibet (the Tibet Autonomous Region of the People's Republic of China) in the north and India in the south, via an area of Tibetan settlement in Nepal.
Furthermore, it concerns the deepest antecedent transverse valley running in a north-south direction not only in the Himalaya but the entire world. This geographical fact is the reason for a rapid and dense population in the northern hinterland of the main Himalayan ridge. Trade relations developed in the Kali Gandaki Valley and its tributaries in connection with colonization. Routes were needed for this traffic. Looking at the recent trail network we discovered that the courses of the routes are a result of adaption to the relief. Man as the constructor of trade routes wanted, if possible, to travel without difficulties to the destination area. A direct course was chosen, if possible with small loss of incline. Steep inclines were accepted only as an exception.

3.2. Proceedings to classify trade routes

Evidence of a long historical existence of routes in the research area is found in the form of the cave settlements (Fig. 8), especially in the cliffs of the middle and upper part of the rivers Kali Gandaki and the whole Dzong Khola (compare with project Haffner/Pohle). The remains of the settlements in this area indicate long-distance trade in prehistorical times and the necessity of routes. It will probably be possible to obtain chronological classification by using the results of the other projects.

With the construction of fortresses - the castles or residences of local rulers - in the Middle Ages, the network of routes had to undergo changes. Schuh (1992) has shown that, because of continual powerstruggles, there were changes in the connections between kingdoms as well as the areas of states, for example in the 16th and 17th century [Jumla; Tibet (Lhasa); Mustang (Lo); Thak; etc.]. Due to these developments the construction, expansion and degeneration of routes also changed.

3.2.1. Producing a trade route register

In order to compare recent routes and old route sections in the research area of Thak Khola and South Mustang (Fieldtrip 2/1992 and 3/1993) a register of trade routes was elaborated (Fig. 3). The register includes a description of the recent direction and position of all routes in the research area, as well as a description and examplification

of trail constructions. The register also contains references about the responsibility of the maintenance of the routes. Interviews in Syang and Jomsom show us that both villages are legally responsible for maintenance of the wooden bridge in front of the oldest part of Jomsom. Proof of this kind of historical statement, however, demands coordination with other colleagues (for example: project Schuh or Haffner).

3.2.2. Recording of route-accompaniments (buildings along the routes)

By searching for the position of routes or route-sections route-accompaniments often helped us. There are

1. natural accompaniments,
2. artifical accompaniments,
2. 1. sacral accompaniments,
2. 2. secular accompaniments.

Fig. 4 shows a preliminary differentiation of route-accompaniments, which will also be taken into the thematic maps (Fig. 8). Objects researched in other projects, for example buildings or ruins, monasteries, and fortresses will be included as "route-accompaniments in a broader sense".

3.3. Possibilities of dating of routes

Because of the first results in Schuh (1992 - translation of Tibetan sources) it is possible to draw conclusions between the construction, expansion and degeneration of routes. Besides this form of historical determination of trails the accompaniments can give information about the age of routes. The organic components in particular, for example wood, make dating possible (radio-carbon dating - DAI/Berlin; Dendrochronology project Schmidt/Köln). Here the chorten are relevant because of the great portion of wood in their construction. To date the wood is one of the problems which must be solved. If wood was also used a second time we are able to determine the minimum age of routes, respectively the accompaniments.

3.4. Producing a photo-register

The register of photos from the route sections and accompaniments also was set up. Beside photos, sketches and construction are collected plans (cross-sections; Fig. 5, 6 and 7). Now it is possible to compare routes for style or religious, overregional, regional or local influences. This step necessarily requires co-operation with other projects (e.g. Gutschow or Simons).

4. Construction of thematic maps

As a next step, thematic maps about the direction and position of routes at route sections were produced (Fig. 4 and 8). Presently a map about special route constructions, e.g. overhanging trail sections, sunken lane, etc. (Fig. 6) is prepared. After coordination with other partial projects a final thematic map representing the results will be drawn up.

5. Special results of the route research

In the research area no routes over ridges (in German "Firstweg") were found. The network of traffic consists mainly of paths on fluvial terrasses or fans. Having interpreted Tibetan historical sources we learned about the differences in using the routes in the research area. There were mainly two kinds of usage:

1. trade-routes and
2. routes of pilgrims (to the centre of Muktinath).

A third kind of usage, for military actions (administrative routes), is yet to be substantiated. Some ways between North Mustang (Lo) and the Muktinath Basin show some evidence for this kind of usage.

5.1. Routes as mediators in the geographical environment

After an initial period of fieldwork and archival studies, we found out that there are differences in the spatial importance of the routes. The ways for the pilgrims are an example for this. Since the existence of the pilgrimage centre of Muktinath Hindus from all parts of the Indian subcontinent have used these routes. With the foundation of the Buddhist religion pilgrims bound for Muktinath also followed from the Tibetan regions (Himalaya and Tibetan Highlands). Thus local connections between settlements in the Kali Gandaki Valley fulfilled an overregional function. Regional and overregional trade, especially the trade with salt, made route sections without pilgrims to important links between different regions. Links of traffic can be divided into:

a. routes with local function,
b. routes with regional function and
c. routes with overregional function.

All the trails with regional and overregional function were probably of double or multiple historical importance.

The section Jomsom-Khyinga-Jharkot (Dzar)-Muktinath (Chumikgyatsa-Thorang-La (Kan La)-Manang was used as a route for trade as well as for pilgrimage.

One of the first results of the fieldwork is the fact that important ways often are more influenced by the relief than by the settlement. In the historical centres of settlement routes often did not cross [Khyinga, Jharkot (Dzar), Dzong, Syang]. Some villages were and are nowadays located far away from the important routes of traffic. A conclusion which can be drawn from this is that the route along the Kali Gandaki Valley was of over-regional importance for the trade between India and Tibet. But further studies are necessary to prove these statements. Until now we have found only a few written documents about responsibilities for the construction and the preservation of the routes. Only the charges for the use of trails by yaks have been found in the local laws (§ 23, 17r in Marpha Bemchag from 1798).

5.2. Connections between the construction and the use of routes

Research work on the construction of routes in the middle Kali Gandaki Valley clearly showed that the routes have only been used by persons and hoofed animals (Fig. 5, 6, 7 &. 8.). The construction of the routes was determined by their dominant purpose. The major function of the connection between Kagbeni (Kak) and Muktinath [the holy shrine with overregional importance for Hindus and Buddhists] as a pilgrimage trail caused the expansion of this trail by the Hindu administration of Nepal.

Besides mule-tracks, routes in the solid bedrock, embankments north-east of Khyinga and steplike sections of trail were built. Thick embankments were piled up using fragments of rock and equipped with pavement, particularly in the geological sector of Dogger and Malm [Jurassic] (Fig. 6). Quarry rocks from solid (native) bedrock of this region and plaster had been used to built the embankments. Steep parts of slopes were provided with stairs or spacious steps. Teahouses, Hindu temples, Mani-walls and Mani-stone-heaps accompany the trails. The centuries-old laws and

rules of the preservation and cultivation of these pilgrims routes will soon be analysed. A determination of the age of the route accompaniments is also being prepared.

Trade routes were adapted to the seasonal water level of the Kali Gandaki River and its tributaries. The cliff-ways on the banks are a sign of it. The high expenditure of labour for building the routes indicates that they were used for trade in times of flood as well.

Route accompaniments like apricot trees (route Jomsom - fluvial fan of the River Jomsom Chu) verify that the ways in the research area have existed for many centuries. Their line, however, was shifted parallel to the routes towards the river by slope erosion. Old wooden irrigation canals and resting places for the porters provide information on the historical direction of the routes.

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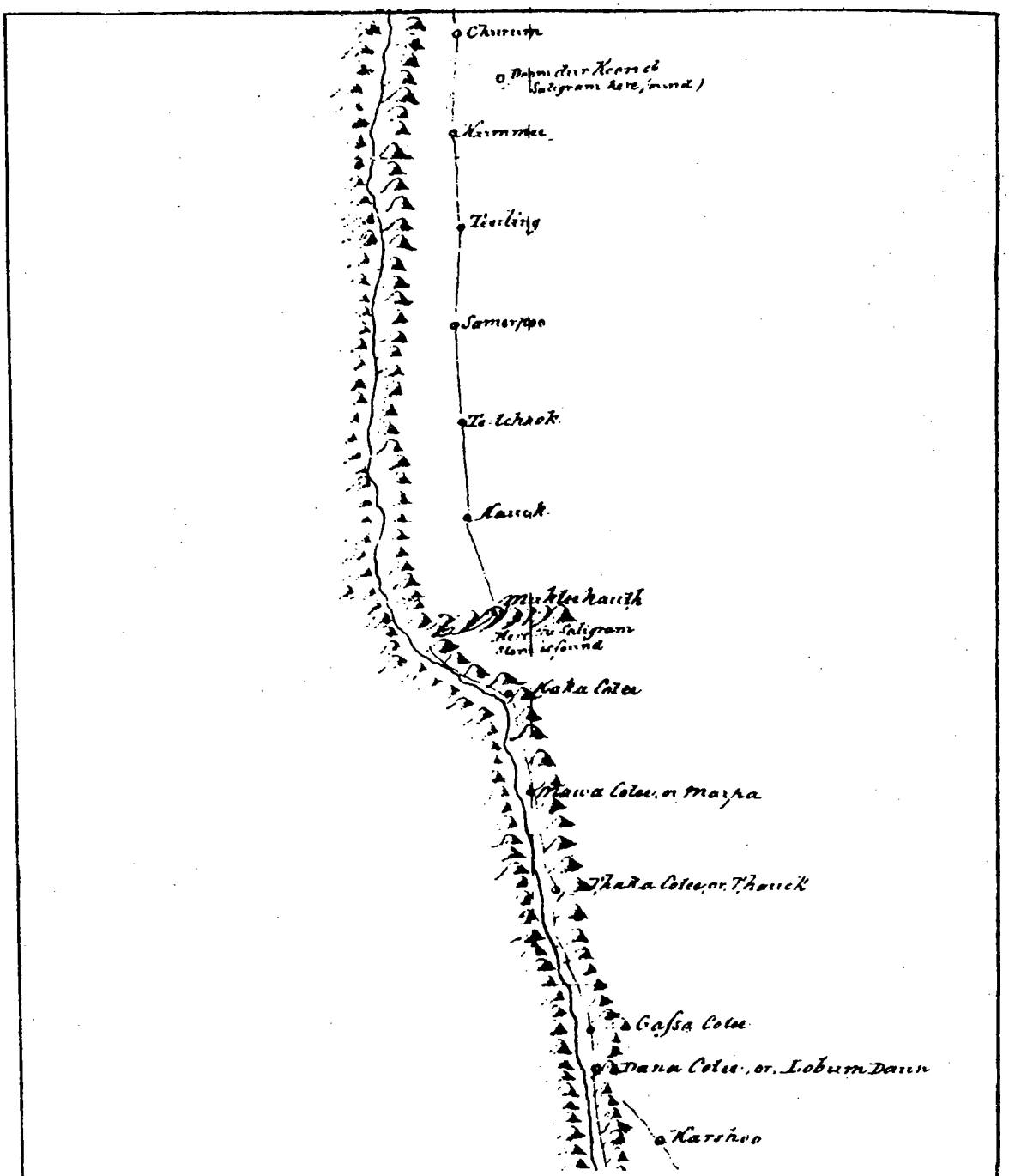


Illustration No. 1: Section of the map prepared by Charles Crawford (1802-03)

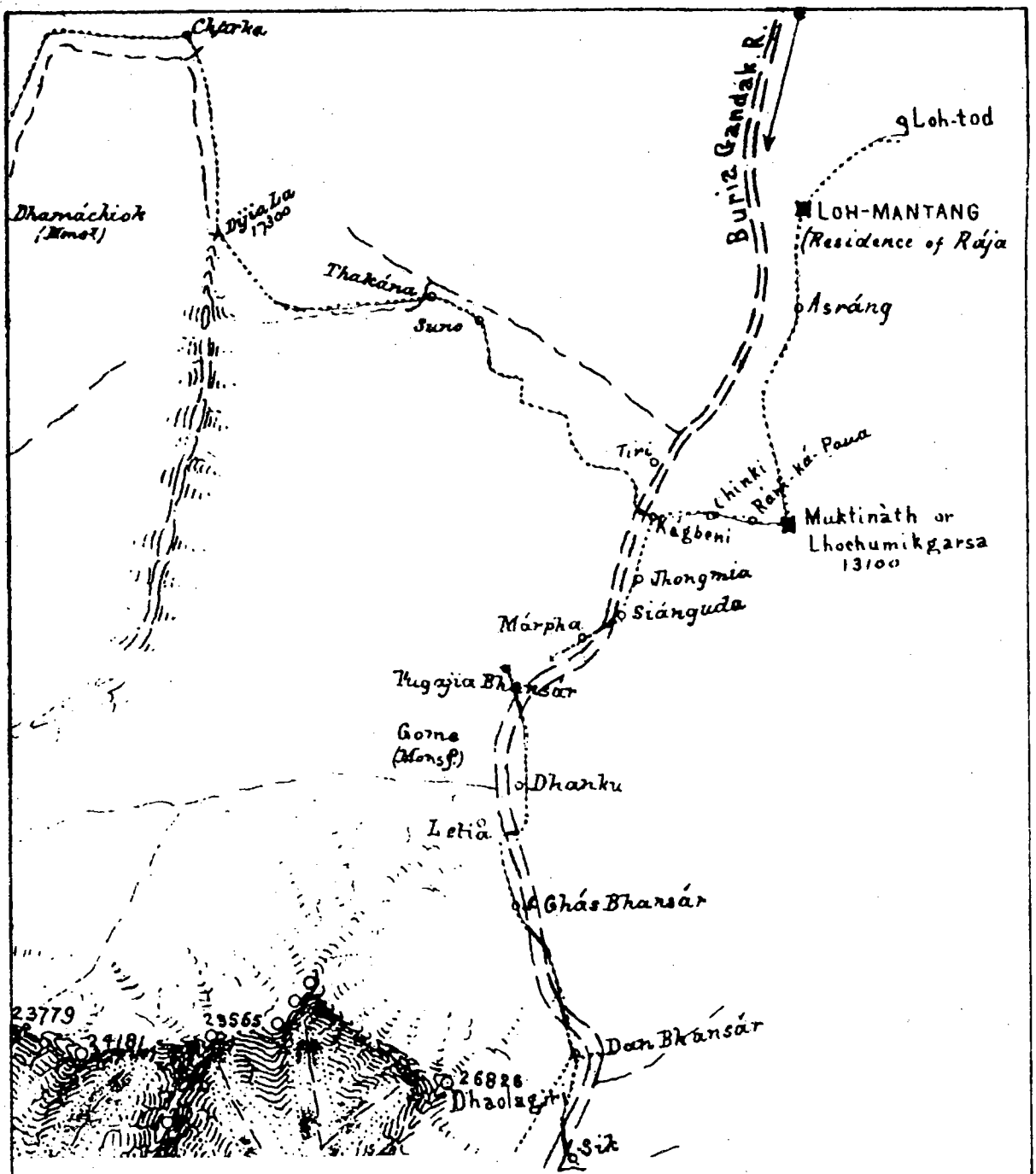


Illustration No. 2: Section of the map prepared by Tánner and Nimgyal (1887/88)

Fig. 1

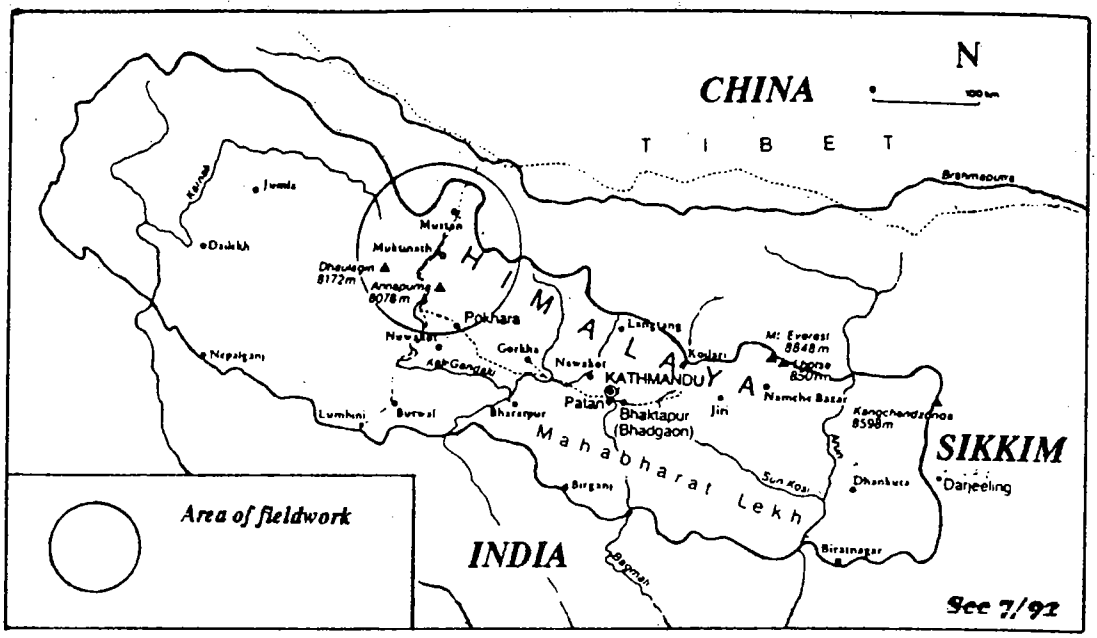


Fig. 2

N - S Cross-section of Central Himalaya (NEPAL)

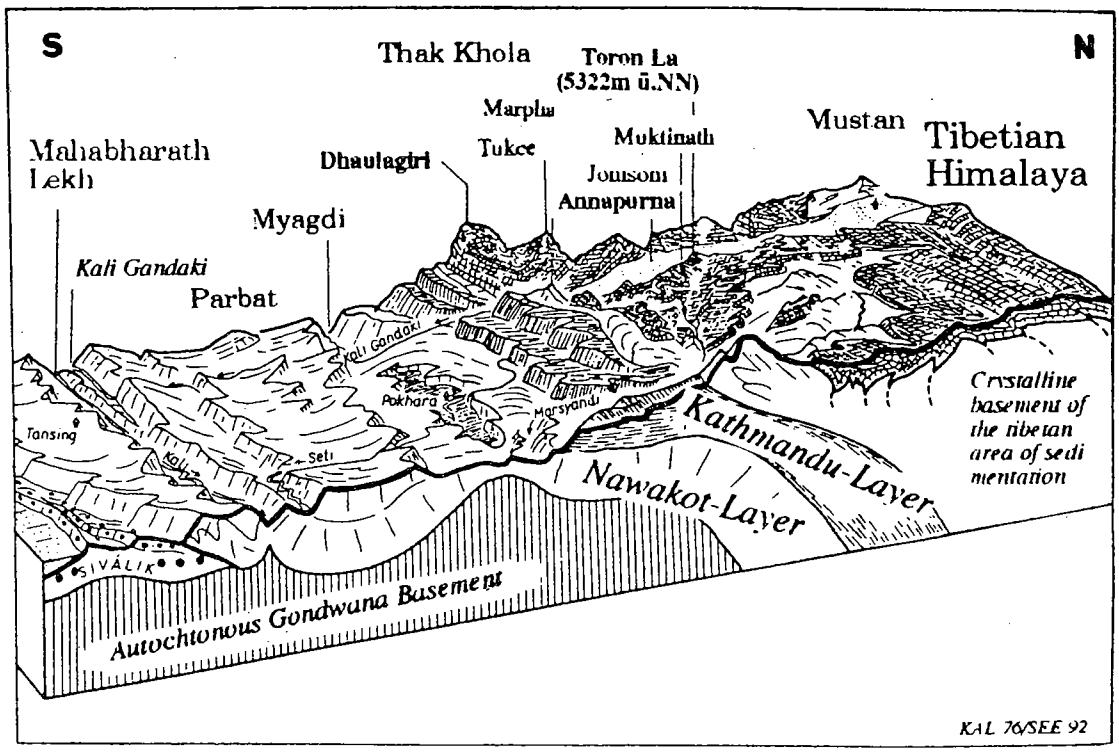


Fig. 3

Fig. 3

Inventar historischer Verkehrswege
des Königreiches NEPAL/Mustang-District

Inventar-Nr.: 1

1.1.

Strecke: Jomsom(Zonsampa) - Dankarzon

Koordinaten:

Linienführung: Weg durch Tal des Kali Gandaki (rechtes Ufer) über marine und limnische Sedimente und glazigene Terrassen. von 28°45'n.B./83°12'ö.L. bis

Abschnitt: Jomsom(Zonsampa) - Dankarzon

Landkarten/Maßstab: Grundkarte 1 : 60 000, auf 1 : 25 000 vergr.

Siedlung: Jomsom(Zonsampa), Höhlensiedlung in glazigenem Konglomerat, Dankarzon

Hinweis auf Fortsetzung einer Inventarnummer:

Bearbeitung:Graa/See
Datum: 27.3.1992

Beschreibung:

Nach dem Verlassen des Ortes Jomsom in Richtung Norden teilt sich der Weg, zum einen führt er über die Flußterrasse, an buddhistischen Chörten vorüber, auf die an den Prallhängen des Ost-Ufers des Kali Gamdaki befindlichen marinen Sedimente. Zum anderen zweigt ein Weg in das Flußbett hinab. Dieser zweite sehr schwach ansteigende Wegabschnitt führt über die fluviale Schotterflur des Flußes bei Normalwasserwasserstand, d.h. in Zeiten der Auswirkung des Monsuns(Hochwasser auf Grund erhöhter Schneeschmelze und Regenfällen in Lagen über 3600 m) konnte dieser Weg sehr wahrscheinlich nicht genutzt werden.
Entlang dem rechten Flußufer gelangt man auf Höhe der Mündung des Panda Khola (Alluvialfächer) auf einen Wegeabschnitt, welcher über anstehendes tektonisch gefaltetes Sedimentgestein (marine S.) verläuft und dessen Korpus mittels Kalk-, Sandstein- und Quarzitplatten gesichert ist. Er befindet sich in diesem Abschnitt oberhalb der Hochwasserlinie (2770 - 2775 m ü. NN)(s. auch Photo-Nr.:).
Mittels dieses gesicherten Wegabschnittes wird ein derzeitig existierender Flußmäander umgangen, dessen Flußbett von Menschen und/oder Tieren nicht durchquert werden konnte und kann. Es ist anzunehmen, daß in historischer Zeit diese Form des Wegebaus im Prallhangbereich zur Anwendung kam (s. Photo- Nr.:).
Nach diesem etwa 60 Meter langen Teilstück führt der Weg über Flußschotter und glazigene Konglomerate (enorm hoher Anteil an Eisen-Konkretionen).
In diesem Bereich (2775 m ü.NN) befinden sich im Bereich der Schlucht eines dem Kali Gandaki tributären Nebenflußes mehrere Höhlen in unterschiedlichen Niveaus.

Durch fluviale Erosion wurden große Teile des Konglomerates verlagert und dadurch die ursprüngliche Größe der Höhlen verändert. Eine antropogene Anlage und Nutzung dieser Höhlen ist, anhand der Bauform, zu vermuten. Eine Sekundärnutzung durch den Menschen läßt sich mittels Begrenzungssteinen an Höhleneingängen und Stützmauern nachweisen (s.Photo-Nr.:).
Der Weg führt um diese Siedlung nach NNW und besitzt eine Neigung von 40°.
Auf etwa 2805 m ü.NN. erreicht der Weg eine Terrasse mit spärlichem Bewuchs. Auf den nunmehr tangierten Flächen erscheinen alte Feldraine und Terrassenfeldfluren, deren Flächen zum Erosionsniveau hin geneigt erscheinen, was auf eine Nutzung in humideren Klimaabschnitten bzw. auf Regenfeldbau schließen läßt (Photo-Nr.:).
Der Weg führt in Form eines sehr schmalen Pfades auf eine weitere Glazialterrasse in ca. 2900 Metern Höhe und umläuft eine Waldung von Koniferen. Darauf folgende Terrassen werden mittels Bewässerungssystem ackerbaulich genutzt.
Auf ca. 3200 m.ü.NN ist die Siedlung Dankarzon erreicht. Ein ca.500 Jahre alter Aprikosenbaum (dendrol.Untersuchung in Vorb.) begrenzt eine aus SSW-Richtung kommende Erosionsschlucht und ist zugleich Wegbegleiter. Der Weg führt in Folge durch Schafs- und Ziegenkraale zu einem künstlichen Weiher. Dieses Speicherbecken dient der Bewässerung unterhalb des Dorfes befindlicher Felder. Sehr alte Zypressen (dendrol.Untersuchung) säumen das S-Ufer.
Über einen 30 cm breiten Damm (trennt Bewässerungsgraben vom Teich) wird der SE-Rand des Dorfes erreicht. Die Häuser weisen die typische tibatische Bauweise auf, d.h. über dem Stall befindet sich der eigentliche Wohnteil der Gebäude.
Der Weg durchläuft das Dorf von E und biegt dann nach ENE in das Kerbtal des Panga Khola ein. Am N-Hang des Tales führt der Weg WNW steil hinauf und erreicht die Siedlung Phelak.

Sacral accompanists

Chorten(buddh.)

Manistonewall

Manistonewall &. prayer weel

Manistoneheap

Monastery (Gompa)

Temple/place of pilgrims

Secular accompanists

Fortress(ruin)

Teehouse

Teehouse/Lodging

Building of Subn

Building of customs

old irrigationsystem

Cavesettlement

Naturnl accompanists

coniferous wood

hardwood

fruit trees

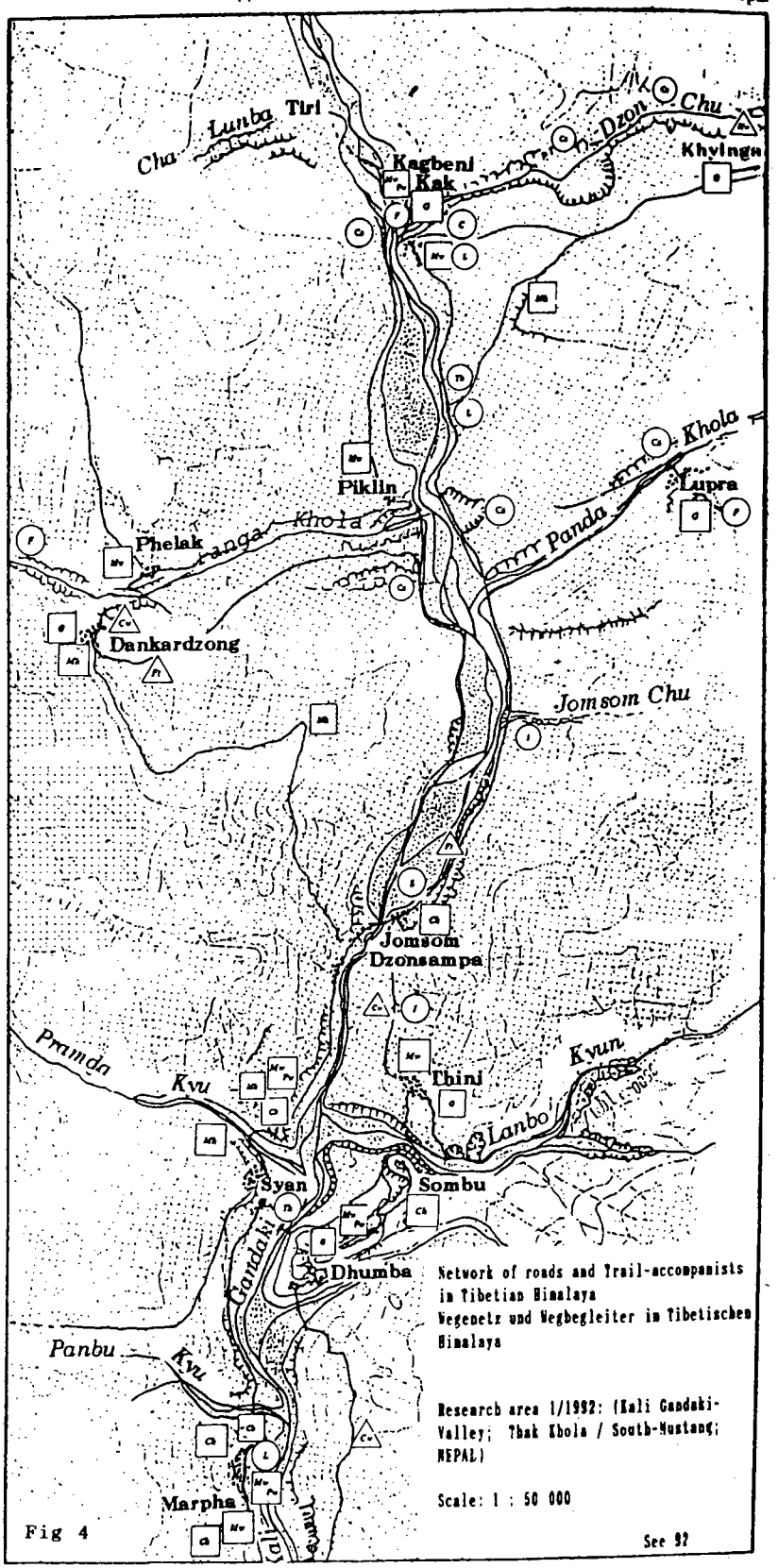
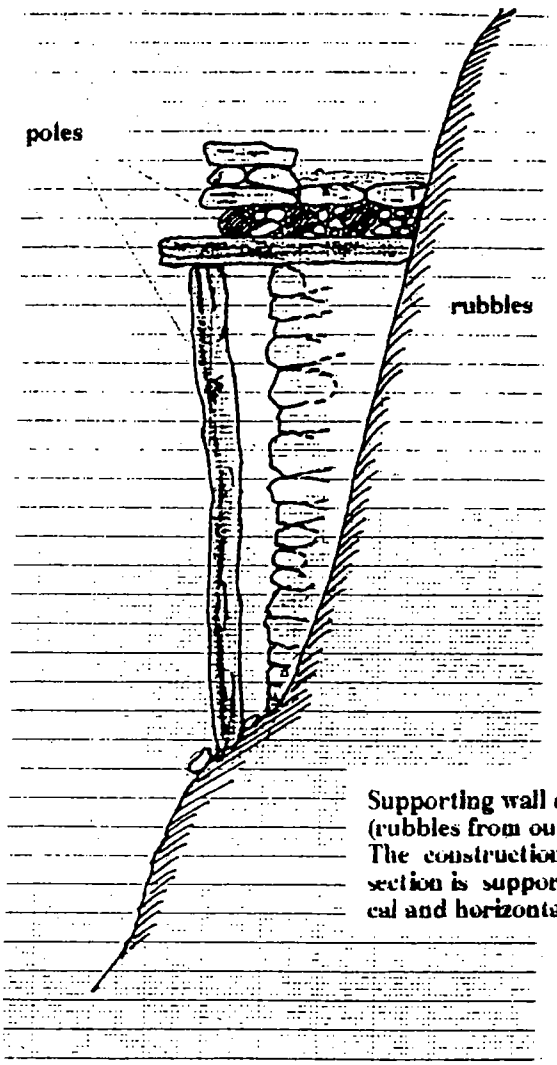


Fig 4

Fig. 5

Jomsom(Dzonsampa) - Kagbeni(Kak)
Cross-section of a Route for pilgrims and trading caravanes(porters, mules, horses, zo'a,etc.)



Supporting wall of a "hem-route" (rubbles from outcrop rock)
The construction of this route-section is supported from vertical and horizontal wooden poles.

Fig. 6

Embankment of a route in front of Jharkot(Dzar)
(route for pilgrims to Muktinath/Chumikgyatsa)

scale: 1 : 10 wide
1 : 20 length

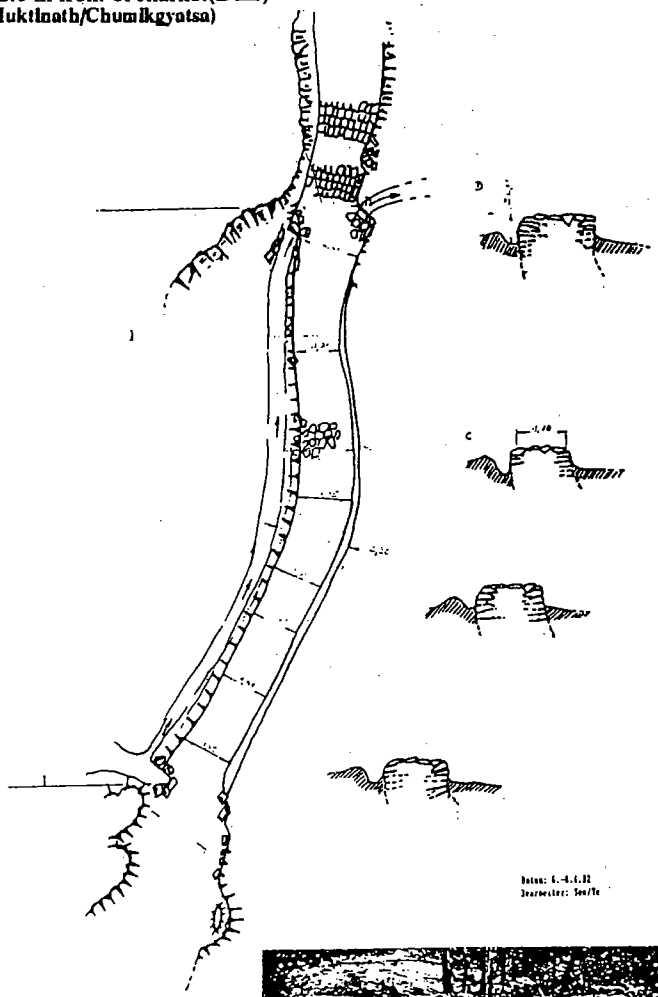
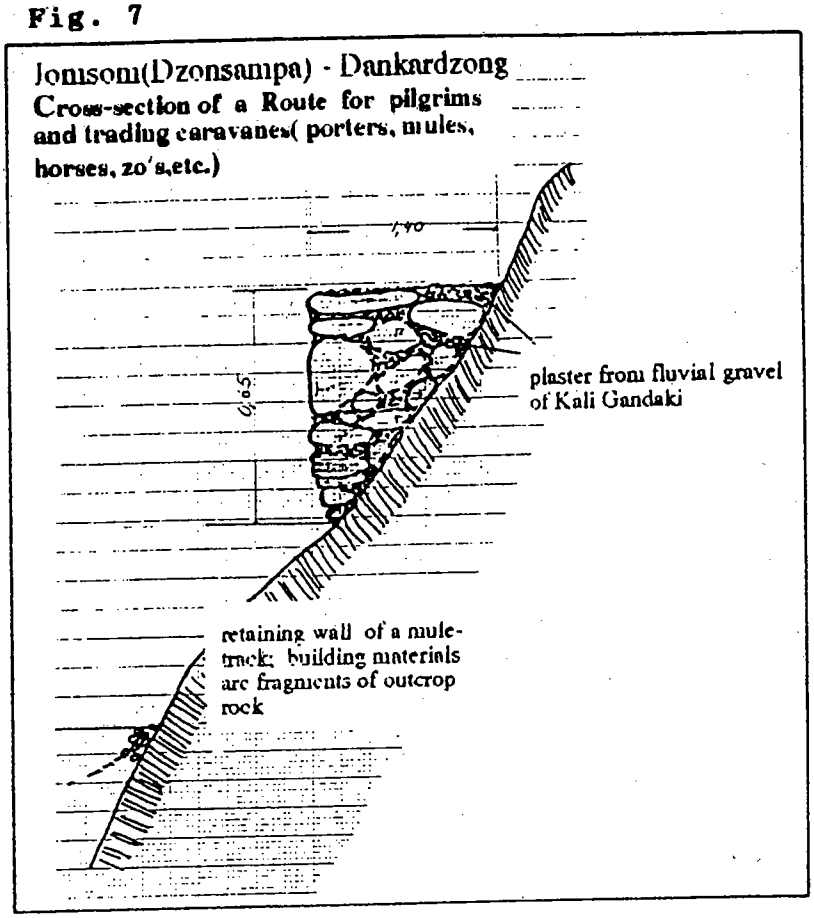
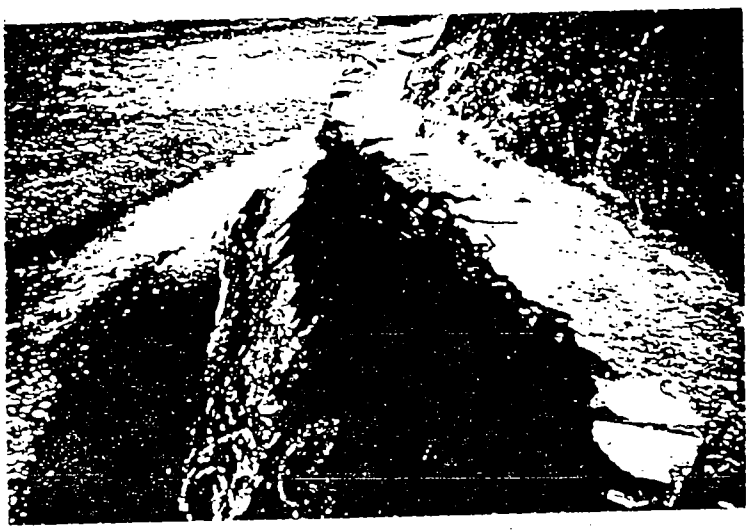
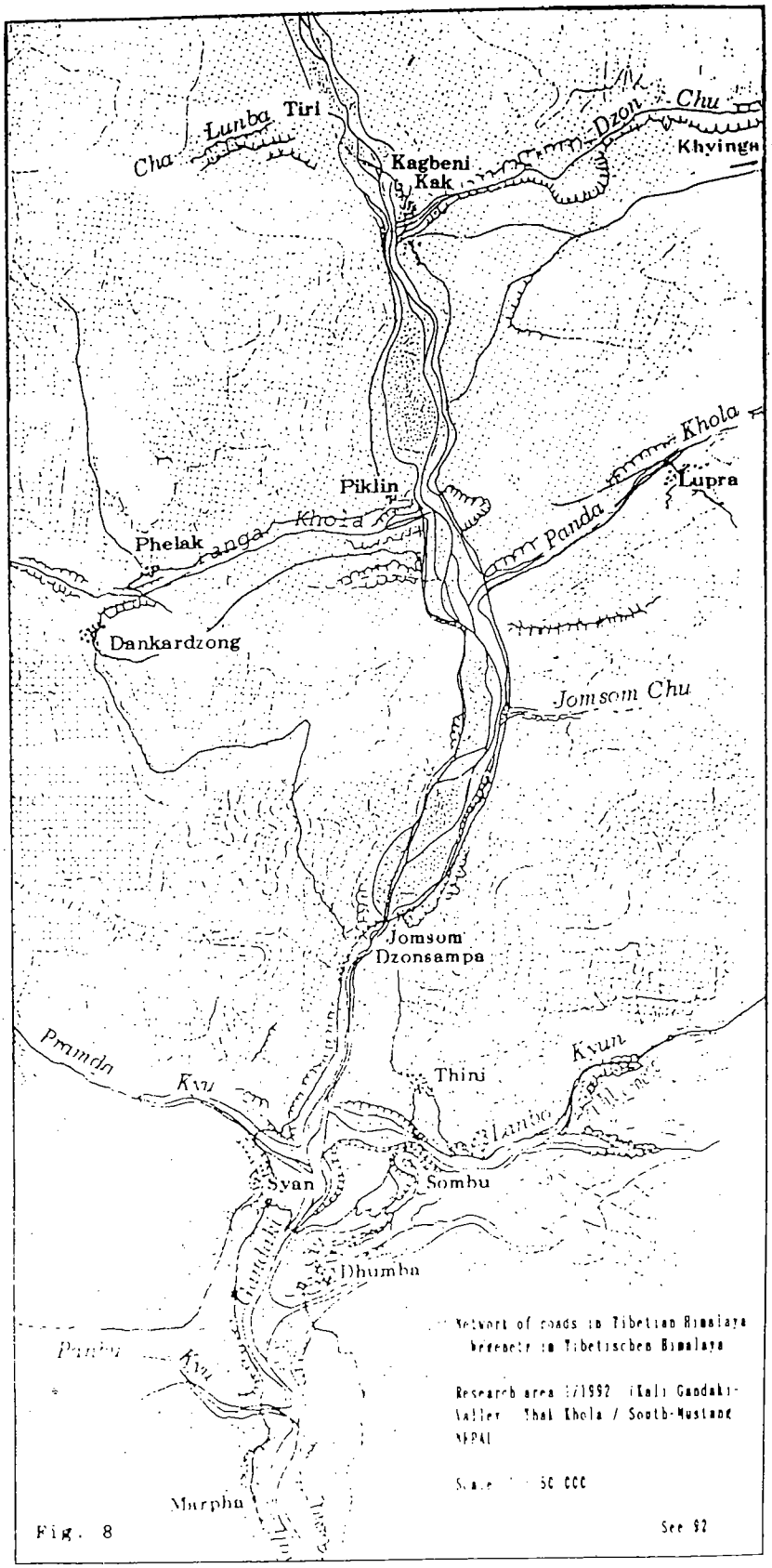


Fig. 7


Jomsom(Dzonsampa) - Dankardzong
Cross-section of a Route for pilgrims and trading caravanes(porters, mules, horses, zo's,etc.)
plaster from fluvial gravel of Kali Gandaki
retaining wall of a mule-track; building materials are fragments of outcrop rock




Lunba Tiri
Cha
Dzon Chu
Khyinga
Kagbeni
Kak
Khola
Lupra
Piklin
Phelak
Panda
Dankardzong
Jomsom Chu
Jomsom
Dzonsampa
Thini
Kyun
Sombu
Syan
Dhumba
Murpha
Network of roads in Tibetian Himalaya
Research area 1/1992 (Kali Gandaki-
Valley Thak Khola / South-Mustang
NEPAL
Fig. 8
See 92