

Chapter 6

EXPLANATION

Perspectives on settlement history and demographic trend are useful to arrive at a better understanding of the processes of landscape change. The Central Nepal hills has been a land of contest between the indigenous tribals and Hindu (Khasa) migrants from the west since the 15th century onwards. The former practised hunting, pastoralism, and swidden farming while the latter came with field terracing and irrigation technology. Palpa, Gulmi, and Arghakhanchi, inhabited by the Magar, faced the frontal wave of this Hindu onslaught and were subdued by the early 15th century. Then followed a Hindu intrusion into the Gurung country of Kaski and Lamjung. The Ghale ruler of Lamjung was defeated by a Hindu (Thakuri) prince, Yasobrahm Shahi, in 1548 A.D. Thus, the valley bottoms of the Marsyangdi suitable for paddy were settled by the caste people. Kusumakar Ghimire, a Bahun who guided the first Thakuri ruler of Lamjung on the Muktinath pilgrimage was given a grant of paddy land from Simalchaur to Ghermu in Marsyangdi Valley (Thapa 1984). The displaced Gurungs of Ghermu were allowed to resettle there after offering an annual tribute of nine 'doko' (load basket) and nine bundles of brine-salt (op. cit. p.357).

In 1782, Lamjung was defeated by Gorkha, a collateral of the former established in 1559. Bhakti Thapa (1741-1815) was born in Lamjung at Dhakaibensi near Khudi (Figure 2). He was a Sardar (commander) in the western front during the Anglo-Nepal War (1814-16) and killed during the attack on Deothal fort (RNAH 1992). Of the various land grants he received in Lamjung in 1795, Lampata (100 muri khet) and Bimire (40 muri khet) were within the present study area (op. cit. p.159-160). Given the traditional pattern of land occupancy, the indigenous Gurung were confined to higher elevations while the sub-tropical valleys were occupied by migrant caste people. However, there were incidents of conflict between Bhakti Thapa's Chhetri descendents with the Ghale of Usta and Gurung of Tagaring in which the Chhetri prevailed.

Thus, the study area has long been settled by pastoral Gurung and agriculturist caste people. By the 19th century, an increasing number of Gurung also began to settle in the lowland valleys (Macfarlane 1976). This represented their economic transition from dry crop farming to irrigated paddy (Messerschmidt 1976). Since then exclusive use of eco-zones by ethnic/caste groups, Ghale and Gurung in the temperate highlands and caste people in the sub-tropical valleys, became diffused. Though the Ghale retained their customary rights on alpine pastures, livestock of lowlanders had access to these on payment of user charges based on how many head of cattle were grazed. This pasture

monopoly known as 'kharchari rakam' (pasture tax) was abolished only in 1973 by the Kharga Land Act.

The most important impact on the Nepalese landscape, particularly in the hills, was the policy of the government to encourage cropland extension to increase land revenue. This is very evident from the following statement (Collier 1928).

"The present policy of the Government is:

- i) to replace forest by cultivation wherever conditions for cultivation and human habitation are favourable;*
- ii) to prohibit the removal of forests where the climate is too unhealthy, and where crops can only be grown with the risk of loss of life or vigour of the cultivator;*
- iii) to insist on large extensive clearings, so that the depredations of wild animals are reduced and the climate improved; and*
- iv) to realise in full the value of the forests cut and replaced by crops."*

The rationale put forward for this was that the history of mankind in Nepal had been in many places a story of struggle against forests and their wild denizens. It was claimed that such a

"policy must be pursued for many years before there need be the slightest grounds for fearing that sufficient forest will not remain."

Thus, forest clearing for crop cultivation was encouraged with only a nominal revenue on 'pakho' (unirrigated) land. Much has been made about the negative effect of forest nationalisation in the late 1950s, that loss of community control led to massive encroachment. In fact, forest depletion had been a long established process in the hills whether nationalised or not. It was later the concern for conservation that forest land was brought under state control. Thus, the Forest Act 1960 had provisions for prohibition of tree-felling, cultivation, harvesting, grazing, and removal of products from the government forest. Such restrictions could not have been policed in most hill areas against the increasing pressure. Thus, expansion of forest land in recent decades is not due to government control, environmental concern, and even community forestry but rather due to decreasing population pressure in hill areas. The dynamics of this are related to the relative size of population available for the exploitation of such a natural resource.

It seems relevant to consider land ownership change in a sample area before dealing with the demographic trend. This local sample is based on the land records of Taranche village spanning 54 years — 1933 to 1986 (Gurung forthcoming). The number of sites of registered land decreased for 'pakho' (unirrigated) and increased for 'khet' (irrigated) land indicating intensification in land use (Annex C). The number of land owners more than doubled due to household increase as well as more sharing of ownership within the same household for property assurance and to evade land ceilings. 'Pakho' land-

owners increased only by 23.2% while for 'khet', the increase was 91.7%. The area of 'khet' expanded by 160% through both irrigation extension as well as an improvement in cadastral survey. The sample locality now has more ethnic diversity due to in-migration. Ethnic groups owned 5.3 time more 'khet' in 1986 than in 1933, indicating their income advantage from army service and remittance compared to the caste groups who are mostly engaged in farming.

The population dynamics of the study area can be better appreciated in the context of the central hill region in which Lamjung is located. This region has been the traditional source for Gurkha recruitment since the 19th century and available census records show a high proportion of absentees abroad. Out of the total absentees from Nepal, the share of the region was 48.5% in 1952/54, 45.8% in 1961, and 50.3% in 1981 (Gurung 1989b). Absentees abroad from this region more than doubled from 95,992 in 1954 to 220,598 in 1981. Again, according to a population pressure index (PPI) exercise based on 1971 statistics, Lamjung was one of the overpopulated districts in

Table 7: Outmigration from central hill

Census	Outmigrants	Percent of total from Nepal	Net migration
1961	38,632	21.5	-32,632
1971	140,642	27.7	-110,890
1981	150,104	14.4	-87,532
1991	306,821	21.6	-276,369

Source: Gurung 1989b, pp. 41-42 and Gurung 2001, pp. 18-20

Nepal (Shrestha 1982). The central hill area, which includes Lamjung, had the second highest PPI value next only to the region around Kathmandu (Gurung 1989b). Thus, the central hill region has been a major source of outmigrants (Table 7).

The consequence of outmigration is well reflected in the low population growth trend of Lamjung district. During the period from 1961-91, Nepal's population doubled from 9.4 million to 18.5 million. For the same three decades, Lamjung's population increased only by 35.3% (Annex D-a). In 1961, Lamjung had a higher population density, 77/km², than the national average of 64/km². By 1991, the situation had been reversed. Persons added per km² during 1961-91 was 62 for Nepal compared to only 13 for Lamjung. This was not due to the difference in fertility and mortality rates but to migration. Outmigration has been the dominant trend in Lamjung. Both in 1961 and 1991, the extent of outmigrants was twice as high for Lamjung than the national level (Annex D-a).

The earliest population data available for Lamjung are for 1941, but pre-1952/54 census data are considered unreliable. Subsequent censuses indicate a very low population growth rate for the district. Its population actually declined by 2% during 1954-61 (Annex D-b). This may be attributed to considerable outmigration after the heavy monsoon damage in Lamjung during 1954-55 and the opening of Rapti Dun for resettlement in 1954. Population increase during the following two decades of 1961-71

and 1971-81 was between 7 to 9% compared to 23 to 30% for the country. In the last decade (1991-2001), the population increase was 25% for Nepal and only 15.3% for Lamjung.

Such a depressed growth trend can be attributed to sizeable outmigration. This is also evident from the instance of Taranche village at the local level based on anecdotal data. According to 1933 land records, there were hardly any land owners outside the village. The 1986 land records showed 12 out of 167 or 7.2% living outside the area. A survey of 90 Taranche households in 2002 indicated that 61 out of 519 persons or 11.8% were absent outside the village. Outmigration not only implies a lower level of population increase but also availability of less manpower. Another factor that has reduced the work force is the diversion of younger population into the school system. According to the 2001 census, Bhulbhule VDC (Village Development Committee) (including Taranche) had a total population of 3,286 (CBS 2001). Of these, 1,458 or 44.4% were of school going age (over 6 yrs.). Those attending school were 865 or 26.3% of the VDC population. Similarly, of the 519 total population of Taranche surveyed in 2002, 137 children, or 26.4 of the total, were attending school (Gurung, forthcoming). This represents a considerable withdrawal of population from the labour force and has an implication on manpower available for natural resource extraction.

The scenario of an enhanced state of natural vegetation in the study area may be explained in the following manner. Local population has certainly increased during the period (1958-2002) corresponding to the duration considered for landscape change. However, the given population increase needs to be qualified with two considerations. First, the rate of population growth itself has been very low. Second, a sizeable proportion of the population was excluded from manpower available due to both outmigration and withdrawal into schools. The net effect was a shortage of labour to attend to farm activities. Farm productivity is basically maintained by recycling plant nutrients through livestock grazing to yield field manure. Animal herding and collection of leaves for mulch demand considerable labour. Labour shortage has led to a drastic decline in livestock transhumance in the study area with the chain effect of decline in manure availability, decreasing crop productivity, and abandonment of fields distant from the village. Such abandoned fields are being colonised by the natural vegetation from which they were originally wrested. Shortage of labour in turn has meant a lower level of extraction and less imposition on natural resources with the consequence of enhanced vegetation regeneration. Meanwhile, extension of modern transport has facilitated import of a variety of goods that replace local products. There is also the time lapse between the fast intrusion of large-scale manufactured goods and slow development of indigenous potentials. Therefore, the changing landscape in the central hills is the outcome of the interplay between natural and cultural processes in which the former remain dominant even if the latter seem more apparent.

The following supplementary photos by the author are, given on the following pages, not cited in the text.

A. October 1962



B. March 2002



Figure 33: Marsyangdi-Khudi confluence from the east: Khudi Bazaar (B) on the left bank of the Khudi Khola (K). Above, on the right side of the Marsyangdi River (M), is an enclosure with a mango grove. Tankeswar Mahadev shrine and a brick-and-tile rest-house (R) were established there in 1932 by Subba Narjang Gurung who had a monopoly on the salt trade (Figure 33A). On the second terrace opposite the bazaar, a Sanskrit school (S) was established in 1930. A gravel road from Bensishahar reached opposite Khudi in 1993 (Figure 33B). The mango grove site has a high school (H) established in December 1967. The old trail above it is now superseded by a new road. Roadside tea-shops appear on the second river terrace while sal forest remain undisturbed.

A. October 1962



B. February 2000



Figure 34: Marsyangdi-Khudi confluence from the south: The mango grove and the old rest-house beside the Marsyangdi (Figure 34A). The rest-house is now dominated by a high school building (Figure 34B). The dirt road across the shrubby slope was constructed in 1999 and terminates opposite Ngadi Bazaar. Tea houses appear on the earlier rice-fields in the foreground. The 42-kw Upper Marsyangdi Project powerhouse will be located at Khudi.

A. October 1962



B. March 2002



Figure 35: Bhulbhule (820m): The place, named after a spring, had some shops and a bridge across the Marsyangdi (Figure 35A). The bridge collapsed in 1964 after the anchor boulder was dislodged by the river. The bazaar was shifted to a new bridge site (1968) upstream. [and the old place now has only VDC building (Figure 35B)]. The scarp slope behind is at the head of the waterfall (Figure 36).

A. November 1962



B. December 2002



Figure 36: Sinyale Chhahara: The 61-metre waterfall is above the main trail beyond Bhulbhule (Figure 36A). The source is Hwang Khola that marks the southern boundary of Taranche. No change in landscape after 40 years except in the water volume during November and December. It used to generate one kilowatt of electricity (1997) but was abandoned after the extension of the Marsyangdi power grid-line to the area in 1999. The hibiscus flower in the latter photo belongs to a nearby tea-house (Figure 36B).

A. November 1962



B. December 2002



Figure 37: Nandeswanra: Beyond the rice fields are Usta ridge on the right, Thulnagi (3,115 m) in the centre, and Ngadichuli and Himalchuli on the horizon (Figure 37A). In the latter photo, cumulus clouds block Ngadichuli. *Sapium insigne* (foreground) and *Artocarpus lakoocha* (middle distance) trees are prominent in both pictures. The only change is a cement-plaster house on the right (Figure 37B).

A. October 1962



B. January 2002



Figure 38: Opposite Sirubari: Gashes on the ancient alluvial deposits of the Marsyangdi are prominent. Above these is a horizontal band of rock intrusion (Figure 38A). Forty years later, the erosion faces have stabilised with vegetation (Figure 38B). The new road alignment parallels below the band of rock intrusion. The ficus tree amidst the terrace fields below the road has less foliage.

A. October 1962



B. March 2002



Figure 39: South view from Bimire: River terraces on both sides of the Marsyangdi affected by landslide. The one on the left is the toe of Taranche terrace (945m), also visible in Figure 39. Figure 39B shows the landslides to have stabilised and covered by vegetation. The high ridge to the left, Bhusme (1,700m), has a Tamang hamlet with potato as the main crop. The river is more entrenched, with a new flood plain on its left bank.

A. October 1962



B. January 2002



Figure 40: Tanklichok from the east: Houses of three Gurung families displaced from Taranche (Figure 11 on page 19) by the landslide in 1955. Seven years later, thatched houses stand in high relief above millet fields. On the slope beyond are the paddy terraces of Thakan village (Figure 40A). The houses now have tin and slate roof and are shrouded by planted trees (Figure 40B). The paddy fields on the slope are abandoned and the scarp slope to the left has vegetation cover. Across it traverses a motorable road from Khudi.

A. October 1962



B. January 2002



Figure 41: North view from Tanklichok: Landslide scar on the south face of Ustabensi terrace. On the edge are *Artocarpus lakoocha* trees planted for leaf fodder (Figure 41A). The ranges with snow, left (3,256m) and right (4,721m), are in Manang district. Figure 41B shows the old scar covered by grass. Most of the fodder trees remain intact. Planted bamboo in the foreground . There is much less snow on the ranges even in January.

A. October 1962



B. January 2002



Figure 42: Thulibensi from Usta: Thulibensi in the foreground and Bahundanda (1370m) on the middle distance ridge. The latter place is the northernmost settlement of the Bahun in Marsyangdi Valley. Also visible are landslide scars beyond Bahundanda (Figure 42A). Four decades later, clumps of shade trees at Bahundanda are gone being replaced by tin-roofed shop houses (Figure 42B). Bahundanda was connected with the Marsyangdi Project electricity grid in 2000 and then extended to Thulibensi in 2001. The landslide scars in the far distance are less apparent.

A. November 1962



B. January 2002



Figure 43: Ngadi Valley from the south: Himalchuli (7,893m) and the villages of Naiche (N) and Tarachok (T) from Usta (1,391 m). The middle distance ridge is Prepron (P) where herds of sheep and goats from Naiche are taken during summer (Figure 43A). Ngadi Khola flows from left of the ridge and is joined by Klinri Khola from the right. A landslide is (S) above Naiche on the left. Forty years later, that landslide has stabilised but a new one appears further down (Figure 43B). Himalchuli range is hidden behind clouds and there is no significant change in forest extent. Prepron was the site from which the photograph in Figure 30 was taken.

A. October 1962



Figure 44: Naiche from the south-east: Tarachok (T) in the foreground and Naiche (N) in the middle distance. Headwaters of Ngadi Khola below Ngadichuli (7,871m). A fresh landslide on the slope west of Naiche (Figure 44A). Figure 44B shows this landslide path overgrown with vegetation and a new one commencing from the woodland above the village. It dates from the 1st of September 1989. Its damage is apparent in Figure 29 (see page 46).

B. January 2002



A. November 1962



B. March 2001



Figure 45: Usta from the north: Ghale village of Usta (1,391 m) perched on a ridge with fields on the north-facing dip slope (Figure 45A). A dense forested slope, right of Usta (U), is across the Marsyangdi above Thakan (T). Field terraces in the foreground belong to the Tamang of Chimkhola. The latter photo (Figure 45B) has poorer visibility due to the Spring haze. The forest patch on the left has new extensions of cropland. Note the north-dipping slope above Thakan (T).

A. October 1962



B. January 2002



Figure 46: Naiche from the west: The view from about 1,600m shows the compactness of the Gurung settlement (Figure 46A). Naiche village has seven clans dominated by the Kromje. All the houses have thatch roofs and the Salmalia tree (X) in the field centre has the village shrine (Figure 50 of this volume) The three Kami (K) houses of 1962 were relocated east of Ngadi Khola. Many houses now have corrugated sheet roofs (Figure 46B). The old Kami neighbourhood now has a primary school (S). A cemetery (C) is on the ridge to the right.

A. October 1962



B. January 2002



Figure 47: Naiche from the west: This close-up view shows the compact structure of the Gurung village. Houses are thatch-roofed and most are double-storeyed. The Kami (K) houses are segregated from the main village (Figure 47A). Four decades later, the village profile shows some change. The village had a fire in 1988 which damaged most houses. Now, of the 53 houses, 38 have tin roofs (Figure 47B). The large building structure replacing old Kami houses is the school (S), built with assistance from a Japanese mayor in 1999.

A. November 1962



B. January 2002



Figure 48: Naiche fields: man and woman in traditional Gurung dress winnowing rice (Figure 48A). Stacks of paddy straw in the middle distance and Ngadi defile in the background. The latter scene (Figure 48B) of the same place with animal sheds on the left and Ngadi Khola on the right. There is no particular change in the extent of forest cover.

A. October 1962



B. January 2002



Figure 49: Naiche fields: ripening paddy and *Salmalia malabarica* tree with the village shrine (Figure 49A). Steep rocky slope and a seasonal stream in the background. The stream is a mere trickle in January. Four decades later, the shrine tree has thinner foliage (Figure 49B). The harvested fields have alpine style animal shelters so that livestock can be kept there to fertilise the fields on the spot during December and January.

A. November 1962

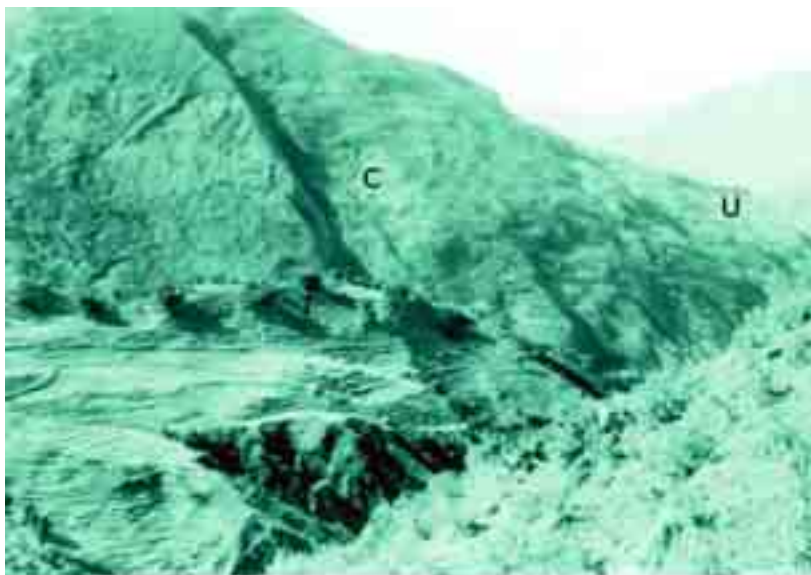


B. January 2002



Figure 50: Naiche shrine: The base of the *Salmalia malabarica* tree has a stone pedestal for the shrine. The two boys on it are in their traditional dress. The author is in front (Figure 50A). Four decades later, the children are in more cosmopolitan apparel and the author is 40 years older (Figure 50B). The paddy straw is kept on stilts as animals graze in the village during December-January

A. October 1962



B. March 2002



Figure 51: Tarachok from the north: South view from the trail between Naiche and Bhirpustun. Tarachok (T) in the middle distance and Chinkhola (C) and Usta (U) in the background (Figure 51A). There is little change in the Tarachok (1394m) landscape. Some fields in Chinkhola have been abandoned (Figure 51B). Two Christian sects are in conflict among the Chhetri community of Tarachok.

