If deforestation is declared to be the main problem, then reforestation appears to be the only sensible solution, and the increase of reforested tracts the standard of success, in the battle against it. Other measures, by contrast, such as the protection, care and gradual extension of still existing but degraded patches of forest, fall into the background. That the initiatives undertaken by farmers to protect forests and increase the number of trees was first "noticed" in the 1980s, when dire predictions concerning the immediate future of the Nepal Himalaya were first subjected to doubt, appears in this context to be quite telling.

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Nepali Migration to Bhutan

Christopher Straw

The Nepali ethnic group stretches beyond the boundaries of Nepal to the south, east, and west to different parts of India and southern Bhutan. The current cultural boundaries represent both relatively recent extensions of Nepali culture as well as remnants of an ancient cultural domain. In the context of present-day cultural boundaries, the easternmost reach of the Nepalis before significant out-migration from Nepal started is represented by the Limbus, who occupied the southern parts of present-day Sikkim. In the seventeenth century the Limbus were considered an "indigenous" group of Sikkim and were "one family" with the Lepchas and Bhutias, the other inhabitants of the country (Nembang 1992: 33). It is unclear whether this "family" is linked by earlier Sikkimese expansion to the west, which conquered parts of the Limbu kingdom, Limbuwan, and induced the Limbus into the Lepcha-Bhutia society of the north and east (Timsina 1992: 22), or if the Limbus became members of the "family" as the Lepcha, Limbu, and Bhutia population expanded and met. A government of Sikkim document records that the Limbu kingdom "broke away from Sikkim" at the beginning of the 1700s, suggesting a previously subdued kingdom ([1970?]: 9). The facts are difficult to ascertain. In fact, even before the Limbus, the Magars were supposed to have been in Sikkim from the earliest times, and were later driven west past Limbuwan into the central and western hills of Nepal where they now predominate, according to several sources (see Subba 1992: 39-40). By the eighteenth century, however, any benevolent feelings the Lepchas and Bhutias may have had towards the Nepalis, possibly including the Limbus who were considered "family", soured as Nepali invaded and took over parts of Sikkim in the 1770s and 1780s, keeping its hold on southern Sikkim until 1815 (Government of Sikkim [1970?] 10-12). Though driven out by the British, the Nepalis would later overrun the country again - this time as immigrants rather than soldiers.

While a small population of Limbus had lived in Sikkim for centuries, by the 1900s the Limbus and other Nepali ethnic groups formed the majority of the population. Even in the late 1800s, the threat of Nepali immigration was perceived to be so great that when the Nepalis were still probably a minority, though a definite demographic threat, the King of Sikkim, the Chogyal, banned Nepali migration to Sikkim. The ban did not stop Nepali migration. The British pressured Sikkim to take in Nepali immigrants to fill the labour need for local development projects such as road building, as well as allegedly colluding with local landlords to bring in Nepalis against the weakening government’s wishes (ibid. 15-16). The official government history, written during the Chogyal’s time, argues that the British conspired to recruit Nepalis into the country:

"While Their Highnesses were in detention in Kalimpong, Claude White with his Sikkimese proteges embarked upon a policy of destroying the
ancient economy of Sikkim. The Private Estates of the Royal House and the lands of loyalist elements were being liquidated and distributed among pro-British elements. A number of lessee landlords were created and en bloc settlement of Nepalese in different areas was made; often the Bhutias, Lepchas and Tsongs were deprived of their lands“ (Ibid.: 19).

Lok Raj Baral clarifies the British interest in taking such drastic steps: “Nepalis migrated into Sikkim around 1865. The British rulers in India encouraged them to migrate with a view to balancing the pro-Tibetan Bhutias” (1990: 60). Worried about Chinese expansionism and China’s claim on Tibet, the British government concluded that a larger Nepali population, with more links to India than Tibet and a notable presence in the British Army, would decrease the chances of China taking over Sikkim, or of the kingdom aligning with China. Even though most of the Nepalis living in Sikkim today are non-Limbus who have migrated because of Nepali expansionism and British encouragement, and many Bhutias and Lepchas might dispute Nepali, or Limbu, claims to the country, Sikkim is the ancient boundary of Nepali culture, represented by the Limbus in the east, even though the Limbus might not be indigenous to Sikkim.

Nepali emigration into the northeast of India began with the unification of Nepal under Prithvi Narayan Shah and his successors in the late 1700s and the consequent expansion of the Kingdom of Nepal. This boundary extension meant that Nepalis settled in places where they had never been before. Moreover, the Nepalis’ tendency to settle permanently in the places to which they migrated meant that in effect the Nepali cultural area spread past its original boundaries and remained despite Nepal’s loss of its conquered territory to British India in the 1816 Treaty of Sugauli (Baral 1990: 28). In addition, Nepali emigration throughout the nineteenth century (and the beginning of the twentieth) was encouraged by three factors: problems in Nepal, specifically a repressive government and an exploitative labour system, but also a lack of land, occasional famines, and epidemics; the need for labour in Darjeeling and Assam, for which the British especially recruited Nepalis; and former Gurkha soldiers who settled (or were resettled) in the areas of their units (Baral 1990: 20-21; Timsina 1992: 17-25). Nepali settlement in Assam started in the 1820s as people left Nepal for greener pastures:

"[The British] wanted labourers for these [tea] industries. That very time Nepalis entered in this area. After a few years, the Nepalis started agriculture by clearing the jungle. They started Graziers in a few areas" (Timsina 1992: 19).

In contrast, in areas such as Meghalaya, Manipur, and Mizoram, Timsina points to the Gurkha regiments, all dating back to the mid to late 1800s, as the main factor in establishing Nepali communities (Ibid.: 20-23). In Darjeeling, however, "right from the beginning [of the British annexation] the majority of people in Darjeeling were Nepalis” (Ibid.: 25). The Nepalis in Darjeeling would have included the Limbu population of former Sikkim, Nepalis who settled during the Gurkha rule in Darjeeling, and more recent immigrants. The great majority of Nepali migration into Darjeeling, and later Sikkim, was to meet labour needs in the tea plantations and for road construction, for both of which the Nepalis were especially recruited by the British.

Migration to Bhutan

British reports are the key sources for population patterns in southern Bhutan since the eighteenth century. They indicate that, up until the Duars War in 1864, the south of Bhutan was inhospitable not only because of the hot weather, malaria, and dense jungle, but also because of the Bhutanese, who would raid the areas, take slaves, and extract heavy taxes. Up until the Duars War, the British expeditions noted only sparse settlement in the south entirely by Indian ethnic groups, leaving no record of Nepalis in southern Bhutan:

"The British reports [mention] Mech, Rajbanshis, Bodo, Bengalis and Musalmans from the plain along with Koch as residents of southern Bhutan. During the subsequent Duars War between fourth and seventh decades of the 19th century a number of slaves of the plains origin from the above mentioned communities were found in the vicinity of the forts in the central Bhutan” (Sinha 1991: 28).

Up until the twentieth century, there had been little settlement in the southern foothills of Bhutan compared to the adjoining areas. In 1904, Charles Bell noted that as soon as he had crossed the border all cultivation virtually ceased as the area was sparsely populated... ‘By comparison with Kalimpong and Sikkim this part of the country could support 150 persons to the square mile. At present it can be only 20 or 30’” (Collister 1987: 170). Although the British did not explore Bhutan more thoroughly until the Duars War and J.C. White’s 1905 mission, it is likely that the Nepalis had not made significant inroads into Bhutan prior to the Duars War. It is possible that they had settled in the south entirely by Indian ethnic groups, all dating back to the mid to late 1800s, as the main factor in establishing Nepali communities (Ibid.: 20-23). In Darjeeling, however, "right from the beginning [of the British annexation] the majority of people in Darjeeling were Nepalis” (Ibid.: 25). The Nepalis in Darjeeling... in search of better economic opportunity and escape from the highhandedness of their rulers” (1991: 35-6).
Unfortunately, we have no way of knowing for certain if any Nepalis from Assam or West Bengal settled in the south before the Duars War. The years after the Duars War, however, would see vast changes in the area as Nepalis quickly began to populate the southern foothills of Bhutan.

Even though the British do not record the presence of Nepalis before the Duars War, some of the Nepali Bhutanese in exile claim that Nepalis were in fact present for centuries. At the earliest, people point to the Tibetan King Songtsen Gampo as the initial instigator of Nepali settlement in Bhutan:

"Ethnic Nepali immigration to Bhutan dates back to the seventh century AD when the 33rd King of Tibet, Tshongtschen Gampo, a team of Nepali/Newari artisans from the Kathmandu valley for the construction of 108 monasteries, including the Paro Kyichu and Bumthang Jamphel Lakhangs at the initiation of his queen, the Nepali Princess Vrikuti Devi, for the spread of Buddhism in the Himalayan region. These artisans are believed to have settled in the fertile valleys of western and central Bhutan" (BNDP, 16 March 1993: [1]).

The BNDP’s claim is supported by Bhutanese Foreign Minister Dawa Tsering:

"The Nepalese have been settling down in our southern plains from the seventh century. We welcomed them because they were hard-working people. But they cannot be permitted to swamp us" (The Statesman, 12 February 1991). Some argue that when Padmasambhava came to Bhutan in the ninth century he brought an entourage of Nepalis, who might have later settled in Bhutan, since he came from Nepal. Also, others maintain that the first Shabdrung brought in Nepalis. Quoting officials of the BNDP, the Sunday Despatch reports that "Historical records of Nepalese migration into Bhutan date back to 1624. The first batch of skilled Nepalese artisans went there after a formal document was signed by Gorkha King Ram Shah and the first monk ruler Shabdrung Ngawang Namgyal" (28 March 1993: 1). Another story relates that Bhutan requested the Nepali government to send soldiers to populate the south in order to help fend off the British. All of these reports are unconfirmed, although several dissidents claim to have heard of a brass plaque detailing Ngawang Namgyal’s agreement to settle Nepali families. It is noteworthy, however, that an ‘Umze Thapa’, Thapa being a Nepali caste name that does not appear in Tibetan, was a Desi in the 1780s. If true, this suggests that one of the above mentioned early Nepali settlements gained a foothold in the country and integrated with the Drukpas enough to see a Nepali on the Bhutanese throne. Be that as it may, since the majority of the Nepali settlements are in the south, and the number of people who would have settled in any of the above scenarios is rather small, it is reasonable to assume that settlement after the Duars War is responsible for the large number of Nepalis in Bhutan today.

Although there is a dearth of British records between the Duars War’s conclusion in 1865 and J.C. White’s mission in 1905, we can still glean a good idea of the beginnings of Nepali migration from the documents that do exist. These documents support the assumption that most Nepali migration took place between the end of the Duars War and the early days of the monarchy.

In the British records we can trace Nepali migration in the Ha district back to before 1800. In 1905, J.C. White observed:

"[F]or the last fifteen years their [the people of Haa’s] winter grazing-grounds near Sipchu and the lower hills have been seriously curtailed by the increasing incursion of Nepalese settlers, and thus the chief source of their wealth — cattle-rearing and dairy produce — has begun to fail, while the constant quarrels arising between them [the people of Ha] and the Paharias [Nepalis] entail much worry and expense" (1909: 113).

White also noted that the Nepali population was, by 1905, substantial and well distributed: "The remaining inhabitants [of Bhutan] are Paharias [Nepalis], the same as those in Sikkim, who are creeping along the foothills and now form a considerable community extending the whole length of Bhutan where the outer hills join the plains of India" (Ibid: 13-4). In fact, Charles Bell, writing one year earlier in 1904, quantifies the Nepali population: "He found Sipchu and Tsang-be Kazis Nandial Chetri, Garjman Gurung and Lalsingh Gurung as thickadars (contractual landlords) controlling 2,730 houses and about 15,000 persons. Out of the above figure, 14,000 were reported to be the Nepalese" (Sinha 1991: 37-8). Moreover, Bell reports on only two districts, Samchi and Chirang. White’s statement that the Nepali population was "creeping along the foothills" suggests that the total Nepali population was greater than Bell’s estimate of 14,000. Quoting from the 1930 Royal Commission on Labour in India, Sinha writes that between 1911 and 1921 there was a 30% decline in the number of Nepalis working in tea plantations in Jalpaiguri, suggesting that "the Nepalese were lured to the adjoining northern Bhutan as graziers and farmers, as Nepalese were immigrating to southern Bhutan in considerable numbers in those days" (1990: 223). Although British records fail to establish the beginnings and the extent of Nepali migration into Bhutan conclusively, they give evidence for significant Nepali migration in the late 1800s and early 1900s.

Large-scale Nepali migration continued into the later decades, striking the British as an uncontrolled movement and a possible threat to a dwindling Drukpa population. Writing in 1928, the Political Officer of Sikkim, Bailey, warned of the increasing menace of a large Nepali population:

"Bailey considered that the major problem facing Bhutan was no longer the succession [of the hereditary King] but was the settlement of so many lowland Nepalese in the lower valleys to which the Bhutanese, who still disliked living at any height lower than 5,000 feet, avoided going if they could help it. There were now estimated to be about 50,000 Nepalese in these areas" (Collister 1987: 179).

The last estimate of population the British give is in 1932. At that time, a Captain C.J. Morris of the Gurkha Rifles investigated the possibility of recruiting Bhutanese for the armed forces. In his tour of Samchi and Chirang, he counted 1,493 houses in the eastern and about 4,000 houses in the western
Concurrent district, with a total of approximately 60,000 Nepalis (Sinha 1991: 39). Concurrent with the increase in Nepal population the British observed a severe population decline among the Drukpa due to “in-breeding... the reduction of immigrants from Tibet... venereal diseases and other health problems” (Collister 1987: 184). In the early 1930s, Williamson, the Political Officer of Sikkim, claimed that the Bhutanese would be a dying race unless measures were taken soon (Ibid.: 189). Summarizing British reports, Collister also quotes a report that questioned the legal procedure for the extradition of Nepali settlers (Ibid.: 185). This report indicates that the Nepali settlers’ legal status remained undefined in the early 1930s, and raises questions about the Bhutanese attitude towards the Nepalis who settled in the south, a question which is especially relevant today. The British documents do not establish whether the Bhutanese intended to send the Nepalis back once they had cleared the land and set up farms and plantations, if the Nepalis were a largely uncontrolled migratory group, or if the Nepalis were recruited by the Bhutanese to settle permanently in the south.

According to British reports, and to scholars using them as the basis for their investigation of Bhutan, Nepalese officials, specifically Kazi Ugyen Dorji and his son Raja S.T. Dorji, were responsible for recruiting Nepalis into Bhutan, possibly at the suggestion of the British. Although the Dorjis may not have overseen the settlement directly, they were given the power and the directive to settle the Nepalis. Sinha gives perhaps the best over-all analysis of exactly how Nepalis were brought into Bhutan, according to British sources:

"[The signing of the Sinchula Treaty in 1865] led to the establishment of peace on the Indo-Bhutanese frontiers. A side effect of this development was the large scale immigration of the Nepalese, first to Darjeeling, then to Sikkim and Duars. The Nepalese expansion to Bhutanese southern foothills could not wait long since these were the regions inhabited by a few Mech tribesmen with a distant Bhutanese control. This was the time, when Ugyen Kazi emerged as a significant person in the Bhutanese power structure, Indo-Bhutanese relationship and in the authority system of western and south-western Bhutan. Ugyen’s father, the Kazi of Jungtsa, was an influential figure in the western Bhutan and the Bhutanese court in the 1860’s. It appears that his services were frequently commissioned by the Bhutanese Durbar to settle matters of importance relating to the south-western borders... In 1898, he [Ugyen Kazi] was appointed Ha Thrunupa, chief of Ha, with rights over the whole of southern Bhutan and rights vested in him to settle immigrant Nepalese in his territories. He was also made Bhutanese Agent in Kalimpong besides being the official interpreter of the Deputy Commissioner of Darjeeling. Sir Charles A. Bell had cultivated the Agent of the Bhutanes government and used him to carry the Viceroy’s letter to the Dalai Lama in 1903. Kazi Ugyen Dorji provided valuable services to the British during the Youngusband Expedition to Lhasa, 1903-4. As a recognition to his services rendered to the British, the title of Raja was conferred upon him” (1991: 36-7).

Bell’s description of the contractual landlords lends credence to Sinha’s analysis of an organized settlement. Similarly, White’s details of conflict between the people of Haa and the Nepalis who impinged on Haa’s grazing grounds implies that the Nepalis had some legitimacy in Bhutan, and that the people of Haa were unable to defend their land. Sipchu, the land in question, is a predominantly Nepali area, and the fact that the Nepalis were not expelled suggests that the problems between Nepal and the people of Haa, though serious, were somehow negotiated or quelled, especially since no armed conflict, which would have surely followed unwanted or forbidden incursions, is noted by White. It seems implausible that the Haa people, who had helped defend their country from invasions and fought many civil wars in the recent past, would be unable or unwilling to evict the first bands of Nepalis who settled if there was such a confrontation. One can, however, only guess at the real scenario. Sinha’s hint of a British role seems likely, given that Britain’s role was critical in bringing Nepalis to Darjeeling and Sikkim. It seems that British development goals were similar for Bhutan, Darjeeling, and Sikkim, but that the Bhutanese backed out of a proposed development scheme which included tea plantations, mineral resource development, and bamboo and timber extraction (Collister 1987: 173). On the other hand, Collister writes that the British were concerned with “the inevitable influx of Nepalese immigrants” that development would bring (Ibid.: 167). Nonetheless, the British were willing to push for development if it would bring Bhutan closer to them and farther from the Chinese. Whether Nepali migration to Bhutan was a British plan or not, since Kazi Ugyen Dorji was working closely with the British, he must have at least not threatened British aims, especially since he is never criticized in any British report. Interestingly, the close relations between Ugyen Dorji and the British Political Officer of Sikkim continued with Raja S.T. Dorji, Ugyen Dorji’s son. S.T. Dorji was not only the King’s Agent with rights to settle people in Bhutan, but he was also the British Political Officer’s assistant (Ibid.: 187). Raja S.T. Dorji, however, “apparently paid little attention to the southern and tropical parts where ‘Gurka colonists’, according to Political Officer Williamson’s informants, were ‘disgracefully exploited by certain young Nepalese landlords’” (Ibid.: 187-8). British reports suggest that these Nepali landlords were granted responsibility for the recruiting and settlement of Nepalis, and simply milked the settlers for as much money as they could get.

Many of the refugees in eastern Nepal have documents which help piece together the mechanics of Nepali settlement in Bhutan. A few can even produce a kasho, or royal decree, which originally granted them the right to settle in Bhutan. The earliest of the kashos owned by anyone in the camps is a contract given to Gajaman Gurung, one of the Thikadars, dated 1887. It is important to note that the contract grants Gurung ownership of the land in perpetuity, even giving him the right to settle others. This flies in the face of present Bhutan government allegations that the Nepalis were recruited into Bhutan for short-term employment, such as clearing forest, and not granted land until much later. While only a few of the settlers in Bhutan received and
still have kashos directly from a Bhutanese government official, many of the refugees can produce land-tax receipts, or kajanas, that date back to the early 1900s. These receipts make it very clear that the government, or at least the Dorjis, were amassing a huge amount of money every year from the Nepalis. Some of the kajanas from the beginning of the 1900s show that the government taxed families as much as eight or ten rupees for their houses, not including taxes for land and cattle. To put this tax rate into perspective, almost a century later, in 1991, the charge for one acre of land was twelve rupees, almost the same rate - most families own a couple of acres and houses are not taxed at all. Taking a 1923 kajana of ten rupees, for example, and assuming 10% inflation, the ten rupees of 1923 would be equivalent to about 11,000 rupees in 1993. Ostensibly, the farming was so productive in the south that people were able to make that much money in a year by selling their produce. Considering that, besides contributions from the Nepalis, essentially the only monetary income for the Bhutan government prior to 1960 was an annual stipend from India (50,000 rupees from 1865 to 1910, 100,000 from 1910 to 1949, and 500,000 after 1949 [Parmanand 1992: 181-83]), the taxes raised from the Nepalis probably formed a significant contribution to the national coffers. In fact, if the 5,500 households noted by Bell each paid five rupees on average for their kajana, somewhere around 20% of the total government income (27,500 rupees from the Nepalis added to the British grant of 100,000 rupees) would have been provided by the Nepalis at that time. It is likely, though, that little of the money collected from the Nepalis reached the King. First the Thikadars kept a portion, then the Dorjis, who were a very rich family by the 1960s and are still so today, and finally the Wangchucks would get whatever was left over. No available documents detail the contribution of the Nepali Bhutanese to the national treasury.

Many refugees are also aware of their family history and can recall the days before development started in the 1960s, clarifying the process of Nepali immigration. In the early 1900s, the village Mandalas were very powerful, and usually they had the right to settle people on land within their jurisdiction. The contractual landlords, too, were able to settle immigrants, as the kasho of Gajarman Gurung states. The Thikadars were virtually kings in the eyes of the local people, commanding near absolute authority in their areas and even maintaining a militia. The Dorjis, the traditional authorities over southern Bhutan, did not appear to visit the south often or to interfere in southern affairs unless there was a problem or some dissension. Consequently, most of the people in the camps (or their ancestors) were probably sold land by a village Mandal or one of the contractual landlords.

The Relation of Bengali and Nepali Migration to Bhutan

One significant fact that illuminates migration patterns in Bhutan is the present day absence of Bengalis in the southern foothills of Bhutan. According to British Mission leader Ashley Eden, in 1863 "the people on the Bhutan side of the border were Bengalees, there were both Hindus and Mahomedans, the former divided into various casts, the lowest of which was Mech"
in Bhutan by bringing in the Nepalis whom they used to dilute the Tibetan cultural core in Sikkim.

It is not clear exactly when migration to southern Bhutan stopped, if it ever did. There is, however, a consensus, or at least there was before the current crisis, that migration in the form of permanent resettlement of the Nepalis had more or less ended by 1959 with the granting of citizenship to the Nepali settlers and the subsequent tightening of the borders (Baral 1990: 28; Rose 1977: 48; Rose 1993: 3; Sinha 1991: 39). Even then, the land crunch, "an acute shortage of arable land", was severe enough to dissuade more people from coming (Rose 1977: 126; Sinha 1991: 39). In fact, Nepalis in the refugee camps claim that there has been a significant out-migration from Bhutan since the 1930s due to population pressures in Chirang and Samchi. When Geylegphug and Sandrupjongkhar were opened up to refugee camps claim that there has been a significant out-migration from Bhutan since the 1930s due to population pressures in Chirang and Samchi. When Geylegphug and Sandrupjongkhar were opened up to refugee in the 1960s, the pressure was relieved to some extent as Nepali Bhutanese from crowded Chirang and Samchi resettle in the newly opened lands, which had only a minimal Nepali population. At this time, some Nepalis might have crossed over from India and settled in Bhutan, and the government could have granted them citizenship intentionally or mistakenly. The government of Bhutan alleges that illegal immigrants crossed into Bhutan, but given the land tax records since the early 1900s and census exercises since 1958, it seems likely that detection of illegal aliens would be relatively simple, except in cases where, as the Bhutan government alleges, the immigrants bought or tricked their way onto the records. Still, this could only really take place on a small scale and only in the newly opened districts, since records in Chirang and Samchi would go back a long time. Additionally, the figures given by the British in the 1930s account for most of the Nepalis in the country today. Even taking the figure of 60,000 given by the British and assuming no migration and a reasonably conservative population growth rate, two percent versus nearly three percent for the south, the total population of Nepalis in Bhutan would be around 200,000, or one-third of the total population - the exact figure usually given by the government for the Nepali population. This substantiates the refugees' assertion that, with a few exceptions, the Nepalis were settled in Bhutan by 1958.

When Bhutan started with large scale development programmes, however, it was forced to import labour. Nepalis, as well as Indians, were brought into the country to work under strict requirements and were issued work-permits that stipulated their length of stay. A number of these labourers overstayed their permits and were later expelled: "As of 1988, thousands of Nepalis also returned from Bhutan owing to more stringent policies of the Bhutanese government towards foreign nationals" (Baral 1990: 64-5). Professionals were also forced or encouraged to leave by ending their contracts or removing them from posts of higher salary and greater responsibility. The government claims that almost all of the people in the camps either emigrated of their own accord or were labourers who were kicked out, and therefore have no right to protest as they are not citizens but illegal aliens. Of course, those in the camps claim that all the labourers have already been removed and that they are in fact bona fide citizens, forced out from Bhutan under compulsion and usually given little or no compensation for their possessions and the land they owned for generations.

Notes:
1The Limbus are part of the Kiranti group, along with the Raia, who predominate in what is now the Mechi and Kosi zones in eastern Nepal, neighbouring present-day Sikkim. The Limbus who before the "unification" of Nepal lived in the east did not consider themselves Nepali, but they are now considered a core Nepali group. Tracing the roots of ethnic groups that are today considered Nepali, but did not consider themselves as such before the unification, is problematic, especially if one is looking for an historical ethnic justification for other Nepali ethnic groups' presence in, for example, Sikkim.
2It should be noted, though, that the first British Missions in the 18th and 19th century followed the same path up Buxa Duar through Chukha to the centre of Bhutan. Because of this, they had only a limited view of the south, and of an area settled relatively late by Nepalis. Just because the British did not see any Nepalis prior to 1904 does not mean that none were settled in Bhutan.
3Both Aris and Das record this name in their lists of the Desis/Debs of Bhutan. However, Rahul in his appendix writes that the name of the Desi was not Thapa but Chachapaa, which is a Bhutanese name. Although this name is a piece of evidence that points not only to the settlement of Nepalis but to their integration, it is not substantial enough to form the basis for any drastic conclusions.
4Interview with Father Leclair, former President of Sherubtse College, Bhutan, now Dean, St. Joseph's College, Darjeeling, on 22 February 1993.

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Impact Monitoring of a Small Hydel Project in the Solu-Khumbu District, Nepal
(With a special regard to ecological impact)

Susanne Wymann/Cordula Ott

Population growth, increasing urbanization, and especially degradation of forest resources force Nepal to think about its energy supply. Traditional resources such as fuelwood, agricultural waste and animal dung are by far the most important sources, providing about 95 per cent of the total energy consumed (Sharma et al. 1991). Up to 1991 only about 9 per cent of the population had access to electricity and about half of all domestic connections were concentrated in the Kathmandu Valley. But Nepal, with its more than 6000 rivers and streams crisscrossing the mountain areas, seems to have the best prerequisite for hydropower utilization. The theoretical hydropower potential is estimated at 83,000 MW for the whole country (ITECO 1992:2), but the current installed capacity is only 230 MW (Sharma et al. 1991). The quoted hydropower potential is based on run-off during the rainy season and therefore a realistic estimation of the potential must be assumed to be much lower. Large hydropower plants, such as the planned and controversial Arun III project, supply mainly people in urbanized regions, whereas more and more small and micro hydels are constructed which mostly provide electricity to rural areas. His Majesty's Government (HMG) has been promoting the implementation of small hydroelectric power plants in the remote areas since the 1960s. The main aim is to create an alternative and constant energy source to diminish the degradation of forests and the import of kerosene, both of which heavily erode natural as well as financial resources. Small hydels are also intended to promote business and small industry in order to reduce emigration and the relative poverty of mountain areas.

Salleri Electricity Utilization Project (SELU)

In this context the Swiss Development Cooperation together with HMG initiated the Salleri Chilsa Small Hydel (2 x 180 kW) situated in the Solu Khumbu district. A key factor for the location of the small hydel was the woollen dyeing factory in Chilsa, which was to be electrified. The power plant is a classic run-of-the-river scheme, using the water of the Solu Khola. SELUP was further intended to serve as a potential model for prospective small hydels by carefully integrating everything experienced in its implementation, management and impact in other similar projects (ITECO 1990). A very comprehensive internal reporting system was established (Program Monitoring). But little was known about the acceptance of the new energy, about its impact on the society and economy of the region, or about whether electricity can really diminish pressure on forest resources. Therefore, a detailed study (Impact Monitoring) of ecological and socio-economic changes resulting from the electrification of the area was required by SDC. The Impact Monitoring Study, conducted by a social anthropologist and a geographer, included two field studies of two and a half months in total (Ott, Wymann 1993).

Project Area

The whole supply area covers around 60 km² in the Solu Khola Valley and comprises 20 settlements, including Salleri, the rapidly growing district capital, with 6,000-7,000 inhabitants. Up to 1992, when the study was conducted, some 400 houses had been connected to the electricity supply grid and with the extension of the supply grid a target number of 750-800 connections is anticipated. With an elevation range of 2,000-2,800 m, the project area lies in the temperate to cold temperate zone with severe winters and humid summers.

The name Salleri (salla means 'pine' in Nepali) refers to the composition of the natural vegetation and the previous abundance of forest. It seems that the major decrease in forest land started only around 30-40 years ago with the founding of Salleri and the resulting need for firewood and timber. The trees along the main trail were cut, whereas the forests above the traditional Sherpa settlements (e.g., Chhunkalo, Sherga, Bagam) were less affected (Fig. 1).

Today extensively forested slopes can still be found only in the northern part of the valley. But the firewood supply situation is not as critical as in many