

Impact of Restrictions on the Local Communities



Old woman adorned with silver and gold jewelry

The traditional indicators of prosperity in the Bhotiya community were size of herd, landholdings, and amount of jewellery owned. Ownership of pack goats indicated a family's strength in terms of revenue output from transportation of goods, while jewellery provided a measure of accumulated wealth. Bhotiya women wore jewellery made of silver coins and gold. With the closure of trade with Tibet, pack goats became redundant and were sold or slaughtered for food. Some herds were employed seasonally to transport expedition equipment and they managed to survive until the notification of the Park in 1982. After this, the large population of indigenous pack goats – a key component of domesticated livestock biodiversity – almost disappeared. The pack goat transport system consisted not only of goats, but also of special packing bags made of goat wool. Production, management knowledge, and skills associated with the making of these bags were an integral part of the system and have also been lost. With the loss of livelihoods, jewellery also found its way to the markets and today most gold and silver jewellery has been replaced by cheap imitations. According to data available at the Joshimath Development Block (2003), 820 families live below the poverty line in the villages of NDBR, defined as having an annual household income below IRs. 20,000 (below US\$ 500).

Some researchers have studied the implications of the ban and restrictions on the Bhotiya community in economic terms (Rao et al. 2000). Loss of revenues from NTFPs to village cooperatives was estimated at IRs 665,000 (US\$ 643.76 at IRs 10.33 = US\$ 1 in 1981). Damage to crops by wildlife was placed at US\$ 13,500 (at \$1 = IRs

In 1982, Sher Singh Rana of Lata village managed a family herd of more than 700 head of sheep in which his individual share was 125 heads. By 1988 he had only 80. He sold his stock and deposited the money from the sale in a local bank. Part of it was spent on the marriage of a younger brother, and part was used to pay off his loans. Between 1990 and 1993 Rana unsuccessfully ran a hotel at Surraithota. His next venture, a flour mill, also failed. He returned to his native village and in 1999 bought six head of sheep, which increased to 15 by 2003. He now manages his livelihood through agriculture, labour services, and the collection of 'guchhi' (Morchella mushrooms) from the forest.

Bharat Singh Rana of Reni had a similar story. He owned 60 head of sheep in a joint herd of 600; the herd provided employment for five people of the village. The core zone of the park was the traditional grazing area, and with the expansion of tourism in the sanctuary the people found occasional opportunity to earn as expedition porters. At the time the Park area was closed, Bharat Singh owned 150 head of sheep and goats. He opted to send them to the Malari-Lapthal rangelands adjacent to the Tibet border for summer grazing. This required applying for a special identification permit from the government and paying grazing taxes to the villages en route to Malari. Adjusting to the new rhythms as a result of the restrictions created problems. In 1995 more than 250 of the herd died of disease and he decided sell his stock. He then bought three mules and worked for two years ferrying goods to nearby villages. He has opened a shop in his village and calls it a 'passing time' activity.

40 in 1996). Maikhuri et al. (2001) estimated the impact of the restrictions on a wide range of activities. Based on a study sample of 419 households in 10 villages, the mean annual loss for each household was estimated as IRs 1285*, IRs 1195, and IRs 156, from damage by wildlife to food crops, fruit trees, and beehives, respectively. Estimated loss from restrictions on collection of medicinal plants for marketing was placed at IRs 1,587, and from the ban on tourism in the core zone area as worth IRs 7,904 in lost income opportunities. Dhan Singh Rana, a leader of the indigenous struggle against NDBR management, claims the damage to be much more comprehensive. Rana (2001) states that the 'padaos' (special resting places en route to foothill markets) have been used by the Bhotiya community for centuries. With the closure of trade with Tibet and the policy of discouraging sheep rearing, the community had also lost its 'haquo', its rights and stakes over these locations.

The impact of the closure of the national park to livelihood and grazing activities can be considered on the basis of the dependency of various stakeholders on the common resources of the area. Other consequences brought about by the formation of the park are summarised in the following section.

* In 2000, US\$ 1 = IRs 47 approx.

Impact on livestock economy

One after-effect of the Chipko movement was that herds of sheep and goats were seen as a threat to conservation. In earlier times, villagers downstream would welcome approaching herds and offer them food in return for recharging their fields with manure. This tradition has declined and it is more common for herders to be harassed along the route. The problem arose when the villages around the periphery of the core zone lost their traditional summer grazing lands in the zone and had to send their animals to areas belonging to other villages for grazing. They had to pay both grazing rights and rights en route. Of the 12,000 head of sheep and goats that families of 10 villages owned in 1970, only 2,000 remained in 1995 (Maikhuri et al. 2001).

Several case studies carried out in the area tell the same story: reduction of sheep and goat herds due to loss of grazing land has led to loss of traditional livelihoods and an increase in poverty.

In Paing, another village situated along the periphery of the core zone, the population of sheep and goats has declined from 6,000 to 200. An important aspect of traditional herd management was that it provided opportunities for boys and young men from poor families to work and even manage, after some years, to own their own herds. The responsibility demanded moving with the herds year round. In return they were provided food, bedding, pocket money, and annual leave of 30 to 45 days. Each year they were given 10 animals in return for the services they rendered. After working for a couple of years, their herds would increase along with their status.

With the collapse of the trade, these opportunities to accumulate a herd, increase livelihood opportunities, and elevate their status, have disappeared. Moving with the herds also required an in-depth knowledge of various grasses, grazing patterns, herd diseases, and good herd management. The Bhotiya community is gradually losing this indigenous knowledge. According to the villagers of Pangrasu, herding is no longer a desirable occupation in the villages.

Impact on agriculture

Agricultural practices in the NDBR are associated with transhumance, of which there are two predominant patterns. Villages like Lata migrate to nearby settlements within the biosphere reserve, where they own agricultural land and can harvest both summer and winter crops. Only one crop is grown in the higher altitude villages. A major impact on agriculture of the core zone's closure was a marked increase in crop damage from an increase in the zone's wildlife populations. Maikhuri et al. (2001) details crop damage in the villages after the national park was formed. The crops most affected were buckwheat, potato, and wheat, followed by amaranth and beans. Apple and apricot trees also became easy targets of wildlife animals, and beehives in the villages attracted bears that also attacked livestock. Each household used to own 15 to 20 beehives; now there are hardly any left. Average annual monetary loss per household from damage to crops, fruits, and livelihoods by wildlife was estimated to be more than IRs 2600 (Markhuri et al 2001). It was the

damage to homes and the attack on livestock in Lata that triggered the jhapto cheeno movement in 1998. The Lata villagers had asked to be compensated for the damage caused by wildlife animals of the Reserve. The Forest Department responded that the Reserve had no provision for damage caused by wild bears, to which the angered villagers responded by agitating for the restoration of their traditional rights.

Loss of the ethno-medicinal system

Centuries of dependence on nature led the Bhotiya community to evolve its own ethno-medicinal system. The Bhotiyas had a reputation for being able to cure a wide range of health-related complications using herbs exclusively from nearby areas. In a study of medicinal plant resources of the area, Nautiyal et al. (2001) observed that the local population of NDBR knew the medicinal properties of more than 100 plant species. Treatment for wounds, boils, muscular and rheumatic pains, headaches, gastric and liver disorders, eye problems, coughs, colds, and urinary problems were available within their ethno-medicinal system. The villagers of Lata, Reni, Paing, and Tolma collected these herbs from what is now the core zone of the NDBR.

A systematic approach was used in herb collection. Collectors collected in groups but not until after the celebration of Nanda Astami in August. Mostly, women did the collecting, staying for two or three days in the core zone, offering prayers to the goddess and fairies of the high meadows before starting their herb harvesting activities. The traditional ethno-medical knowledge was restricted to a few people who enjoyed high standing in the community. Sometimes they were specialists, for example, Gunchhi Devi (82) of Lata is considered the only person who can treat 'ghamjwar', a fever caused by excessive exposure to the sun at the onset of summer.

The traditional health care system had developed and grown with the collective survival strategies of the communities. The practitioners followed a strict welfare code. They did not charge fees for their services and always gave clear preference for emergencies over their own personal work. Since there were no monetary gains associated with the traditional health care service, the damage and loss cannot be quantified in economic terms. The impact needs to be understood in terms of the loss of indigenous medicinal knowledge and practice in the community.

Herbs and plants also constituted a significant part of the dietary habits of the Bhotiya community. Nautiyal et al (2001) found 16 plant species considered an integral part of the Bhotiya household consumption patterns. Herbs as NTFPs also contributed to the economy of the Bhotiyas. *Morchellae esculenta* and *Aconitum heterophyllum* were the most expensive NTFP items they traded. Collection of *Morchellae* has continued after notification of the core zone, but the trade is now conducted illegally – with middlemen making the most profit out of it.

Cultural loss

The core zone contained places of ritual importance for the community and these became inaccessible even to them when the restrictions were imposed. For the residents of Lata, two places in the core zone had particular religious significance

Sureshi Devi, 62, a woman of a scheduled caste from Lata is a traditional health practitioner with a large client base in the Niti Valley. Most of the herbs she uses in her medications were collected from the Dubbal Ghati area in the NDBR core zone. With the ban on collection of herbs, Sureshi Devi has been considerably restricted in preparing the wide range of medications she used to prepare. She now works only with herbs available in the Lata Van Panchayat area. When asked, Sureshi Devi describes with pride her being a traditional health practitioner. The scheduled castes have very limited opportunities to interact on an equal basis with the upper castes, yet the knowledge of traditional health care which she has learned from her mother has enabled her to build a client base from the Niti Valley to Nanda Prayag, some 100 km from Lata. She is understandably critical of the restrictions and could not understand the logic behind them. After the restrictions were implemented, there had been an increase in dependence on allopathic medication.

Khem Singh Rana of Reni, 65, started his career in 1965 as a high altitude porter earning a daily wage of IRs 7. At the time of closure of the NDBR he was earning well through a number of tourism-related activities. Apart from being a partner, he was one of the 'mates' in the area employing porters for expeditions, using his herd to transport goods in the core zone, and earning handsome commissions. The closure of the Reserve came as a shock for hundreds of people like Khem Singh Rana who were solely dependent on the tourism business. Within two years of the ban, he was forced to sell some of the family's jewellery to be able to continue to send his children to school.

Kundan Singh, 48, of Paing tried to explore opportunities in other areas where mountaineering was open. He worked in Uttarkashi and went to Kashmir in search of work but finally decided to return to his native place. Around 80% of families are estimated to have suffered severe economic hardships with the ban on tourism.

for rituals dedicated to the puja of Nanda Devi during Nanda Astami, which takes place in August. The villagers of the area offer Brahma Kamal (*Saussurea obvallata*) flowers to Nanda Devi. The practise in Lata was to offer puja to Dubri Devi (goddess of grass) at Dubbal Ghati. Next, puja was offered to the swords of the god Latu, which were placed at Donidhar near Dharansi. Only after these prayers were performed were the flowers collected for the Nanda Astami celebrations. Closure of the core zone meant these rituals could no longer be performed, and since then the swords of Latu have been missing. The concerns raised by the Chief Secretary of Uttar Pradesh regarding the impact on local communities were not given consideration.

Loss of income from tourism

The closure of Nanda Devi for tourism was the severest blow to the economy of the region. Tourism used to be the main occupation of the villagers of Lata, Reni, Paing, and Tolma from early May to November. Tales like the box stories on the previous page are common. The estimated loss of annual income to the local people of NDBR is shown in Table 3.

Table 3: Annual income from tourism before the establishment of the NDBR		
Employment	1962-1971	1972-1981
Employment (days per household per year)	1,156	1,264
% of people engaged as porters	78	85
% of people engaged as guides	22	15
Annual income to villages located at trek points* (IRs per household per year)	10,829	22,342
Average annual income to buffer zone village communities** (IRs per household per year)	7,823	7,904
Source: Maikhuri et al (2001)		
*Mean of four villages, Lata, Reni, Paing, and Tolma		**Mean for all ten villages studied
IRs 7.50, IRs 8.50 = US\$1 in 1971 and 1981, respectively		

All of the stakeholders interviewed including the local community and NDBR management and staff believed that the local people had suffered a loss of benefits after the restrictions. NDBR officials, however, consider the loss adequately compensated for through various eco-development schemes and the distribution of improved stoves and cookers (Rao et al. 2000). When interviewed, the men and women of the community cited different aspects of benefit loss suffered as a result of the restrictions. The men cited the loss of economic opportunities as the most severe loss while the women were more concerned about the loss of subsistence. The results correlate with the findings of Rao, as a majority of the women interviewed stressed the importance of various NTFPs in their daily lives. The scheduled caste families had another concern. According to one villager, there was sufficient cash flow within the community when the area was open for tourism and it was easy for a poor family to borrow money for a short time. This source of cash dried up with the notification of the Park.

The scheduled caste community was the main service provider under the traditional set up. They worked as tailors, produced agricultural implements as blacksmiths, made baskets from ringal, and occasionally worked as farm labourers. Lata village had traditional rights to cut wood from the forest of Nilori-Paing, and scheduled caste families used to cut wood there for the production of agricultural implements. This source of livelihood came to an end with the notification of the Park. The right to cut ringal for basket-making was revoked after the jhapto cheeno movement of 1998. For agricultural implements, the villagers now had to go to Dhak Tapovan or Bargaon where the particular wood they require is available and where there are not very many restrictions.