
CHAPTER - III

Chapter III

BACKGROUND OF THE STUDY AREA

Introduction

Sikkim as a whole is an attractive destination for tourists; it is situated within the eastern Himalayan biogeographic zone. It has a mountainous terrain where two major livelihood options, namely farming and tourism are prevalent. A number of factors, which influenced the process of regional development of any area, the physical, cultural and infrastructure facilities and amenities stands forth, as it presents a platform for various human activities. This triological frame of visualization is helpful in comprehending the perception of a given environment. In study area these processes have played a significant role in shaping the various patterns of development. Their varied forms and ways have induced the growth and development of Sikkim as a center of tourist's attraction. Therefore a brief appraisal of the important constituents of the study area has been presented in the pages to follow.

For the convenience the whole chapter has been divided into three subparts: (i) Physical setting, (ii) Cultural setting, and (iii) Institution and infrastructure.

3.1 Geographical Location

Himalaya is one of the youngest and greatest mountain systems of the world stretching almost 2500 km east-west. The Himalayan ranges are between 240 to 340 km wide and rise from low-lying Indian plains to over 8000 m. Sikkim situated in the eastern Himalayan biogeographic zone became the 22nd state of India. Few areas in the world offer such unique blend of breath-taking natural beauty and a rich diversity of culture, socio-economic traditions, history and lifestyles as the north-eastern Himalayan region. From the time immemorial these lofty mountain ranges have attracted people- pilgrims, ascetics, naturalists, explorers and the like- from far and wide. In the contemporary context tourism in the Himalayan region is a manifestation of the comparative advantage for pleasure and sight seeing, trekking, mountaineering and cultural tourism.

Sikkim or Sukhim (Sukhim means New House) is a tiny state with an area of 7096 km² (0.22% of total geographical area of India) and a population of 405505, with an average density of 57 persons per km² in 1991. The state extends between 27^o 4' 46'' to 28^o 7' 48'' N and 88^o 58'' to 88^o 55' 25'' E. It is bounded on the west by Nepal, on the north by Tibet, on the east by Bhutan and Tibet, and with the Darjeeling district of West Bengal stretching along its southern boundary. The state is situated in the most magnificent range of Snowclad Mountains with the World's third

highest mountain peak, i.e., Khanchendzonga (8598m). Other important peaks in the Khangchendzonga range are Kabru (7338m), Siniolchu (6887m), Simvo (6811m), Pandim (6691m), Jopuno (5936m) and Narsing (5825m), which are main attractions to trekkers (Plate 1a). The area represents the main nature tour destinations and are all adjacent to biologically significant national parks or sanctuaries (Fig. 3.1). Sikkim is widely acknowledged as India's most significant biodiversity "Hot Spot" (Kumar 1993 and Shenga 1994) and one of the most critical center of biodiversity and endemism (Myers 1990 and WCMC 1992) with 81 species of mammals, 550 species of birds, 650 species of butterflies, 33 species of reptiles, 16 species of amphibians, 48 species of fishes, 550 species of orchids, 36 species of rhododendrons, 4500 species of flowering plants and 175 species of wild edible plants, sacred lakes, monasteries and cultural heterogeneity with distinctive ethnic groups, including Lepchas, Bhutias, Nepalese, Limbu and Tibetan refugees live in this culturally and historically rich area (Rai 1992). They have different festivals, dances and ways of living (food habits, marriage system and dresses).

Two sites have been selected for detailed studies, i.e., Yuksam-Dzongri-Goechha La for trekking and mountaineering courses and the Khecheopalri Lake, which is used for recreation and pilgrimage. These sites represent the main nature tour destinations in Sikkim and are all-

adjacent to biologically significant Khangchendzonga National Park (KNP) (Fig. 3.2). KNP falls in the north and West districts of Sikkim. It was designated as a national park in August 1977, with a total area of 850 km². The area was originally under reserve forest status prior to the designation as a national park. In 1996, the area of this national park was extended to 1784 km² (25.14 % of the total geographical area of Sikkim) realizing its importance for having diverse habitats, floral and faunal diversity. Many villages such as at Yuksam, Sakyong, Chungthang, Mensithang, Lachen and Monguthang surrounding the park depend on the park's natural resources for subsistence living (Fig. 3.2). The central government has recently (February 2000) included more areas in this park and designated it as a biosphere reserve. Most of the areas in the buffer zone of the biosphere have been identified for ecotourism and are also accessible to the villagers. The topography and the peaks along with the forest wilderness in the park areas form the main attraction of KNP.

3.1a Yuksam-Dzongri-Goechha La Trekking Corridor

The Yuksam-Dzongri-Goechha La trekking corridor is 45 km long trek located in the southwestern part of Khangchendzonga National Park (Fig. 3.2). The entire area right from Khangchendzonga to the Yuksam lowlands is considered to be sacred by the Sikkimese Buddhists according to the sacred text *Nyol*. The area below mount Khangchendzonga in West Sikkim, referred to as *Demojong* (the hidden

valley of rice), is the most sacred of all, being the abode of deities (Fig. 3.3). Northern half of the KNP is in restricted zone and therefore this part is not accessible to the visitors. Entry into the park is allowed only with a valid permit, which is for 15 days for foreign tourists. On this trail Yuksam is the only settled habitation, with 11 villages, 274 households, and a total population of 1572. The last village, with 9 households, is located 16 km away from Yuksam at Tshoka on the trail with a total population of 59 people (Tibetan refugees) (Plate 1b). The most dominant ethnic group in Yuksam is the Limbu followed by Bhutia, Lepcha, Nepali and Tibetan refugees. Most of them pursue traditional agricultural livelihoods. Some have associated themselves in tourism related activities in recent years. About 110 persons worked as porters for tourist trek, 8 families have lodge/hotels, 25 families rear Yak/Dzo to provide pack animals and 6 individuals are trained local guides.

3.1b Sacred Khecheopalri Lake

The Khecheopalri Lake is known as a “Wish Fulfilling Lake” and is considered to be the most sacred by the Sikkimese people. Folklore and many legends are associated with its formation and shape. The lake water is used for rites and rituals only. A Khecheopalri lake festival takes place during March every year, when a large number of local pilgrims visit the lake. Fishing and any other recreational activities on the Lake are strictly prohibited. A strong belief prevails among the community that any

disturbance on the Holy Lake may bring calamities and unwelcome events. This lake is situated amidst pristine forest at an altitude of 1700 m ($27^{\circ} 22' 24''$ N and $88^{\circ} 12' 30''$ E) in the West District of Sikkim (Fig. 3.2 & Plate 1c). The lake represents the original "neve" region of an ancient hanging glacier, the depression being formed by the scooping action of the glacier (Raina 1966). The lake is surrounded by a broad-leaved mixed temperate forest, and has a catchment area of 12 km^2 with 72 households and 440 persons living in it. The Lepcha is the main ethnic group in the Khecheopalri area. Traditional agriculture is the main livelihood and recently some households have been engaged in tourism. The influx of tourists is high with visible impacts of disturbance on the Lake and its watershed. Besides visitors, communities also exploit natural resources of the Lake watershed by extraction of fuel, fodder and timber, and by livestock grazing. The Lake is also a resting place for Trans-Himalayan migratory birds and supports commercial and recreational tourism.

3.2 Physical Setting

3.2.1 Physiography

Major part of the area is hilly, rising from an elevation of about 1785m near Yuksam and 8548m in Khangchendzonga. The topography progressively becomes rugged from south towards north. The northern part of the area is dominated by very steeply sloping surfaces (more than 50%) and deep cut gorges valleys and perpetual snow, with numerous

“Kholas” or “Chus”. The area has a number of glacial lakes in the higher reaches. These are sacred lakes. The Rathongchu, itself a sacred river (Plate 1d), is said to have its source in nine holy lakes closer to the mountain peaks in the higher elevation. Moreover, the river in the Yuksam region is itself considered to have 109 hidden lakes (Ramakrishnan 1996). The Rathongchu River constitutes the major drainage system and is the focus of religious rituals. Minor streams viz., Chockchu, Rangchu and Prekchu feed Rathongchu. Rathongchu River and its tributaries are the striking example of hanging valley. This hangs about 600m above the bed of Rathongchu (Pascoe 1964). The extreme northern part of the study sites is covered by snow throughout the year and has two important glaciers namely, East Rathong and Onglakthang and both the glaciers are said to be retreating rapidly.

3.2.2 Geology

Geologically, the study sites are located on the Lesser Himalayan Zone. Three important groups of rocks have been recorded in both the sites viz., the Darjeeling Group, the Daling Group and the Gondwana Group. Other group, i.e., Lingtse gneiss, occurs only as a thick linear band across the Rangit river (GSI 1984). Major part of the area is chiefly made up of Darjeeling gneiss. The upper part of the area is covered with snow throughout the year.

The Darjeeling Group comprises chiefly high grade gneiss containing quartz, feldspar, with streaks of biotite. Besides gneiss, quartzite, sandstone, dolomite and shale are also found. A streaky, sheared granite gneiss known as Lingtse Gneiss occur as a NE-SW trending strip of rocks in the central and eastern part of the area (GSI 1984).

3.2.3 Climate

The region displays all the characteristics of a mountain climate where location, aspect and altitude are of prime importance in conditioning the climate of a locality. The climate varies from tropical in valleys to snowfields and glaciers at higher altitudes. The climate of the area is monsoonic and divisible into three seasons, viz., rainy (June to October), winter (November to February), and summer (March to May). Sikkim receives an average annual rainfall that varies from 1300 mm (at about 300m elevation) to 4300 mm (above 2000m elevation) and 60-75% of this rainfall recorded during the monsoon season, i.e., June to September. The average maximum temperature at this time varies from 21⁰ to 37⁰ C and the average minimum temperature from 13⁰ to 23⁰ C. The humidity remains high during this period (85-97%) (Rai & Sundriyal 1997).

Temperature and rainfall data were recorded for three climatic zones in the Yuksa-Dzongri-Goechha La corridor during the study period.

The three weather stations were located at Yuksam (1700 m), Tshoka (3000 m) and Dzungri (3900 m). These locations were selected keeping in view of the three ecological zones viz., temperate, sub-alpine and alpine. The major portion of the area experiences a temperate climate, where the mean temperature varies from 3.8°C in January to 24°C in August. Sub-alpine ecological zone was bit cooler with maximum temperature of 16.1°C (September) and minimum of -3°C (January). Alpine zone was under snow cover for at least five (November to March) months, Hence, the maximum and minimum temperatures were recorded as 13°C (August-September) and -8°C (January), respectively (Fig. 3.4).

Distribution of rainfall also follows the topographical trends. At Yuksam, the mean annual rainfall is approximately 3760 mm, while Tshoka and Dzungri experience respectively 3648 mm and 2319 mm of rainfall (Fig. 3.4). The maximum rainfall was recorded during the month of August at all the locations.

The other study site, Khecheopalri Lake, falls in a temperate belt and maximum temperature ranged from 4°C in January to 24°C in July-August during 1997-1998. Minimum temperature varied between 2.7°C in January to 17°C in August in the same period. The average annual precipitation was 3899 mm in 1997 and 3776 mm in 1998. The temporal distribution of rainfall and temperatures during 1997 and 1998 are presented in Fig. 3.5.

3.2.4 Soils and vegetation

The area is endowed with diversified natural vegetation. Ranging from alpine scrub vegetation in the higher reaches to sub-tropical moist evergreen forests down below, the vegetation of the region is varied. Sikkim Himalaya is richly endowed with biological resources spread over a variety of ecosystem types and range of altitudes; from the alpine rhododendron dominated scrub forest through conifer forests with *Abies densa* and *Tsuga domosa* down to mixed evergreen forests, dominated by species such as *Castanopsis spp.*, *Quercus lamellosa*, *Lithocarpus spicatus*, *Elaeocarpus lanceaefolius*, *Michilus edulis*, and *Michela spp.* The region of Yuksam and Khecheopalri has all these species over a very short transect, running down from the alpine to the sub-tropical zone. Orchids are abundant and there is rich wildlife of Himalayan black bear, musk deer, and fishing cat, leopard cat, red panda, black-capped langur and diverse bird life. Besides this the area is also rich in valuable medicinal plants and herbs.

The soils of the area are highly variegated. The general soils of Sikkim is acidic in nature and were excessively drained with coarse-loamy to fine loamy in texture. The soil texture of Yuksam-Dzongri-Goechha La corridor is sandy loam and sandy, whereas Khecheopalri lake area is dominated by sandy loam texture. The very steep slopes (>50%) represented by Typic Hapludolls and Dystic Eutrochrepts were largely

under temperate forests. On the other hand, steep slopes (30-50%) with umbric Dystrochrepts and Cumulic Hapludolls experienced thermic soil temperature regime. The steep slopes having mesic soil temperature regime were represented by Entic Haplumbrepts and Typic Cryorthents. These were largely found under coniferous forests. The steep slopes of isofriged soil temperature regime were represented in general by shallow soils under alpine pasture (Das *et al.* 1998).

3.3 Cultural Setting

3.3.1 History

In 1975, Sikkim was merged as the 22nd state of India. The early history of Sikkim is mainly based on Lepcha tradition. The history of the emergence of the kingdom of Sikkim can be traced back to 17th century (Risley 1968). Sikkim has a long tradition of Buddhist religion. Since the rule of Chogyal dynasty, when the first Chogyal (King) of Sikkim was crowned in 1642 in Norbugang in Yuksom, Buddhist traditions have become deeply ingrained into the psyche of the Sikkimese people (plate 1e). Yet in proportional terms, Buddhism is practiced by about 25% of the local population, while the majority religion is Hinduism (70%). However, Buddhism is evident in all walks of life; in rituals and festivals; in tapestries, richly woven with symbols from Buddhist myths and legends; in the typical Sikkimese architecture; and in the large number of monasteries and stupas dotting the landscape throughout the state. It is

important to note, however, that this unique culture which has developed in Sikkim represents a blend of the shared traditions of three communities; the Buddhism of the Lepchas and the Bhutias, and the Hinduism of the majority Nepalese.

Of the four Buddhist sects, the Nyngmepa, Kagupa, Gelugpa and Sakyapa represented in Sikkim, the Nyngmepa sect, initiated by the Buddha incarnate, Maha Guru Padmasambhava, is the most significant. Whilst Sikkim, as a whole, is considered to be sacred by Sikkimese Buddhists. Padmasambhava, who is highly revered and worshipped by Sikkimese Buddhist, is considered to have blessed Yuksam and surrounding landscape of Demojong, in the western part of Sikkim, by having placed within it a large number of hidden treasures (*ters*). Many of the sacred treasures by Lhabstsun Namkha Jigme in the Yuksam region, and it is believed that these *ters* will only be slowly revealed to enlightened lamas and discovered at appropriate times. Conserving and protecting these treasures from polluting and disturbing influences considered being vitally important for human welfare.

The area below Mount Khangchendzonga in the landscape of Demojong is the core of the sacred land of Sikkim. Yuksam is considered to be a 'Lakhang' (altar) and 'Mandala' where offerings are made to protective deities. Any major disruption in the landscape would disturb the ruling deities of the 109 hidden lakes of the river Rathongchu, thus

leading to serious calamities. During a period of bloodshed in the past, for example, the lake Khecheopalari is thought to have moved away from the river. Many folklore and legends are associated with its formation and shape. As per the legend of the Sikkimes people the lake looks like the foot shape of Goddess Tara Jetsun Dolma.

3.3.2 Ethnic groups, distribution and characteristics

Sikkim is rich in cultural diversity and having multi ethnic composition such as the Lepcha, Bhutia, Nepalese and Limbu. The Lepchas are the original settlers of the state. A later arrival to this area includes the Bhutia from Tibet. The recent immigrants include Nepali ethnic groups in the nineteenth century and Tibetan refugees. From 1891 to till date the Nepali population increased several times due to encouragement given to Nepali settlers in the first phase of the British protectorate (Rai 1992).

The Lepchas are believed to be indigenous to Sikkim and known to Bonpo Shamanists. According to Lepcha tradition they originated in Mayel, a legendary valley in the vicinity of Khangchendzonga, and have no tradition of migration (Gowloog 1998). The Lepcha, who were known as Rong-pa or valley folk, were fairly widely distributed throughout Sikkim. Now Lepcha generally sought assimilation to Bhutia culture. Inter-marriage between the two communities is common and instances of Lepcha marrying Nepalese are not unusual, particularly amongst the

Lepchas of western part of Sikkim. Traditionally Lepchas are hunters, food-gathers and preferred animal husbandry. Their economy is mainly based on land and forest. They have their own dress, food habits and festivals. The Lepcha women dress up themselves in *Gada* and menfolk dress in *Gyado*. About 12% of the total population of the Yuksam area belong to Lepcha community, whereas Khecheoplari Lake mostly dominated by Lepcha (96%).

Bhutias in Sikkim are of Tibetan origin. They wore Tibetan style clothes and their language also has Tibetan origin. The Bhutia women dress up in *Bakkhu* a long double-breasted gown akin to Japanese *Kimono*. This gown is fitted on the body with the help of a cloth piece tied around the waist. Inside this gown the women wear a loose blouse (*hanju*) with long sleeves. This dress is locally known as *Kho*. The married women hand a lined apron (*pangden*) like cloth on the front from the waistcloth often brocaded on both corners. The Bhutia men also wear *Bakkhu* with long sleeves. However, the use of trousers and cap has become common. Intermarriage has become an increasingly frequent occurrence, particularly since the closer of Tibet. The Bhutias are Buddhist by religion and belong to the scheduled tribe. They constitute about 31% of the total population of Yuksam and 2% of the Khecheoplari lake. The main festival of this community is Sagadawa, Bum Chu rituals, Pang Lhabsol and Losser. It is no wonder that the Rathongchu River is

the focus of religious rituals. Bum Chu rituals, is considered the holiest of all festivals, and held annually at Tashiding monastery. Rathongchu River is said to turn white and start singing and water is collected from the point where Rathongchu meets the Ringnyachu. It attracts thousands of devotees from around Sikkim and the neighboring region. Other widespread rituals reflect the respect with which this region of sacred landscapes is worshiped and revered by its people. The generalized ritual practiced during “Pang Lhabsol” to propitiate the various ruling deities of the mountain peak of the Khangchendzonga, the midland region of the Yuksam and the lowland down below, is carried out by Buddhists throughout Sikkim.

The Nepalese who constitute the major bulk of the Sikkimese population are migrated from Nepal in nineteenth century. They have retained a cultural identity distinct from the racial amalgam, which had become Sikkimese. They dressed differently and spoke Nepali and Hindi. The Nepali women tie a cloth or Sari (*gunyu*) around their waist as a skirt with *patuka* and cover their torso with blouse (*cholo*). The head is covered with a two meter long *majetro*, a kind of scarf. This dress is locally known as *Fariya cholo* or *Gunyu cholo*. Nepali men folk dress up themselves with *Dawra* (shirt), *Surwal* (trousers), coat and Nepali cap. The study sites constitute about 17% of the total population of Yuksam and 2% of Khecheoplari lake. Desain is the biggest and most popular

festival celebrated by the Hindu Nepali. The other important festival is *Tiwar* (the festival of light). In this festival the Goddess Laxmi is worshiped. In the evening on this day, women, young and old visit door to door singing *Bhailo* and accepting *Bhaili* offering money. On the third day, brothers are blessed by sisters and male folk visit door to door of the village community singing *Deoshirey*.

3.3.3 Religion

Buddhism and Hinduism are the two main predominant religions of both the study sites. Besides these there are Christians. The Lamaist Buddhist tradition and culture has left its indelible mark on the Sikkimese life. The Lamaist tradition of worship still continues and there are no less than 200 monasteries in Sikkim today. Prayer flags are seen fluttering everywhere and turning the prayer wheels is still regarded as a step towards cleansing of the sins (plate 1f). The offering of “Khada” (or silken white and cream scarf) on any occasion, signifies honor and respect and has become an integral part of the Sikkimese culture today. The lakes all over Sikkim has great religious significance attached to them and Sikkimese of different races and religions deeply revere them.

3.3.4 Food habits

Leaving aside a small fraction of Hindu populous, the Sikkimese is non-vegetarians and beef eating is not uncommon. Even some Nepali Hindus take beef. Drinking of liquor is quite common among all the communities. *Raksi* and *Chhang* are the local brews prepared from rice and millet, respectively. Among the delicious food, *Chhou-chhou* a Sikkimese parallel of Tibetan *Chowmein*, is relished by all communities. The other local foods are *Gunduruk*, *Kenema* etc.

In spite of its great heterogeneity, Sikkim has religious harmony and cultural co-existence. Festivals irrespective of any ethnic group are celebrated by all with great joy and enthusiasm. The state in itself presents a unique example of cultural amalgamation of all ethnic groups.

3.4 Institution and Infrastructure

Infrastructure facilities provide a strong base for economic development of an area. A region with abundant resources may well remain backward unless its resources have suitable channels for exploitation. A good network of transport and communication and provision of other services and amenities, at reasonable terms, would make the area susceptible to economic development than an area lacking in these facilities (Dobhal 1987). This section deals with the existing institutional and infrastructure facilities in both the sites.

3.4.1 Education

As regard to the Sikkim, the overall literacy condition in general, is not very poor in the state. According to 1991 census, the percentage of literate persons was 56%, which is higher than the national average (52%). In the study sites, the literacy rate was 54% in Yuksam area and 42% in Khecheopalri area in 1997. Educational facilities in remote areas of the state are not sufficient. In Yuksam village there are five primary (including one lower primary) schools and 289 students and 15 teachers in 1997, the children from local households are reported to have attended school regularly. The Yuksam village has one secondary school (Table 3.1).

Student enrollment from primary to secondary school is given in Table 3.1. About 60% of the school age population are actually enrolled. The dropout rate is greater in higher classes. This is a serious issue and the less educated population will continue to increase in near future. The ratio of boys and girls students enrolled in Yuksam is 49:51. Of the total number of students enrolled, 74% are in primary schools, 22 % in middle school and 4 % in high school. This indicates either a large dropout from the primary to mid-level and high school, or low opportunities for higher education.

School attendance ranged from 40 to 50%. The most obvious problem was absenteeism of teachers and students. In addition, parents

most of, whom are illiterate, do not encourage their children to attend school regularly. However, some parents send their children to attend school regularly. Some parents send their children in urban areas to get higher and better education. Non-formal and functional education is urgently needed in this area. There is a need to establish a higher secondary school with hostel facilities in the area.

The other site, Khecheopalri has only one lower primary school with a total number of 25 students (Table 3.1). Villagers are depending mostly on Pelling and Gyalshing for further education.

3.4.2 Health and sanitation

Modern health facilities in both the sites are extremely poor. A primary health center (PHC) with a capacity of 10 beds encountered in Yuksam had scanty supply of medicine. It has two doctors with 6 supporting staffs. The health care workers were often absent. The Khecheopalri Lake lacks this facility and villagers are depend in other areas. Thus the local people are forced to rely upon traditional methods of treatment and the use of native herbs and medicinal plants. In general, people are not health conscious and do not use preventive health measures. Basic hygiene is very poor in homes. The incidence of tuberculosis, stomach pain, anemia, leucorrhoea was found to be relatively high among the patients. This is mainly due to the poor diet and drinking habits of the people.

3.4.3 Trails and roads

The terrain is hilly and rugged and extremely difficult. The existing road network is far short of the needs of the region. The area is connected by metalled road, which takes off from the National Highway No.31A near Melli and passes through Jorethang town of south district and crosses Rangit river to Nayabazar. From Nayabazar, the state highway proceeds northwards and ultimately reaches Gyalsingh via Legship town. From Namchi town of south district and Singtam town of east district, state highway runs west, joins together and enters west district at Legship where it merges with the state highway coming up north from Jorethang. A state highway continues further northwards from Legship, reaches Tashiding and then extends upto Yuksam. A state highway also connects Khecheopalri lake via Pelling. At present, most trekkers (70%) come here via Gangtok, and others through Darjeeling town of West Bengal.

The physiographic structure determined the directions of the trail route mostly from north to south, along the river. Trekking in this area follows an age-old pattern of movement within the mountains. There are traditional migratory routes and seasonal encampments among highland pastures, which were used for grazing the animals and lead tourist expeditions into the remote areas. Among them the important ones are mentioned here. The trekkers and HMI mountaineers usually followed from Yuksam. The trail approaching Tshoka through Bakhim, passing

through a steep slope, is very narrow (Plate 2a). From Bakhim to Tshoka, about 2 km of the trail is not in good condition and is especially dangerous for children and old age trekkers. The trail width from Tshoka to Dzungri is wide, made of wooden planks in some places that serve as a path on the steep slope. Trekkers usually follow this trail. The HMI (Himalayan Mountaineering Institute) trainees follow the same route upto Tshoka. From Tshoka they follow other route (Zamlingaon, Chaurithang, Bikbari and Chaurigang) to reach the base camp. It takes about four days. Another important trail in this site starts from Tashiding and follows the Labdong, Kasturioralo, Lampokhri route to reach Thangsing. This trail is not very popular but a few trekkers have followed this trail route in recent years.

The transportation facilities have improved now due to flow of tourists in the area. Presently the state transport department is plying two buses connecting Yuksam with Gyalshing and Jorethang. Besides this, the private taxis are also running in between Yuksam to Gyalshing, Jorethang and Gangtok. The Khecheopalri Lake is also connected by bus services from Gyalshing.

3.4.4 Marketing

It is observed that both the site lacks even the basic marketing facilities both in terms of quantity and quality. The existence of merely 8 multipurpose shops, 5 groceries shops, 4 teashops, 3 wine shops and 3

low quality restaurant and a few other miscellaneous shops character Yuksam. While the Khecheopalri Lake has only 2 teashops and one multipurpose shop. The needs of the people for medicines and other household items are fulfilled chiefly by the district headquarters at Gyalshing.

3.4.5 Communication

Communication facilities at both the sites are very limited and not accessible to local people and trekkers (Table 3.1). The Yuksam area has only one sub-post office, whereas Khecheopalri area people dependent for this facility to near by villages. The police checkpost at Yuksam has a wireless set and connected to all police checkpost and police headquarters at Gangtok. The Yuksam-Dzongri-Goechha La trek corridor is remote, therefore, improved communications along the trekking route are necessary. Establishment of wireless sets at various locations will help develop communications in this inaccessible area. Most importantly, a communication system with a wireless radio at Tshoka, Dzongri, Thansing and Goechha La needs to be established in Yuksam-Dzongri-Goechha La corridor and another set at Khecheoplari lake site.

3.4.6 Institutional framework

The Village council is the main political organization at the village level with the mandates to develop the village and make wise use of natural and cultural resources and to promote income-generating

activities. Each village council gets a nominal payment under Jawahar Rozgar Yojna from the district as grant to be used for development activities. Discussions with council members and community leaders indicated that they have a fair knowledge of their villages, the surroundings and the problems and possible options of development. They seemed eager to take part in the planning, development and implementation of tourism projects. Besides the village council, local communities at both the sites formed non-governmental organization viz., Khangchendzonga Conservation Committee (KCC) in Yuksam area and Khecheopalri Holly Lake Welfare Committee (KHLWC) in Khecheopalri lake site. The main functions of these organizations are to create awareness among villagers, school children and visitors about the local environment and its conservation.

Yuksam is the last settlement in this trekking corridor having one government guesthouse, trekkers hut, hotel/lodges, police check post, village council bhawan and wildlife interpretation center. The tourism department has made trekkers hut at Tshoka, Dzungri, Thansing and Samitti for trekkers in this trail route. Besides this, one forest guesthouse is available for tourist at Bakhim. In contrary to this, the other site Khecheopalri Lake lacks all these facilities except having one trekkers hut.

Table 3.1. Infrastructure facilities available at the study sites

Parameters	Sites	
	Yuksam-Dzongri- Goechha La	Khecheopalri Lake
Educational Facilities		
Secondary School	1	--
Enrolled Students	456	--
Teacher student ratio	23	--
Primary & Lower primary school	7	1
Enrolled Students	361	25
Teacher students ratio	28	12
Health Facilities		
Primary Health Center (PHC)	1	--
Doctor	2	--
Other Staff	8	--
Animal Husbandry	1	--
Doctor	1	--
Other Staff	3	--
Transport and Communication		
Government Bus	2	1
Taxi services	5	--
Sub-post office	1	--
Telephone	1	--
Institutional Facilities		
Police Check Post	1	--
Village Council Bhawan	1	--
Wildlife Interpretation Center	1	--
Government guest house	3	--
Trekker's Hut	2	1
Hotel/Lodges	8	--

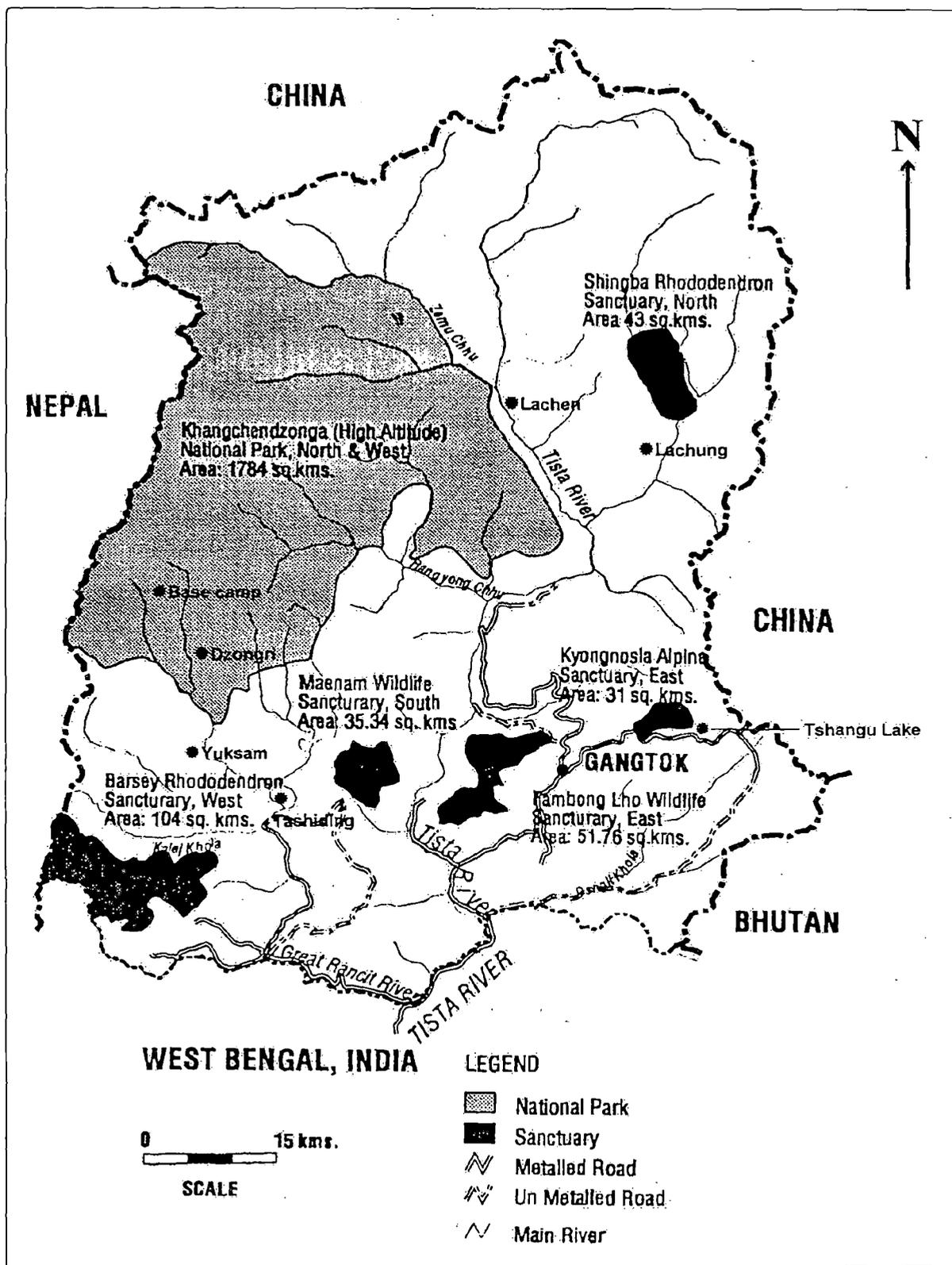


Fig. 3.1 Map of Sikkim showing tourist spots, national park, sanctuaries and road network

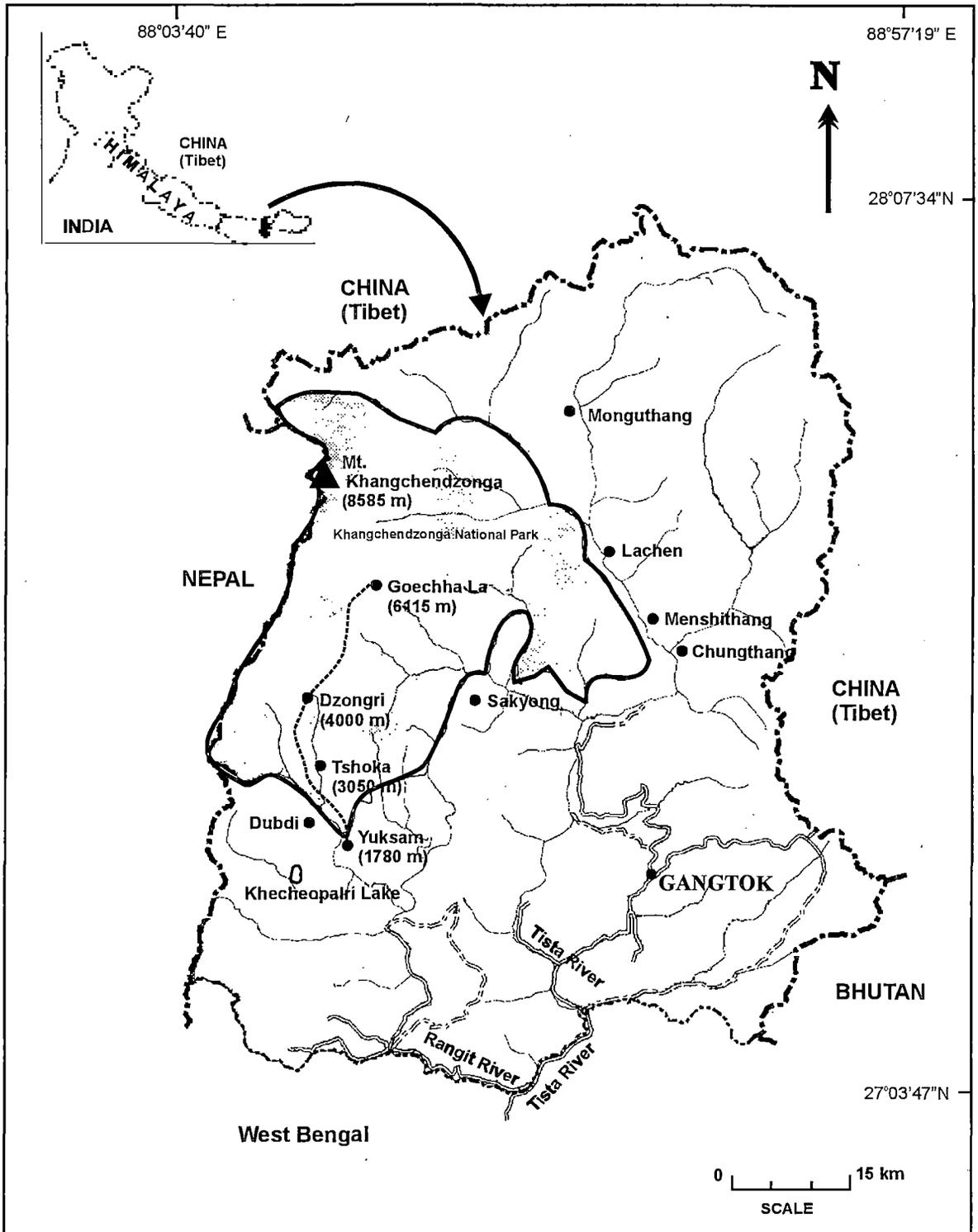


Fig. 3.2 Location map showing the Yuksam-Dzongri-Goechha La trekking corridor of Khangchendzonga National Park and sacred Khecheopalri Lake

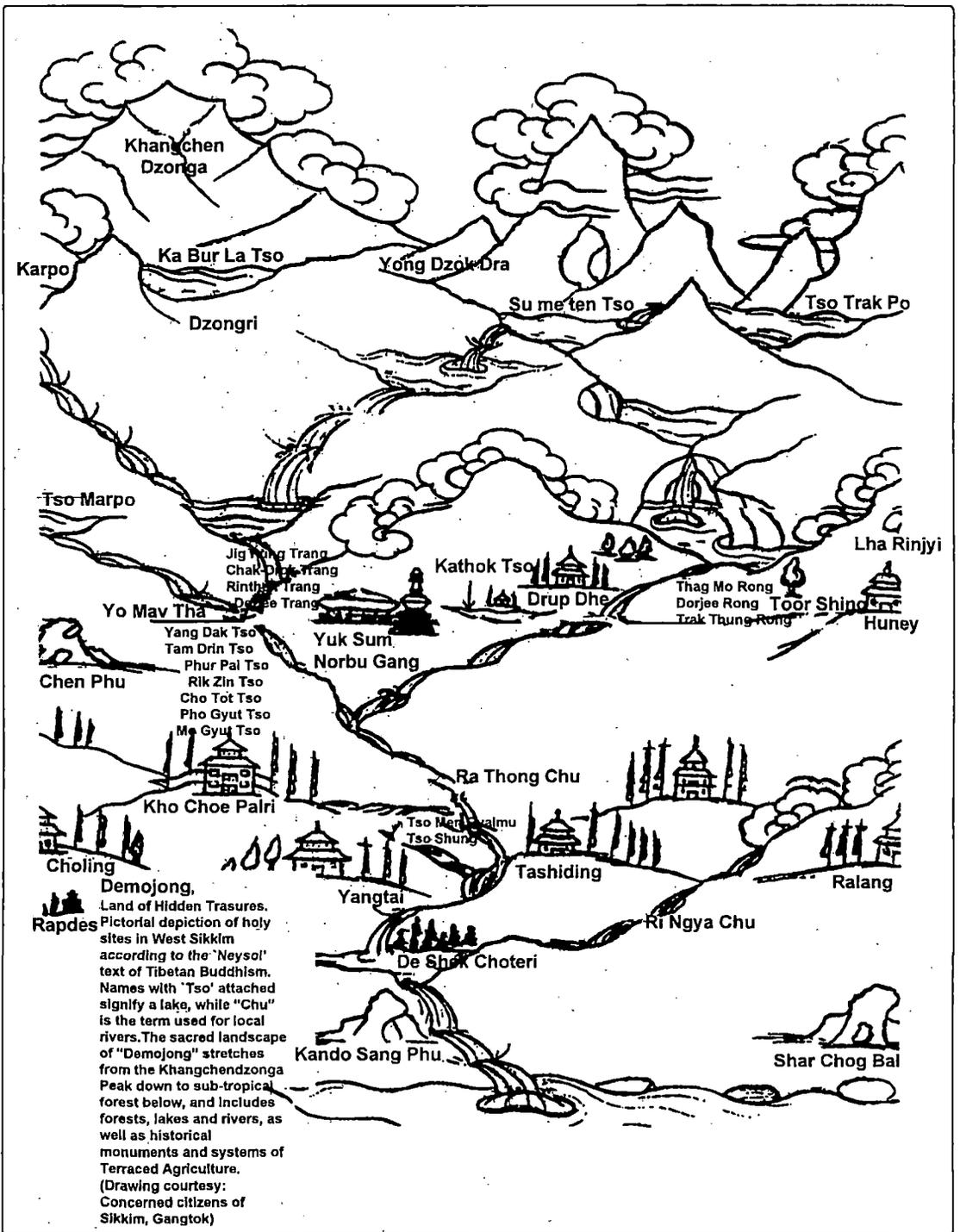


Fig. 3.3. Location of holy sites in Yuksam area

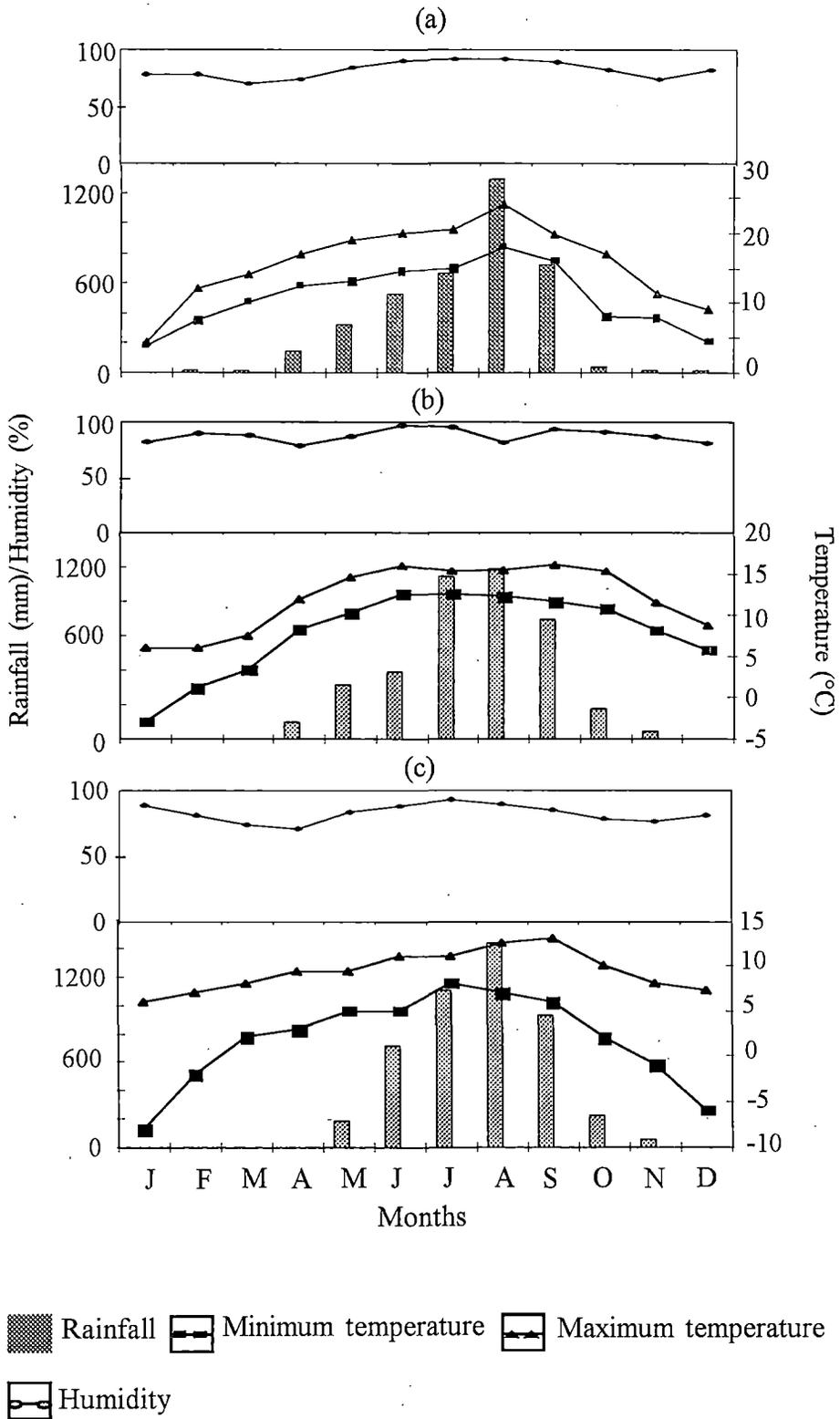


Fig. 3.4. Temporal variation of temperature, rainfall and humidity at three major halting places (a = Yuksam, b = Tshoka, c = Dzongri).

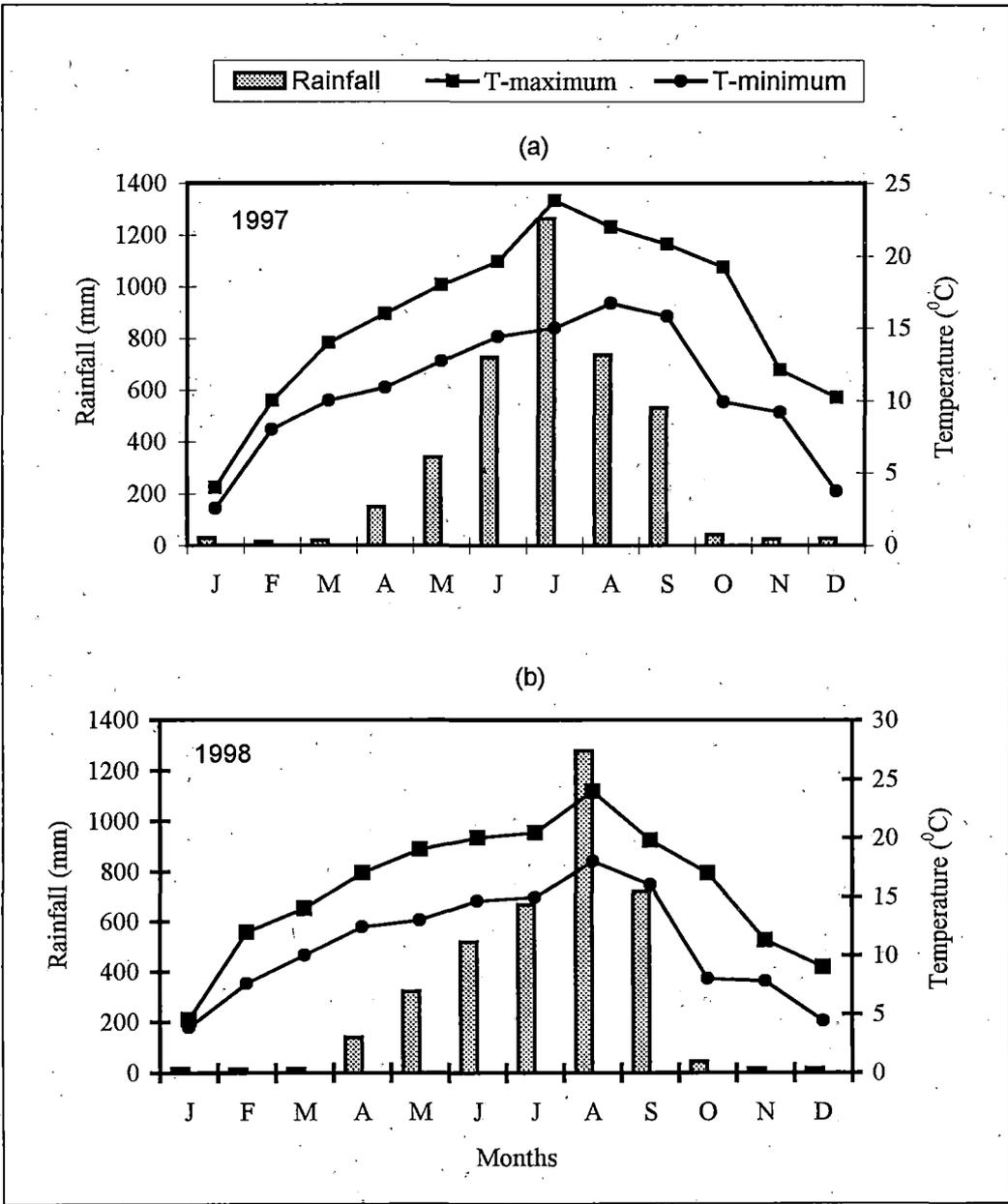


Fig. 3.5 Temporal distribution of rainfall and maximum and minimum temperature at the Khecheopalri lake