

HILL RESORTS OF U.P. HIMALAYA

A Geographical Study

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Preface

Himalaya is one of the most fascinating and unique creations of nature. It stands extended from north-west to north-east covering about 2400 kms of distance. Right from ancient times it has been attracting man to explore the mysteries associated with it. Various travellers both foreign and Indian have been trying to explore it, know it and then express their views in the form of memories to let the world know about the Himalaya.

Its snow-clad peaks, serene environment and tranquility has from the very beginning attracted holy men towards it and many a good number of ancient and religious shrines are situated in the Himalayan region. Many a holy rivers such as Ganges and Yamuna have their origin in the Himalaya.

In medieval times India had constantly been invaded by foreigners, and Indian princes having been defeated decided to escape and take shelter into the vast Himalayan region, and in due course of time they became suitably amalgamated with the natives.

With the arrival of Britishers, Indian history and that of Himalayan region in particular took a significant turn. Britishers found the climate of the Himalayan region more to their liking and paid special attention towards the development of certain places both old and new in the Himalayan region. Education through convent and missionary schools gained momentum in the Himalayan region. Medical facility was extended with the establishment of new hospitals and new administrative seats were set-up to govern more effectively. Britishers also established new cantonments throughout the Himalayan region.

In the post-independent period the whole of the Himalayan region gained popularity as chief tourism attraction due to its natural beauty, existence of some infrastructure left by Britishers and also promotion of tourism through public sector. Tourism has become a mass movement due to better social mobility, paid holiday scheme,

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improved transport and education awareness. The whole of the Himalayan region has been experiencing this tourism activity.

U.P. Himalaya is that portion of Himalaya which is situated in the northern part of political boundary of Uttar Pradesh. U.P. Himalaya is endowed with innumerable religious shrines, temples and scenic beauty. It has attracted the tourists in great numbers from the very beginning. It has many established tourist centres and has great potentialities for the newer ones to emerge.

Hill Resorts

Hill resorts are essentially places in hills or in mountainous regions, developed for the sojourn of tourists. These usually develop in remote, peripheral or undeveloped regions and act as a gateway to other surrounding areas of natural beauty.

Resorts, as a type of special settlement, are of relatively new development and many have come up of late only. There are several types of resorts, viz, seaside, scenic, sports centres, watering places and historical-cultural centres. Hill resorts are usually defined according to their site in hilly regions and have distinguishing characteristics of their own, and are especially developed around some outstanding natural beauty and aimed at specialized functions. Hill resorts are usually defined by their small size and population. Both of which vary and have amenities that may range from traditional to sophisticated. These attract tourists and are commonly called as tourists centres, but a tourist centre may not necessarily be a resort. Hill resorts are places, frequented by tourists in adequate number, who leave an impact on the local set up. The revenue generated by tourists plays a very significant role in the development of resorts.

Hill resorts with distinguished morphological characteristics have seldom developed manufacturing industries. If any manufacturing units exist, they are generally very small and cottage-based. Hill resorts tend, as a whole, to be small towns, totally free from congestion and suffocation.

According to Webster Universal Dictionary, resort is a "place to which many resort or which is frequently visited, especially for specific reason or purpose". A place, having assemblage of facilities and amenities for the tourist purposes is to be considered as resort if tourists are coming with specific purpose of religion, health, recreation, scenic beauty or panoramic view. Centres having more and di-

versified facilities in large number may not be kept in the category of resort, if these facilities are not meant for the use of tourists. Assemblage of tourist facilities generally consists of accommodation, infrastructure, recreation, scenic spots, beauty spots, entertainment facilities, shopping facilities, souvenir products, natural endowments--climate (sun and cloud), temperature conditions (rain and snow), scenery (land forms, water, vegetation), animal life (wildlife, hunting and fishing) etc. Resorts are generally defined or nomenclatured by the specific trail or symbol, which is most dominant among the assemblage of facilities, as health resorts, religious resorts and lake resorts etc.

Tourist centres of U.P. Himalaya are to be reviewed on the basis of above generalization and some of which fall into the category of hill resorts mainly depending upon sovereignty of climate, snowy views, fresh air, tourist destination and purpose, morphology, size of population, specific function, scenic spots and exhilarating natural landscape etc. The most distinguishing factor that has to be considered remains the seasonal rhythm of activity and employment with a high proportion of casual workers. Thus, for the purpose of the present study, 33 out of 65 tourist centres were defined as hill resorts.

Though resorts have developed a great deal as tourist centres these days, their historical origin goes back to the ancient Greeks, who had their 'Asclepian Sanctuaries', where the ailing indulged in bathing, exercise and dieting. During Roman Empire, the Romans used to visit temples and shrines, participated in festivals and lived temporarily near famous springs for both health and recreation. Such health resorts associated with springs and bath were widespread in Roman Empire.

In the 11th century, the crusades gave a great impetus to trade and commerce, which employed the movement not only of merchants but also of clergymen and pilgrims. However, up to the 16th century, tourism could not become a mass phenomenon, only individuals inspired by the quest for knowledge of new land and people made important journeys.

The custom of medicinal bathing lapsed during the medieval period but with Renaissance the cult revived. Centres of medicinal bathing and water cures were known as spas. The term is derived from the Wallon word, "espa," meaning a fountain, and is taken from the town of Spa in Belgium. This watering place was established as early as 1326 A.D. by Collin Le Loup, an iron master of Liege, who apparently was cured of an ailment by the chalybeate springs. In medieval

England, pilgrimages were sometimes undertaken to springs or holy wells which were credited with magical properties, to which the sick of all classes resorted. The efficacy of mineralized water to cure gout, dropsy, stomach complaints and even barrenness in women, was firmly believed by medical practitioners of the 17th century. Thus, the Spas developed, though at first they were of the nature of sanatoria visited for reasons of health by sick and ailing, but these could hardly be called holiday resorts.

In the words of A.E. Smailes, the origin of resorts dates back to the pre-modern phase of urban development when resorts with urban characteristics were created by aristocratic patronage as centres of fashion and social life.

Modern phase of development began in 18th century. With new studies in industrial revolution particularly in the field of transport and communication, the society experienced a new and strange idea of travel and recreation in late 18th and early 19th century. People began to travel with their families and friends for outing purely for the purpose of recreation. During 18th century and early 19th century, spas, health resorts, monumental buildings, temples, churches and educational institutions attracted large number of tourists in different parts of the world. Thus, tourism got motivation due to education, religion, adventure, health and recreation.

Health resorts have been very popular and received a new dimension firstly in England. These centres were initially meant for bathing cures, where a large number of poor and diseased persons gathered almost regularly. Modest entertainments were provided for them at these places, but by the middle of 17th century, pleasure seekers were increasing in great number at these health resorts.

In India also, the Mughal rulers of 17th century were attracted towards Kashmir valley and Pinjor hills in Punjab to avoid excessive heat of summer months in their capital cities of Delhi and Agra. Common folks upto this stage were not able to move to these places due to lack of resources. They were confined to pilgrimage only.

In 18th century, the dimension of health resorts changed. Instead of hot-water springs, cold bathing attracted the attention of fashionable men and women. Thus, seaside holiday resorts sprang up considerably.

Prior to the middle of 18th century landscape had little appeal and mountains were not liked and were avoided. The credit goes to the

Romantic movement for changing the attitudes of people towards the landscape and mountains from dislike to appreciation.

In every country of the world many resorts owe their present day popularity to their original discovery by wealthy minorities or royalty and aristocracy. In India, the British and Maharajas of different states discovered many hill resorts in U.P. Himalaya, e.g., Almora by Bhison Chand (ruler of Chand dynasty, 1560), Mussoorie by Captain Young (1827), Nainital by Calcutta Government officials (1841) etc. Sometimes these resorts were also called as hill stations. Nainital became the seat of U.P. Government during the summer months and Ranikhet, Mussoorie and Almora had become famous summer resorts. These places continue to enjoy popularity till date.

Besides these hill resorts discovered and developed by the English people, there are a number of holy places worshipped by Hindus since pre-Vedic period. The references regarding these places are traceable in Vedas. There have been frequent migrations into the hills of U.P. Himalaya especially of Hindu cult people; the temples were preferably built on confluences and near the origin of the rivers. Visits to such places by pilgrims has been often seasonal, connected with harvest and in dry season.

The vertical movement was frequently associated with health, in connection with healing which in early days was associated with religious cults and rites performed in temples, with the gathering of medicinal herbs which grew on the hillside. It also involved comfort and recreation especially for rich, who can afford summer villas in cooler hills. These places were free from malaria, a predominant summer disease of poorly-drained lowlands.

Studies regarding resorts, specially hill resorts, are very scanty. Although, the reference of resorts is frequently traceable in various literature since mid-19th century, the first published work belonged to A.V. Gravelle in 1841 *The Spas of England and Principal Sea Bathing Places* in which he elaborated the spas and principal sea-bathing places of England. After that a period of nearly 65 years remained untouched regarding the study of resorts. In the year 1907, F.M. Sandwith published *Hill Stations and Health Resorts in British Tropics*, which has been recognised as first reputed work on hill stations and health resorts. Again, there has been a dark period in the study of hill resorts as no work could be produced by any scholar of any country till the commencement of the second world war. E.W. Gilbert published *The Growth of Inland and Sea-side Health Resorts in England* in the year

1939. After second world war, the mass tourism came into existence and resorts too got due attention by a large number of tourists. Following the trend, the study of hill resorts also boosted up in the year 1944. Mary Shaw presented his famous article, "Some South Indian Hill Stations" in this year. This is the first traceable work regarding the study of hill stations in India.

Another book entitled *The Englishman's Holiday* was produced in 1947 by J.A.R. Pinlott. In the following year J.E. Spencer and W.L. Thomas published an article, "The Hill Stations and Summer Resorts of the Orient," in which resorts of the Orient were listed and studied with proper rationality. The distributional pattern of resorts, their criteria, and order were also suggested on a well-formulated pattern. The book by W. Addison *English Spas* in 1951 and *Lancashire and Pennies* by F. Singlaton in 1952 strengthened the literature, while the book *Geography of Town* by A.E. Smailes in 1953 gave new light on the resorts. In the year 1954, Clough Williams Ellis wrote a book on *The Pleasure of Architecture*. After that no remarkable work could be produced by any researcher or scholar regarding resorts upto 1964, when Prof. A. Ramesh published an article, "Origin and Evolution of Oottacamand." The work is devoted to an important hill station of India, but the study tends to deal with urban pattern of Oottacamand. *The Coasts of England and Wales* was published by countryside commission, H.M.S.O., while in the year 1961, another publication of H.M.S.O. came as *Coastal Recreation and Holidays*.

The year 1969 has been fortunate enough to receive the great contribution of M. Peters in a book entitled *International Tourism* which gave a new direction to the study of tourism and particularly of resorts. In the year 1970, the countryside commission H.M.S.O. again published another information, *The Planning of the Coastal Line*. A number of well-researched studies came up in 1972, when economic report of National Westminster Bank on *Ivory Coast* came in the month of October. *The Geography of Recreation and Leisure* written by I. Cosgrove and R. Jackson was published in the year 1972. Another creditable study *The Evaluation of Mountain Landscape for Recreation Purpose* was presented by A.B. Bagadassarian by the University of Toronto Press. The most important work of this year, *The Indian Hill Station: Kodaikanal* was contributed by Nora Mitchel in the University of Chicago. In this study, she has studied all the hill stations of Indian sub-continent and later on presented a special study of the hill station Kodaikanal. The book is very informative, full of

facts and worth consulting. The work, *Economic and Social Problems of Mountain Regions* and articles, "The Tourism and Mountain Environment," and "The Development of Mountain Environments," written by J.A. Stein and J.D. Ives respectively appeared in 1975. The book *Geography of Tourism* written by H. Robinson in 1976 is by far a complete work on geography of tourism and also leads the new path for the study of resorts.

Acquiring motivation from economic, educational, recreational, health and other factors and due to ever-increasing economic and social progress, an increasing number of tourists visited hill resorts of U.P. Himalaya after independence. Some resorts registered up to 42 per cent increase in the number of tourists. This great increase in the number of tourists has resulted in fresh problems, which caution us to think about the future of the resorts. It is high time to study the hill resorts of U.P. Himalaya for their planned development, so that they may develop as a potential tourist centres without facing ecological imbalance and environment pollution and degradation, side by side protecting their aesthetic beauty, traditional set up and historical uniqueness.

Although, the U.P. Himalaya have a number of places worth visiting during the summer, few studies on this region have been conducted so far. A detailed review of the literature available on resorts especially on hill resorts both here and abroad very clearly shows that no systematic study of hill resorts of U.P. Himalaya has been conducted till date. Keeping in view the necessity, the present study was undertaken by the author which is the outcome of three years of continuous work of collection, processing and analysis of scattered material, information and maps collected from various sources. Personal surveys conducted by the author have added to the originality of the work.

The present study consists of eleven chapters, with bibliography and appendices of tables at the end. The text is illustrated with maps and diagrams.

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Chapter 1

Physiography of U.P. Himalaya

Location

The U.P. Himalaya extends from 29°5' N to 31°25' N latitude and 71°45' E to 81°00' E longitude. This well-defined physical region is bound by the river Tons in the west and the river Kali in the east. Starting from the foothills of the Himalaya in the south, this region extends up to Indo-Tibetan international boundary in the north. It measures on an average 357 kms from east to west and 294 kms from north to south thus covering an area of approximately 46,485 kms. It comprises all administrative units of Chamoli, Uttarkashi, Tehri, Pithoragarh, Nainital (excluding Kichha and some parts of Haldwani tehsil), Almora, Pauri and Dehra Dun districts (Fig. 1).

The U.P. Himalaya, hereafter the Garhkum Himalaya, is situated centrally in the long sweep of the Himalaya and forms a rather transitional zone between the prehumid eastern and the rather dry to sub-humid western Himalaya. It looks like the crown of Uttar Pradesh and stands guard to the Upper Ganga Plain.¹ The layout of area is mostly uneven, the minimum and maximum elevations being respectively 1,000 m and 7,817 m above the mean sea level. The region actually has its own unsurpassable grace and charm with glistening lakes and fabulous scenery.

Geology

Many geological surveys have been made in various parts of the Himalayas, but even now geologically much of the area is yet to be known. Wadia² states that "large part of the Himalayas is yet unexplored, not only the geology but even the main features of the orography and geography are not well known over the years".

First of all in 1907, Burrard and Hyden³ presented the structure of the Himalayan zone, based on the scattered information of the Hima-

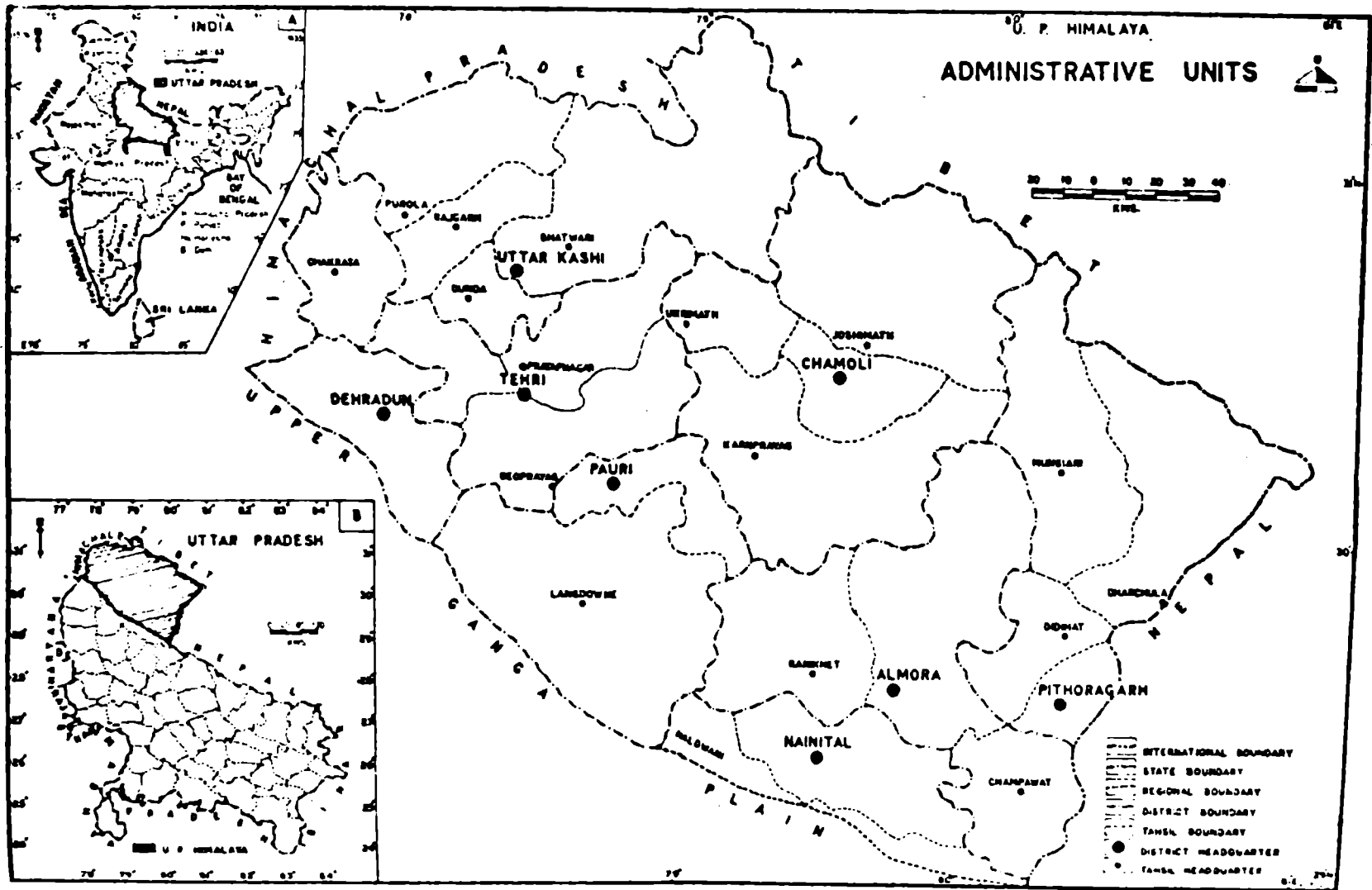


Fig. 1. Administrative units.

layas. Auden⁴ (1934, 53), Heim and Ganssar⁵ (1936) and Capt. Strachey⁶ (1951) have presented their works on Kumaon region. Eminent geologists Krishnan⁷ and Ganssar⁸ have done excellent work on the geology of the Himalayas. Among the recent works, some regional studies done by Pandey⁹ and Valdiya and Mishra¹⁰ are highly appreciable. The Advanced Centre of Palaeontology and Himalayan Geology (Chandigarh) has also published a number of geological studies on the Himalayas.¹¹

Himalayan mountains consist of simple anticlinal structure. Most of the part possesses relatively soft cretaceous and tertiary sandstones. The major geological formations in this region are related with the age from pre-cambrian to cretaceous.¹² Wadia¹³ has divided it into three broad stratigraphical zones, i.e., 1) Higher Himalayan zone, 2) Lower Himalayan zone, and 3) Outer and Sub-Himalayan zone, separating each other by major fault which constitute different tectonic units (Fig. 2).

1) Higher Himalayan Zone

The 'Main Central Thrust' of Himalaya separates Higher Himalayan zone from Lower Himalayan zone. The Main Central Thrust is well outlined in the Kali gorge and the valleys of the Goriganga and the Pindar rivers. The crystalline sheet of the Higher Himalayan zone has simple tectonic features. Much of the area of Higher Himalayan zone is made of old metamorphic rocks and composed of a series of highly fossiliferous sediments. The main rocks of the zone are quartzites, magmatites, gneisses, granites, schists, dioritic amphibolites etc.

2) Lower Himalayan Zone

The 'Main Boundary Fault,' a great thrust, separates Lower Siwaliks (Nahan) from the eocene beds of the Lower Himalayan zone.¹⁴ The thrust demarcates the northern boundary of the Siwaliks,¹⁵ having its existence through the whole length of the Himalayas, from Assam in the east to Beas basin in the west. The sediments of the zone are composed of granite and other crystalline rocks of unfossiliferous sediments. The Lower Himalayan zone may be divided into three main structural features:

A) Krol Belt

The Krol belt stretches from Shimla region in the north-west to

Nainital region in the south-east. This belt has overlying deposits¹⁶ and consists of four types of rocks, i.e., (1) Infra Krol, (2) Krol Sandstones, (3) Krol Limestones, and (4) Tal Quartzites.

The Krol thrust overrides a structural and erosional gap in the Siwaliks.¹⁷ This superimposition of relief may be compared with the northern margin of the Alps in Europe.¹⁸ The south-east region of Nainital has numerous local faults in different directions and this region has become extremely complicated by crushing and crumpling of faults. Thus, the region is full of tectonic complications with tectonic slips and mass slidings.¹⁹

B) Deoban-Tejam Belt

The Deoban-Tejam zone is made of enormously thick limestones and dolomites topped by thick sections of quartzites. The main characteristic of the area as described by Ganssar as "a peculiar steep zone with some quartz, conglomerates, highly crushed quartzites and conspicuous green amygdaloidal epidote diabases".²⁰

It may be divided into two belts in the eastern Lower Kumaon Himalaya, i.e., (i) Badolishera-Pithoragarh zone in the south, and (2) Chamoli-Tejam zone in the north, separated by the Askot-Baijnath crystalline thrust. This zone consists of thick-bedded dolomites and crystalline limestones, which are invariably overlaid by quartzites and intervening phyllites.

C) Almora-Dudatoli Crystalline Thrust Sheet

The Almora-Dudatoli thrust lies in the north of Krol thrust of Nainital. Pre-cambrian formations are represented by the great Almora-Dudatoli thrust zone. It separates the inner sedimentary zone of the Lower Himalayas, which is also called Deoban-Tejam zone. The formations of this zone are of late pre-cambrian and paleozoic era. It stretches from the Shimla area in the north-west to Kali valley in the south-east. The occurrence of older formations (Almora-Dudatoli thrust zone) over the younger one of pre-cambrian and paleozoic (Deoban-Tejam) is, however, a general phenomenon throughout the Himalayas.

The Almora-Dudatoli thrust sheet forms a huge crystalline mass metamorphosed and mostly reversed rocks with complex character. Some important rocks of Dudatoli region are phyllites, schists, flages, quartzites and gniesses. The lithology is much similar to metamorphosed Chandpur of middle Jaunsar.

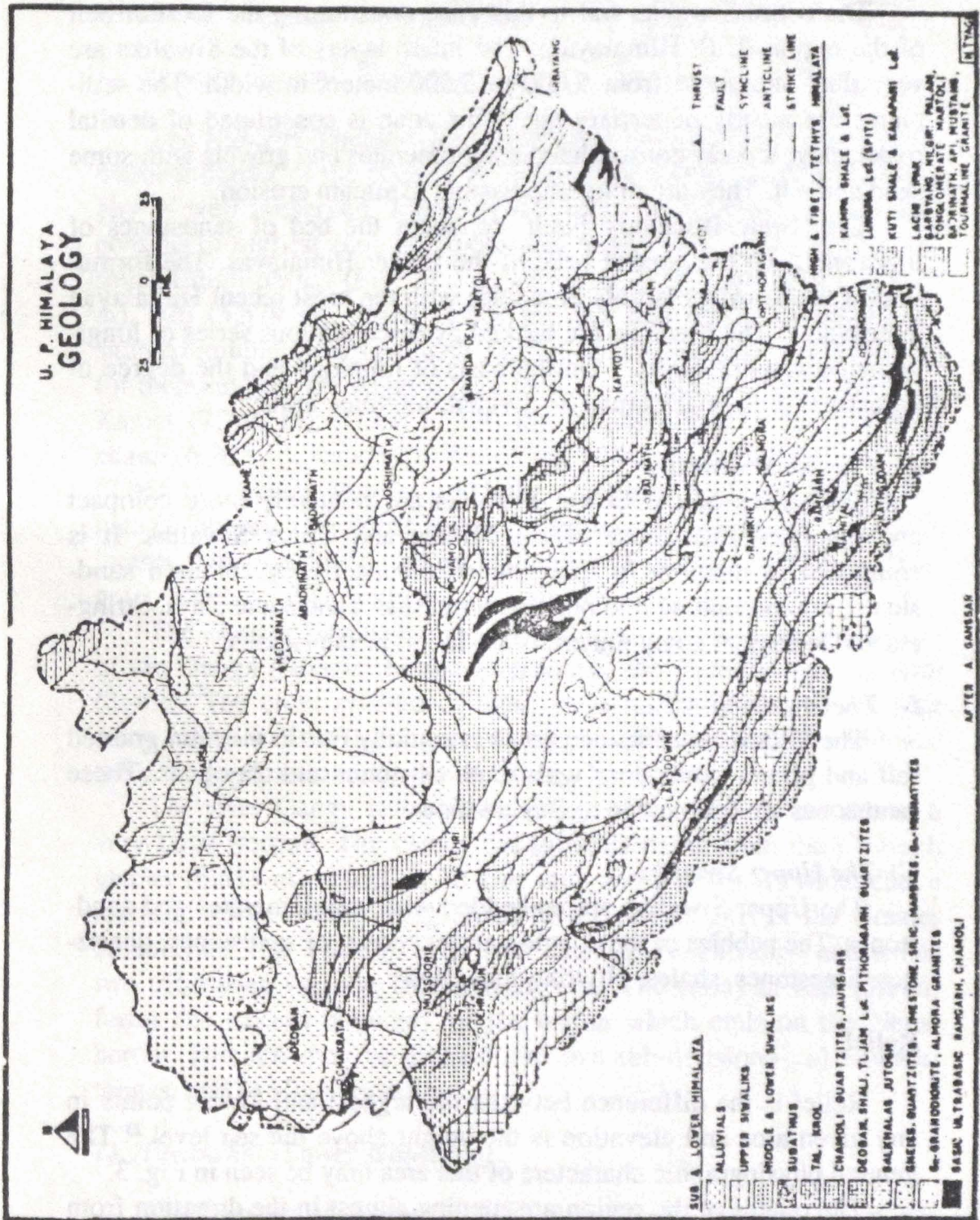


Fig. 2. Geology.

3) Outer and Sub-Himalayan Zone

The entire Siwaliks fall in this zone constituting the foothill belt of the region (U.P. Himalayas). The inlaid layers of the Siwaliks are very thick measured from 5,000 to 5,500 meters in width. The sediments are mostly of tertiary age. This zone is constituted of detrital rocks, clay, loosely consolidated conglomerates and gravels with some sand and silt. They are quite impressible to stream erosion.

The 'Great Boundary Fault' separates the bed of sandstones of this zone from the eocene beds of the Lower Himalayas. The formation of the Siwaliks largely coincides with the most recent Himalayan upheavals.²¹ The Siwaliks are backed by discontinuous series of longitudinal vales--the Duns.²² On the basis of lithology and the degree of induration the Siwaliks may be divided into three units:

A) The Lower Siwaliks

Sandstones of the Lower Siwaliks are relatively more compact and indurated than those of the Middle and Upper Siwaliks. It is composed of medium to fine grained compact grey coloured sandstones, interbedded with minor siltstones, shales and some clays. Stringers and lenses of coaly materials are found in sandstones.

B) The Middle Siwaliks

The Middle Siwaliks consist of essentially fine to medium grained salt and pepper sandstones with some siltstones and clay beds. These sandstones are friable due to cementation.

C) The Upper Siwaliks

The Upper Siwaliks are embedded with conglomerates and sandstones. The pebbles of the conglomerates consist of sandstones, quartzites, limestones, shales, phyllites and slates.

Relief

Relief is the difference between the highest and lowest points in any given area and elevation is the height above the sea level.²³ The general physiographic characters of this area may be seen in Fig. 3.

The ranges of the region are running almost in the direction from north-west to south-east. The lakes follow the general trend of the ranges and their situation form a characteristic feature in the area. The main rivers of the northern India, viz, the Ganga, the Yamuna and the Kali, rise from this region constituting three major river systems. The

slope is steeper towards the southern side and gentle towards the north. On the basis of physiographic attributes this region may be divided into three major relief zones:

1) Himadri (Greater Himalaya)

The Himadri (Greater Himalaya) ranges run nearly along the international border of the country in this region; where glaciated topography is well preserved. Lying in the width of 50 kms, the Himadri consists of highest zone approximately more than 4,000 metres where several high passes (Fig. 3), viz, Lipu-Lek (4,996 m), Darma (5,329 m), Niti (5,579 m), Mana (5,609 m) and Jelu Khaga (5,329 m) are situated joining the region with Tibet. Some Himalayan peaks, famous for their heights, are situated here (Fig. 3) viz, Nanda Devi (7,817 m), Kamet (7,756 m), Trisul (7,120 m), Chaukhamba (7,138 m), Panchauli (6,905 m), Nanda Kot (6,861 m), Nilkantha (6,597 m), Dunagiri (7,066 m), Bandar Punch (6,315 m), Gangotri (6,141 m) and Kedar-nath (6,940 m). The slopes and peaks are covered with several hundred metres thick ice-covers, where a number of glaciers as Milam, Gangotri, Pindari, Bhagirathi etc are found (Fig. 4).

The Greater Himalayan ranges are deeply cut into by headwaters of the Ganga (Bhagirathi and Alaknanda) the Yamuna and the Kali (Sarda). The cross profiles of these valleys show convex form with steep valley walls reflecting the rising phase of the Himalaya and also the younger characteristics of the rivers.²⁴

The river Ganga forms main valley of this region and drains a very large portion. The Ganga (Bhagirathi) rising from the Gomukh glacier (6,614 m), which is 30 kms long and 2 to 4 kms wide, cuts a fantastic gorge among the granites of the central axis of the Greater Himalayas. The Yamuna rises from Bandar Punch range and it has two tributaries, i.e., the Tons and the Giri. The valley of Kali (Sarda) forms the eastern boundary of the region which ends on the Nepal border. Himadri may be divided into two sub-divisions-- a) Himadri ranges, and b) Himadri valleys.

2) Himanchal (Lower Himalaya)

The Himanchal (Lower Himalaya) is situated between the ranges of Greater Himalayas in the north and the Siwaliks in the south. Lower Himalayan ridges have a general elevation of about 1,500 m to 2,700 m and the valley bottoms between 500 m to 1,500 m with a

width of 75 kms. The region is full of variety of landscapes developed in different parts.

The lacustrine basins and river-terraces are dominant feature of this region. The valleys of the river Ganga and its tributaries are in young stage of profile developments. They are immature, as they have been subject to rejuvenation again and again. The Main Boundary Thrust separates this region from Duns. The ridges of the region, with highly compressed and altered rocks are separated from each other by deep valleys.

There is a lake-basin near the outer range of the Lower Himalaya which makes a zone of approximately 25 kms in length and 4 kms in width. The lake region of Kumaon is dotted with big and beautiful lakes. The area around Nainital alone has ten lakes. Some important lakes of the region are Naini lake, Bhim Tal, Naukuchiya Tal, Sat Tal, Khurpa Tal, Sukha Tal, Sarai Tal etc.

The Sukha Tal, a lake with no water, is situated near Nainital while the Gohna lake is in the Garhwal Himalaya in the valley of a tributary of Alaknanda named Birahi Ganga. The Diuri Tal is another important lake lying 10 kms north-east of Ukhimath.

The origin of these lakes is still ambiguous and doubtful. Thomas²⁵ believes that the frequency of the lakes in this small region may be connected with the recent movement. The irregularly eroded surface of Siwaliks over which the Krol Nappe has moved must have contributed to the formation of the surface irregularities, consequent upon the breaking up of the thrust mass. Thus, the region has two subdivisions as: a) Himanchal ranges and hills, and b) Himanchal valleys and lake-basins.

3) *Siwaliks (Sub-Himalayan Tract)*

The term 'Siwaliks' is used for a range of narrow and low hills which lie almost parallel to major ranges of the Himalayas. It stretches in north-west to south-east direction and forms the outer range of the Himalayan system. The hills of Siwaliks are broken up and are separated from the Lower Himalayan spurs by a series of structural lowlands. The height of the Siwaliks varies roughly from about 550 m to 1,350 m.

Ranges of Siwaliks are intersected by numerous Siwalik rivers, such as Dabka, Baur, Nihal and Bhakra at several places. These rivers have carved out their deep valleys. These ranges are lithologically quite different from those of Lower Himalayan ranges. The southern

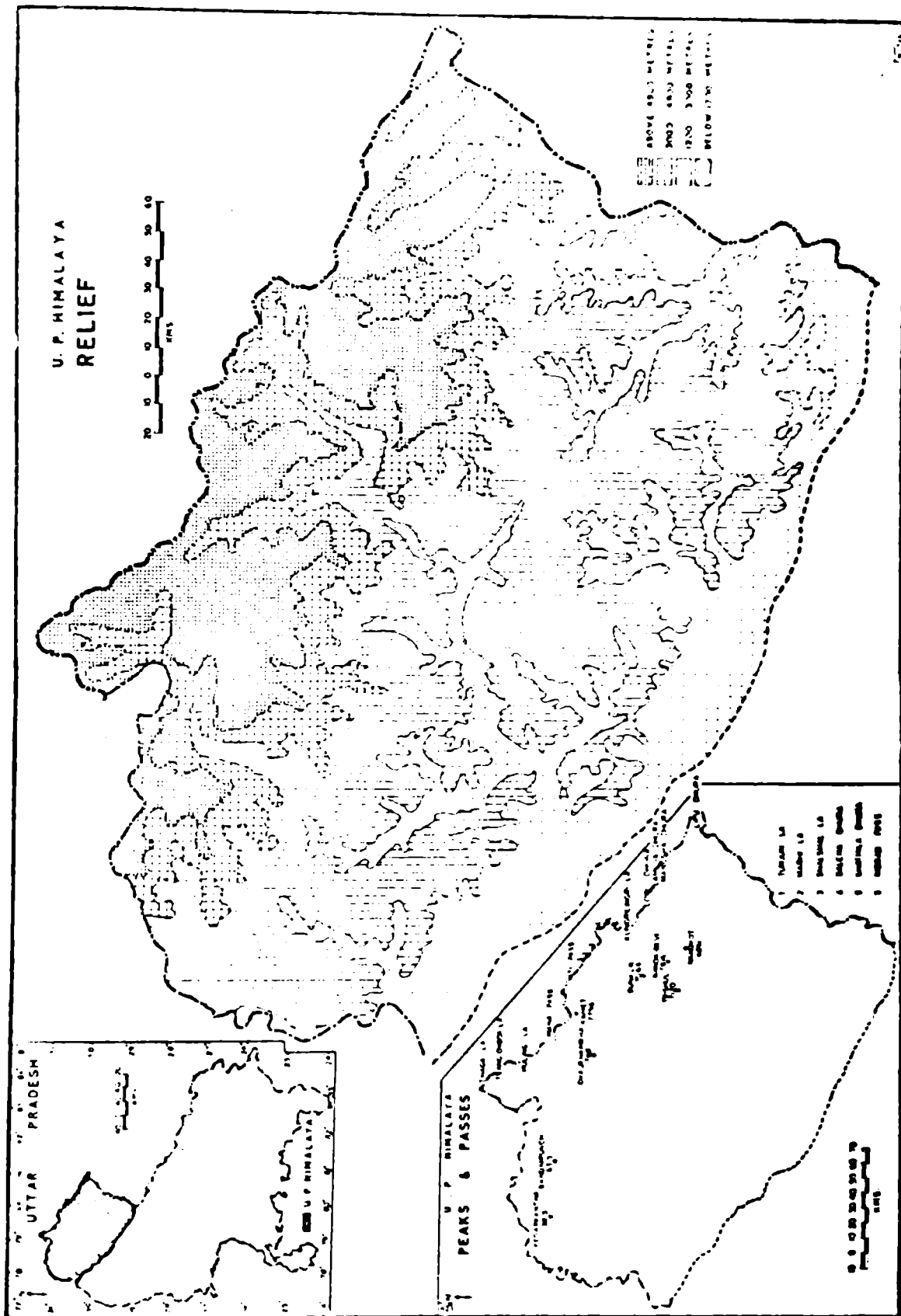


Fig. 3. Relief.

slopes have steep scarps and the northern slopes descend gently to the flat-floored structural valleys called Duns.

The sediments of Duns are brought recently from the upper ranges (Himanchal and Himadri) and filled up in this region, which is 350 m higher than the plain. Many Duns are found in the U.P. Himalayas, as Dehra Dun, Kothri Dun, Chaukhamba Dun, Patri Dun and Kota Dun. Siwaliks may be divided as: a) Duns and b) Siwalik ranges.

Drainage System

Important and famous rivers of northern India, the Ganga, the Yamuna and the Kali have their origin from the snowy peaks of the U.P. Himalayas. These rivers along their tributaries and rivulets, locally called Gad and Gadhera,²⁶ provide proper drainage to the region. The area is dotted with various sizes of several lakes (known as tals). The U.P. Himalaya comprise of four main river systems, i.e., 1) the Ganga system, 2) the Kali system, 3) the Yamuna system, and 4) the Ramganga system (Fig. 4).

1) The Ganga System

The parentage of Ganga system is related with the river Ganga, which is the most important river of this region and drains a very large portion of Garhwal region, except the western part of Uttarkashi district and eastern parts of Almora and Nainital districts. It rises in the ice-caves of Gomukh, in the snout of the Gangotri glacier and flows up to the confluence of river Alaknanda with the name of Bhagirathi. This system covers more than half of the area of this region in which the river Ganga flows 232.5 kms from its origin to the other end of this region.

Alaknanda is the main tributary of Bhagirathi, which rises from eastern slope of Chaukhamba peak (7,138 m). The Chaukhamba and its satellite peaks, permanently covered with snow, form the snow-parting between the Gangotri group of glaciers to the west and Bhagirathi group to the east. Important confluence points on the river Alaknanda are known as Prayagas, viz Deoprayag, Vishnuprayag, Nandaprayag, Karnprayag, and Rudraprayag. The river Alaknanda flows 147.5 kms from its origin to its confluence point.

The Bhagirathi and the Alaknanda rivers flow longitudinally in opposite directions and afterwards meet at Deoprayag, presenting a garland shape. The Bhagirathi and the Jahnvi (a tributary of Alaknanda)

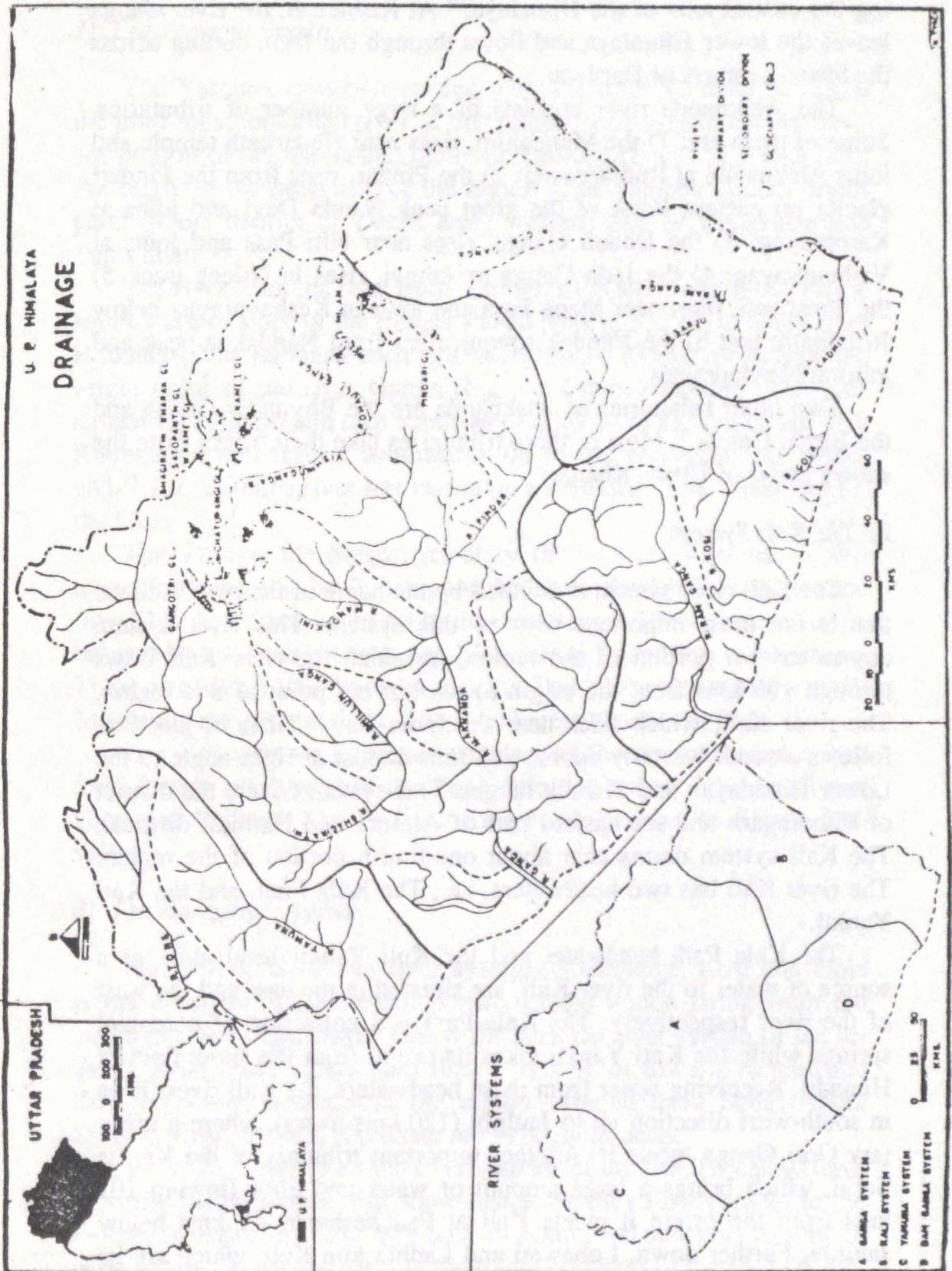


Fig. 4. Drainage.

have cut awe-inspiring gorges through tourmaline granites constituting the central axis of the Himalaya.²⁷ At Rishikesh, the river Ganga leaves the lower Himalaya and flows through the Dun, cutting across the Siwalik ranges of Hardwar.

The Alaknanda river consists of a large number of tributaries. Some of them are: 1) the Mandakini, rises near Kedarnath temple and joins Alaknanda at Rudraprayag; 2) the Pindar, rises from the Pindari glacier on eastern flank of the great peak Nanda Devi and joins at Karnprayag; 3) the Dhaul Ganga, rises near Niti Pass and joins at Vishnuprayag; 4) the Jadh Ganga or Jahnvi, rises in Nilang tract, 5) the Saraswati, rises near Mana Pass and joins at Keshavprayag below Joshimath; and 6) the Nandak stream, rises from Nandakna peak and joins at Nandaprayag.

Two other tributaries of Alaknanda are the Bhyundar Ganga and the Birahi Ganga.²⁸ Most of these tributaries take their origin from the snowy peaks of Uttara Khand.

2) *The Kali System*

The Kali river system is denoted by the name of the river Kali, as this is the most important river of this system. This river system covers eastern portion of the region, in which the river Kali flows through 195 kms from the origin to the leaving point of this region. The river Kali, which rises near the India-Nepal-Tibet tri-junction, follows a south-westerly course and runs almost at right angle to the Lower Himalayan and Siwalik ranges. This system covers the district of Pithoragarh and the eastern part of Almora and Nainital districts. The Kali system drains near about one-fourth portion of the region. The river Kali has two headwaters, i.e., The Kala Pani, and the Kuti Yankti.

The Kala Pani headwater and the Kuti Yankti headwater, as a source of water to the river Kali, are situated in the east and the west of the river respectively. The Kala Pani is a collection of perennial springs while the Kuti Yankti takes its origin from the snow field of Himadri. Receiving water from these headwaters, the Kali river flows in south-west direction up to Jauljibi (120 kms away), where a tributary Gori Ganga meets it. Another important tributary of the Kali is Sarju, which brings a large amount of water and after flowing 105 kms from the origin it meets Kali at Pancheshwar, 45 kms below Jauljibi. Further down, Lohawati and Ladhia join Kali, which are its two important tributaries. At Barmdeo, Kali enters into the great Gangetic

plain called as Sharda.

3) The Yamuna System

The Yamuna system is related with the river Yamuna, which is the third most important river of this region. This system covers western portion of the region and the river Yamuna flows 112.5 kms from the origin to the other end of the region. The Yamuna system drains parts of the district of Dehra Dun, western part of Uttarkashi and Tehri districts.

The river Yamuna rises from Yamunotri glacier, which lies on the south-western slope of the Bandar Punch peak (6,351 m) in the Greater Himalaya. The Bandar Punch is located hardly 70 kms away from the origin point of the river Ganga (Fig. 4). From Yamunotri the main stream flows south and then south-westwards up to its confluence with Rikhnargad and further southwards up to the confluence of Badrigad.²⁹ The Yamuna river has two main tributaries 1) the Tons and (2) the Giri.

The Tons is the biggest tributary of the river Yamuna. It also arises from the Bandar Punch peak but from the northern slope, and flows 130 kms from its origin to the confluence. The volume of water brought by this river becomes nearly double to that of the river Yamuna. These two rivers (the Yamuna and the Tons) flow separately cutting Mussoorie ranges into deep valleys and meet together at Kalsi.

The Giri, another important tributary of the river Yamuna comes from further north-west of the Tons, bringing waters from south-east Himachal Pradesh. The Giri joins the river Yamuna in Kiarda Dun valley.

4) The Ramganga System

Apart from the above river systems, Ramganga, Kosi and Gola rivers drain the south-eastern portion of the region rising from the peaks of Lower Himalaya. This is the smallest river system of the region. Some small rivers gain their origin from Siwalik ranges and flow for some distances in the region. Among them Song, Khoh, Dabka, Nihal, Bhakra, Nandhaur are to be mentioned.

Thus, the rivers of all the river systems of the U.P. Himalaya have a peculiar flow pattern. For some distances, they flow parallel to the mountain ranges but later they take an acute bend suddenly to flow in deep transverse gorges, carving them into hundreds of metres in depth.

The rivers of the region carve deep valleys--narrow and broad. The common drainage pattern carved-out by the rivers of the region is dendritic pattern. Radial drainage patterns are also developed around the hills and peaks.

In the first 10 to 20 kms rivers in their longitudinal profiles, usually make a steep descent. Further below their gradient lacks in steepness. Among Mandakini, Alaknanda, Bhagirathi, Gori Ganga, Sarju, and Kali, only two rivers, i.e., the Mandakini and the Gori Ganga have steep gradient in their upper courses.

Glaciation

The present Himalayan landforms have been shaped by pleistocene giant glaciers. Several ice sculptures of past glaciers are clearly traceable among the landforms of the Himalayas. Present glaciers are relic of past glaciers. Some glaciers as Milam, Alaknanda, and Bhagirathi (Fig. 4) are 5 to 15 kms in length. The glaciers of large valleys are flowing on the morains embedded by the past glaciers. They are weak as they are quite unable to carry morains any further.

A general look of glacial topography can be had in all Himalayan valleys between 2,000 and 3,000 metres, where they are not destroyed by fluvial actions. The well preserved glacial topography can be seen in complete form above 3,000 m. A number of big U-shaped valleys exist near the snouts of glaciers and for a few kilometres downward horn peaks are built by the excessive frost shattering. The Shivling and the Neelkantha peaks are carved out by such actions and are full of well-preserved natural scenery. They are examples of awe-inspiring horned peaks surpassing Matterhorn in grandeur.³⁰

The plugging of valleys by morains has created a number of glacial lakes in this region, such as Hemkund in Bhyundhar valley, Rup Kund on the outer slope of Nanda Ghunti, Vasuki Tal and Chorabani Tal above Kedarnath and Satopanth Tal below Chaukhamba etc.

The length and width of Gangotri glacier is 30 kms and 2 kms respectively. It starts from the western slopes of the Chaukhamba peak. This glacier is fed by a number of tributary glaciers. The names of these glacier tributaries have been derived from colour of rocks through which they flow as Rakta Varn^a, Swet Vern^b, Nilambar^c, Pila Pani^d and Chaturangi^e. These are the logical and meaningful names derived from Sanskrit literature.

^a Red colour; ^b White colour; ^c Skyblue colour; ^d Yellow water;

^e Combination of four colours.

There are broad glacial terraces at Tapovan and Nandanvan, which are 5 and 7 kms upstream respectively from Gomukh. At the height of 200 m from the glaciers, old lateral morains are usually found in abundance from where huge boulders and pebbles casually roll down.

The water of Bhagirathi pours out through an ice cave, which changes its position frequently. Melted snow water percolates through the crevasses and forms an undercurrent below the glacier.³¹ A series of recessional morains are found for a few kilometres below the snout. Between Gangotri and Bhojwara there is a tall pillar of 50 m of boulder clay topped with huge boulders.

The valley of Bhagirathi is wide and U-shaped from Gomukh to Gangotri. Other important glaciers of this region are Milam, Poting, Shankalpa, Sona, Raulphee, Gunna and Baling, located in the northern part of Pithoragarh district.

Lacustral Basins and River Terraces

Due to upheaval of middle Himalayan ranges the bottom of existing lakes has been converted into flat basins. In due course of time, rivers cut through the obstructions to drain-out these lakes. Such basins can be seen at several places in this region, Kamola valley (a tributary of Yamuna), around Baijnath in the Garur valley (north of Kausani in Almora) and around basin of Bhim Tal and Naukuchiya Tal in Nainital district. A pair of such basins occur in the Bhagirathi valley at Dharali and Jhala.³²

Although main tributaries of the river Ganga, i.e. Bhagirathi, Jadh Ganga, Saraswati, Alaknanda and Dhawali are antecedent rivers, they are immature as they have been subject to rejuvenation due to subsequent upheavals. Salient features of rejuvenation topography are given in sequel by Heim and Ganssar.³³ Chhiber³⁴ has also noted the intermittent uplift of the Himalayas. Rejuvenation is the cause of steep transverse V-shaped valleys, river terraces, incised meanders and knick-points in the waterfalls.

Between 1,000 m and 2,000 m river terraces are well developed. The valleys are open. Kaushik³⁵ has observed very typical examples of rejuvenated river terraces in Bhagirathi valley. At more than a dozen places, between Male Deval (Tehri) and Gangotri, the valley has got a series of stream-terraces rising like gigantic plights of stairs above the present bed, e.g., Jhala, Uttarkashi, Matli, Kumatly, Bhat-

wari, Bhon-gad, Dharasu, Nagun and Chham. The prime river terraces of Alaknanda valley are Pundkeshwar, Joshimath, Siyasen, Pipal Koti, Gaulab Koti, Kamprayag, Nandprayag and Gochar, and in Yamuna valley Kharsali, Bagasu, Tirkhli and Phuldhar etc. Beautiful incised meanders occur in Bachelikhal and Bhaladiana.

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Chapter 2

Climate and Vegetational Characteristics

CLIMATE

The climate of an area is an abstract concept described often by averaging statistics collected over a period of years. According to 'A Dictionary of Geography', climate is an average weather conditions of a place or region throughout the seasons.¹ Weather is the day-by-day or hour-by-hour variations in temperature, wind, pressure and precipitation, while climate refers to aggregate conditions usually described in terms of monthly means of temperatures and precipitation.² It is governed by latitude, position relative to continents and ocean and local geographical conditions, i.e., altitude, proximity and direction of mountains, texture of soils etc.

Among various elements of nature, climate has the most important position due to its sublime character which persistently affects physical as well as biological world considerably. It determines the nature and degree of landuse of a particular region and provides a picturesque landscape, either in the lap of nature or allowing the occupants for the modification or transformation in the region. As the study area is a part of Himalayan mountains, it ascertains the mountain climate. The climate of this region is chiefly determined by relief and altitude rather than by latitude and situation with respect to the sea. A decrease in atmospheric pressure, temperature and humidity and increase in intensity of isolation and radiation, and up to a certain height a greater rainfall are the usual characteristics of this area. To some extent various climatic zones of the area correspond to those which extend from the torrid to arctic.

To understand the detailed characteristics of climate in such a hilly area, it is necessary to record the climatic phenomenon at different altitudes, as well as at fairly close spacings. But, a weak network of meteorological stations in the area created some difficulties. However, the study area enjoys sub-tropical, temperate to very cold types of climate due to surface elevation, which rises from 1,200 metres to 7,800 metres. Generally, valleys receive excessive heat, whereas higher ranges and mountain possess eternal frost. Numerous readings made of upper air temperatures, as well as those made on higher mountains show an average decrease of 1°C for every 162 metres increase in elevation. But, on mountain slopes the temperature falls less rapidly than in the free air over the plains, as for the first 9,000 to 10,000 feet of ascent, the air is heated by the contact with the mountain sides.

Applying the principle of lapse rate, the whole U.P. Himalaya may be categorised into various climatic regions. The low valley bottoms below 600 metres consist of a hot and moist tropical climate, whereas portion up to 2,000 metres attain cool temperate climate, higher up to 3,000 metres there is cold temperate climate and further up cold increases and ultimately transforms into snowline, which mainly depends upon altitude. In that region the climate changes from arctic to polar as the altitude rises.

In U.P. Himalaya, the lower slopes behind higher ridges fall under the rainshadow area. The southern-facing slopes are more sunny and receive more rains. Southern ranges of U.P. Himalaya get more rains and snowfall while northern part is comparatively desiccated. Paradoxically, therefore, the lower ranges have lower snowline and higher ranges in the north have higher snowline.³ Also on each individual range of the region the snowline is higher towards the southern faces, because of the more sun shining there.

The variation in exposure to sunlight and to rain-bearing winds also affects the climatic pattern of the area. The windward sides get cooler, cloudier and wetter climate, whereas the leeward sides have warm and dry climate. Thus, the amount of rainfall varies in considerable amount within a short distance.

The region of U.P. Himalaya has only five meteorological observatories, i.e. Nainital, Mukteshwar, Mussoorie, Joshimath, and Uttarkashi. Therefore, the climatic description is based on the records of observatory stations, which are the representative of the surrounding region having somehow similar climatic characteristics.

The general sequence of the seasons in U.P. Himalaya is more or less the same as that of northern plains of India, i.e., 1) cold weather season (December-March), 2) hot weather season (April-May), 3) rainy season (June-September), and 4) the season of retreating monsoon (October-November) as recognised by the Meteorological Department of India.⁴

The climatic features of the U.P. Himalaya may be rationally highlighted by elaborating and discussing the following climatic elements individually.

Temperature

In U.P. Himalaya, every elevation has its own typical mean annual temperature and distinctive form of variation in temperature during the year. The change of temperature with latitude in the Himalaya is small and to some extent marked by the contrast between the sunny valleys of the interior and the cool and cloudy outer ranges, but nevertheless it exists. There is also a certain variation of the mean temperature with the longitude, places situated towards the east of the chain being cooler than those towards the west on account of cloudiness of summer months. In order to determine the true variation of temperature with height, it is necessary to make allowance for these variations in latitude and longitude.⁵ The mean monthly temperature of the stations of U.P. Himalaya is given in Appendix Table 1.

Appendix Table 1 reveals that the mean annual temperature decreases regularly as height increases. Uttarkashi, situated at the lowest height (1,153 metres) has highest temperature throughout the year. The months of June and January, having highest and lowest temperatures respectively, may be characterised as hottest and coldest months of the region.

In the comparison of places which are nearly of equal heights and situated not very far apart, it is obvious that places lying behind the outermost high ridges (Ranikhet and Almora) belong to higher temperatures and higher rainfall. Longitude also affects in the variation of the mean temperature of the place. Places, situated in the east of the mountain ranges are more cooler than the places situated in the western side due to cloudiness in summer months.

Average maximum and minimum temperature with relative humidity and rainfall have been shown in Fig. 5. Figure 5 expresses the relative temperature and rainfall of Joshimath, Mukteshwar and Mussoorie. It is palpable from the map that Joshimath has less variation in

the amount of rainfall received in all the months of the year. Other stations have similar variation in rainfall throughout the year but, showing marked differences in various months. Nainital receives much amount of rain in August and September; Uttarkashi in the months of July, August and September; Mukteshwar in June, July, August and September and Mussoorie in August and September. There is also a striking fact that the amount of rainfall increases as well as decreases abruptly and sharply. At all the stations, the line of relative humidity shows a decrease from January to April or May, then after an increase up to August or September. Later on, it shows a declining trend. Lines showing the maximum and minimum temperatures at all the stations present nearly similar trend throughout the year. The maximum temperature has been recorded in Uttarkashi (35°C) while lowest in Mukteshwar (0.29°C).

Relative Humidity and Cloudiness

Relative humidity denotes the ratio between absolute humidity and capacity at a specific temperature and is expressed in terms of percentage. The absolute humidity refers to the amount of water in a given volume of air whereas the capacity means the capacity of the air to hold water. The amount of water vapour present in the air at any time is the most important meteorological condition which depends on temperature, the distance from the ocean or the evaporating surface and the direction of winds. Humidity in general, remains greater in the hill areas as compared to the plains.

The factor enriching the moisture content in the hills are forest-clad slopes, valleys, lakes and other water-logged surfaces. Nainital, independently in the influence of the lake, has much moisture in the air than Ranikhet or notoriously dry and bare station of Almora.⁶ The steep and high ridges along which the prevailing winds deflect upwards, receive higher humidity and thereby they are cooled and partially condensed of their vapour particles. Thus the saturation of vapour pressure is greater on the high ridges as compared to the lower ridges falling on the opposite side. Further, after rising through a high ridge or slope, when the wind sinks down the opposite slope of the ridge, it is warmed and the capacity to absorb moisture content from forests and green covers is rather increased and in turn the valleys too, become more humid.

The humidity in the air remains high in the months from July to September in rainy season, which goes up to 94 per cent at Muktesh-

war, highest in the region (Fig. 5), while the months of April and December receive lowest humidity, i.e, 28 and 27 per cent respectively.

No direct observation has been made to determine the height of clouds in U.P. Himalayan region. The ordinary clouds of the rainy season that look like broken cumulus are often not more than 1,532 or 1,830 metres above the mean sea level. Hill resorts like Nainital and Mussoorie are frequently enveloped in them for many days. They sometimes even extend down to the level of the plains; the whole mass of mountains up to snows is then shrouded in fog. The upper limit of the clouds is probably unrecorded in this region.

Rainfall and Snowfall

Rainfall in the region has larger variations mainly due to its orography. A perusal of rainfall distribution (Fig. 6) very clearly exhibits that northern-central part receives rain from 140 to 180 cms, whereas eastern and southern parts up to 200 to 220 cms. Northern and southern portions of U.P. Himalaya may be distinguished separately as lower and higher rainfall areas depending on the amount of rainfall received.

Physiography shows a definite control over the distribution of rainfall. The quantity of rains in hilly areas also depends on the situation of places to the windward and leeward sides of high ridges and peaks (Table 2.1). The direction of the monsoon makes the eastern part of the region more rainy.

The zone of maximum precipitation both in summer and winter lies between 1,200-2,100 metres.⁷ There are marked differences in the amount of rainfall due to the locations of leeward and windward sides. It is on account of these two reasons that Niti, located beyond the snow-clad peaks, gets only 14 cms of rainfall during the summer period.⁸

The rainy season always comes sooner on the hills than on plains. The saturated winds reach first at these hills and then downward direction to the plains. Monsoon comes in the end of June and ends by the middle of September.

The annual rainfall of Nainital is 270 cms, Ranikhet 102 cms, Almora 104 cms, Chakrata 178 cms and Mussoorie 240 cms. Nearly 80 per cent of the annual total of rainfall is received during the monsoon months, i.e., June to September. July, August and September are the rainiest months of the year. The rainfall gradually increases from

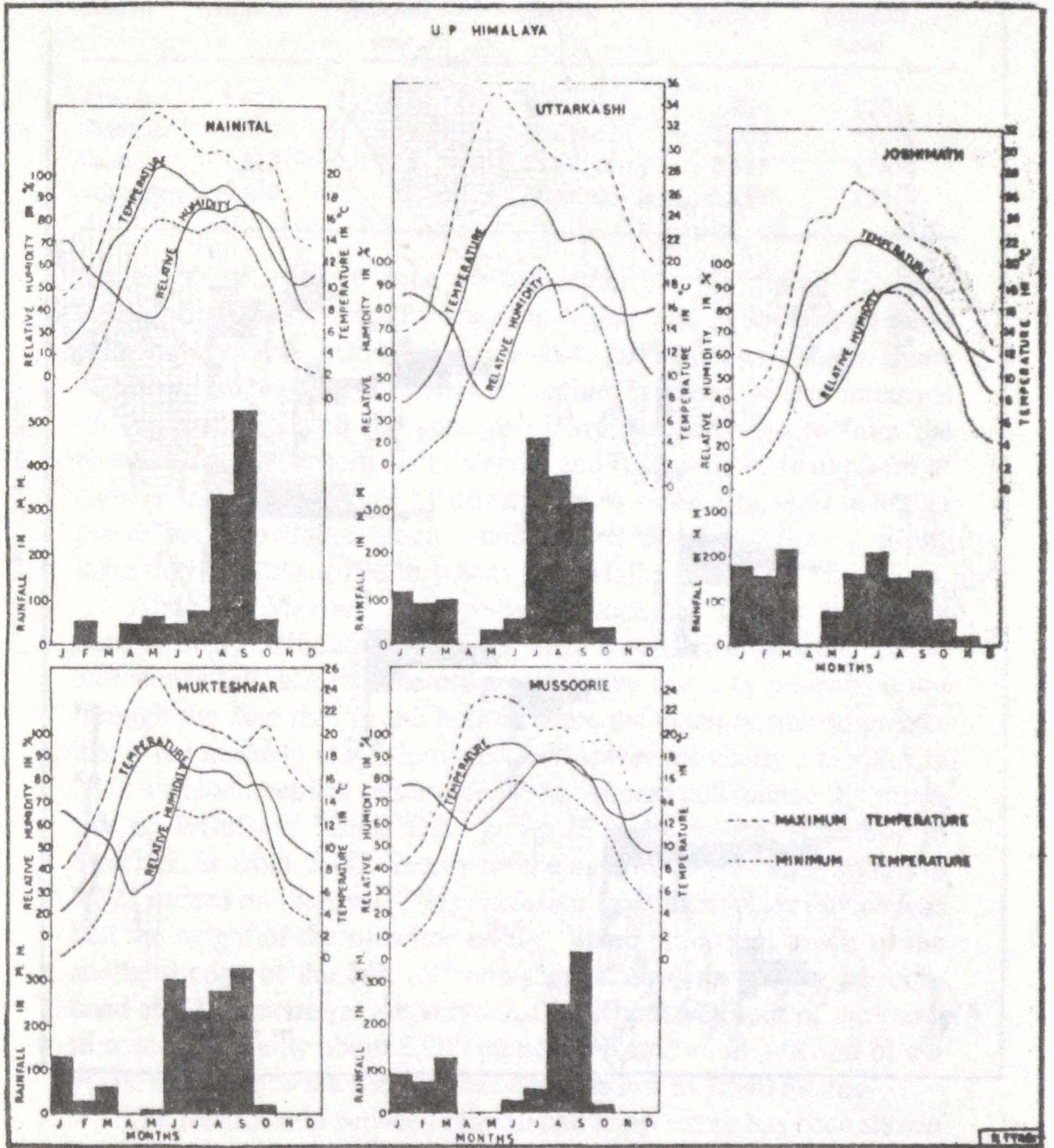


Fig. 5. Temperature, relative humidity and rainfall.

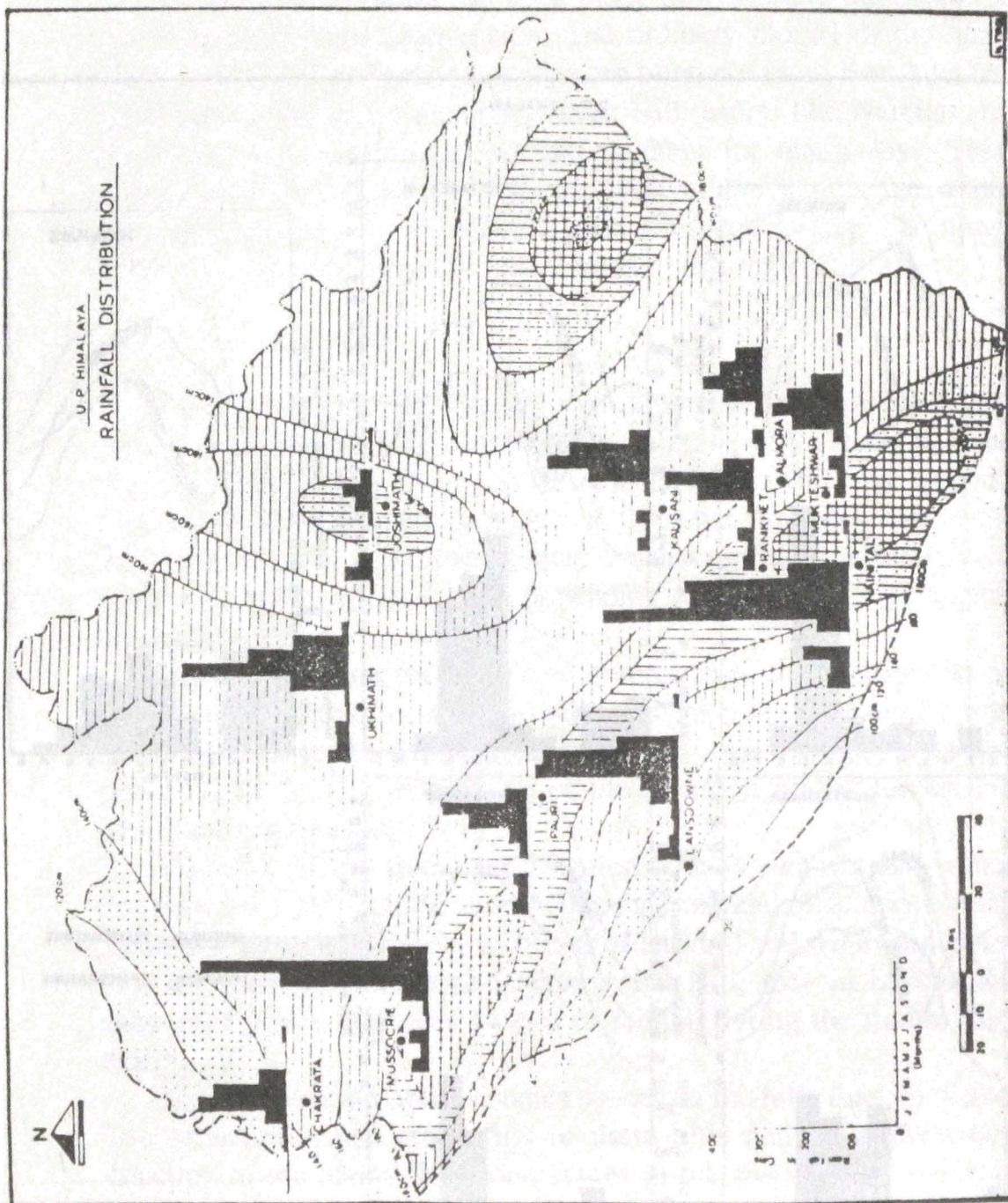


Fig. 6. Rainfall distribution.

Table 2.1. Rainfall relationship between hill slopes and direction of winds

<i>Station of leeward side</i>			<i>Station of windward side</i>		
<i>Station</i>	<i>Altitude</i>	<i>Rainfall cms</i>	<i>Station</i>	<i>Altitude</i>	<i>Rainfall cms</i>
Almora	1,676	104	Nainital	1,934	270
Ranikhet	1,829	102	Mussoorie	2,005	240
Pauri	1,814	125	Chakrata	2,135	178
Srinagar	550	93	Mukteshwar	2,286	175

the month of April to June and thereafter sharply during July and August. It decreases rapidly after the withdrawal of south-west monsoon in September. During monsoon under favourable conditions, spurts of heavy rain may occur in hills. Precipitation during winter months is often associated with the passage of low pressure system from the west (known as western disturbances) and is sometimes in the form of snowfall. This is followed by drizzling in low altitudes, sleet in higher places and snowfall in higher altitudes. If the depression is strong there may be a chance of very heavy snowfall.

April and May are the months in which hail is most frequently noticed in U.P. Himalaya. In 1878, there was a storm in which larger hail stones fell, some of them were so heavy that they punched holes through the zinc roof of the houses while the quantity was so greater that it lay in shady places, covered with leaves for nearly a month.⁹ In 1848 a trigonometrical observation from Almora determined the snow-line of Trisul and Nanda Devi group of peaks, which, according to Strachey, is from 5,182 metres on the eastern face of each group to 4,725 metres on the west. The conclusion from these observations was that the height of the snowline on the "more prominent points of the southern edge of the belt (of snowy mountains) may fairly be reckoned at 4,885 metres at the very least".¹⁰ The lower limit of the snow in winter is usually about 2,000 metres in Kumaon. In a period of ten years, atleast once the snow comes down as low as 1,540 metres.

The relationship between rainfall and temperature has been shown in Fig. 7 which shows that highest rainfall occurs in the month of July at Mussoorie, while the temperature is in Mukteshwar in the month of May. In Joshimath the month of July receives high temperature and greater quantity of rainfall, i.e., 25°C and 206 cms respectively. Muktesh-

war (4.7°C) and Mussoorie (4.2°C) may be placed as the coldest place in the month of January and Joshimath (4.85°C) as less cold. Mussoorie receiving 240 cms of rainfall is the second extreme rainy place after Nainital with 275 cms of rainfall.

Atmospheric Pressure and Winds

Due to paucity of data, it is not possible to give the detailed characteristics of the pressure and winds, yet a general idea may be formed by the following text.

There can be little doubt that both the daily and yearly inequality of pressure grows less as we ascend; and the annual variation at least becomes quite altered in character at a moderate elevation, but since the barometric variations depend upon the range of temperature which is possibly very high at higher altitudes, while at a height of 1,820 or 2,135 metres it is less than on the plains. The decrease of pressure variation with height is not strictly proportional to that of the total pressure.¹¹ Table 2.2 gives the mean monthly pressure of some resorts and Table 2.3 gives the average daily range of atmospheric pressure between 9.30 or 10.00 a.m. and 3.30 or 4.00 p.m.

Among the diurnal variations of the pressure in the hills, two distinct types of barometric tides are observed, i.e., characteristics of valleys and plains near the foothills and the other of high ridges. It is also a noticeable observation that on the U.P. Himalayan slopes winds blow upward the valleys during the day and downwards during the night.

The reason for the diurnal variation in the pressure is the formation of different pressure gradients of the night and day between the plains and hills. In day time the thickness of the air mass is greater as compared to the plains, and the same is subjected to a greater isolation, causing an expansion of the air greater than on the hills. This in turn brings higher barometric pressure over the plains and lower on the hills and making the flow of winds towards the hills in the day time. The same system is reversed in the night. During the night, the barometric surface sinks more above the plains than in the hills and thus the slope of wind movement is reversed, i.e., towards the plains from the hills. The data of mean monthly wind velocity are shown in Table 2.4.

The mean monthly wind velocity recorded by the meteorological stations of U.P. Himalaya (Table 2.4) during the year 1978 shows that

Table 2.2. Monthly and annual mean atmospheric pressure at some resorts

<i>Places</i>	<i>Jan.</i>	<i>Feb.</i>	<i>Mar.</i>	<i>Apr.</i>	<i>May</i>	<i>Jun.</i>	<i>Jul.</i>	<i>Aug.</i>	<i>Sep.</i>	<i>Oct.</i>	<i>Nov.</i>	<i>Dec.</i>	<i>Annual</i>
Almora	24.70	24.62	24.66	24.58	24.54	24.42	24.43	24.46	24.57	24.71	24.77	24.73	24.60
Mussoorie 1	24.28	24.28	24.30	24.25	24.21	24.12	24.10	24.14	24.21	24.29	24.32	24.32	24.23
Ranikhet	24.09	24.07	24.07	24.06	24.01	23.93	23.92	23.95	24.02	24.10	24.15	24.13	24.04
Nainital	23.86	23.83	23.85	23.83	23.76	23.68	23.69	23.71	23.75	23.87	23.90	23.89	23.80
Mussoorie 2	--	--	--	--	23.33	23.26	23.24	23.29	23.35	23.43	23.49	23.42	--
Chakrata	23.25	23.22	23.24	23.23	23.19	23.13	23.19	23.15	23.22	23.29	23.30	23.28	23.22

Source: Atkinson, E.T., Himalayan Gazetteer, vol. I, part I, p. 223.

Table 2.3. Mean monthly range of pressure at some resorts

<i>Places</i>	<i>Jan.</i>	<i>Feb.</i>	<i>Mar.</i>	<i>Apr.</i>	<i>May</i>	<i>Jun.</i>	<i>Jul.</i>	<i>Aug.</i>	<i>Sept.</i>	<i>Oct.</i>	<i>Nov.</i>	<i>Dec.</i>
Almora	0.090	0.090	0.090	0.090	0.080	0.090	0.080	0.080	0.090	0.100	0.090	0.100
Mussoorie 1	0.047	0.050	0.041	0.038	0.052	0.063	0.045	0.057	0.060	0.047	0.042	0.073
Ranikhet	0.068	0.064	0.056	0.060	0.056	0.052	0.052	0.055	0.058	0.062	0.065	0.060
Nainital	0.066	0.063	0.056	0.053	0.054	0.045	0.042	0.049	0.058	0.060	0.057	0.058
Mussoorie 2	--	--	--	--	0.034	0.037	0.040	0.044	0.053	0.054	0.046	0.049
Chakrata	0.051	0.050	0.050	0.048	0.040	0.039	0.051	0.047	0.051	0.056	0.053	0.050

Source: Atkinson, E.T., Himalayan Gazetteer, vol. I, part I, p. 224.

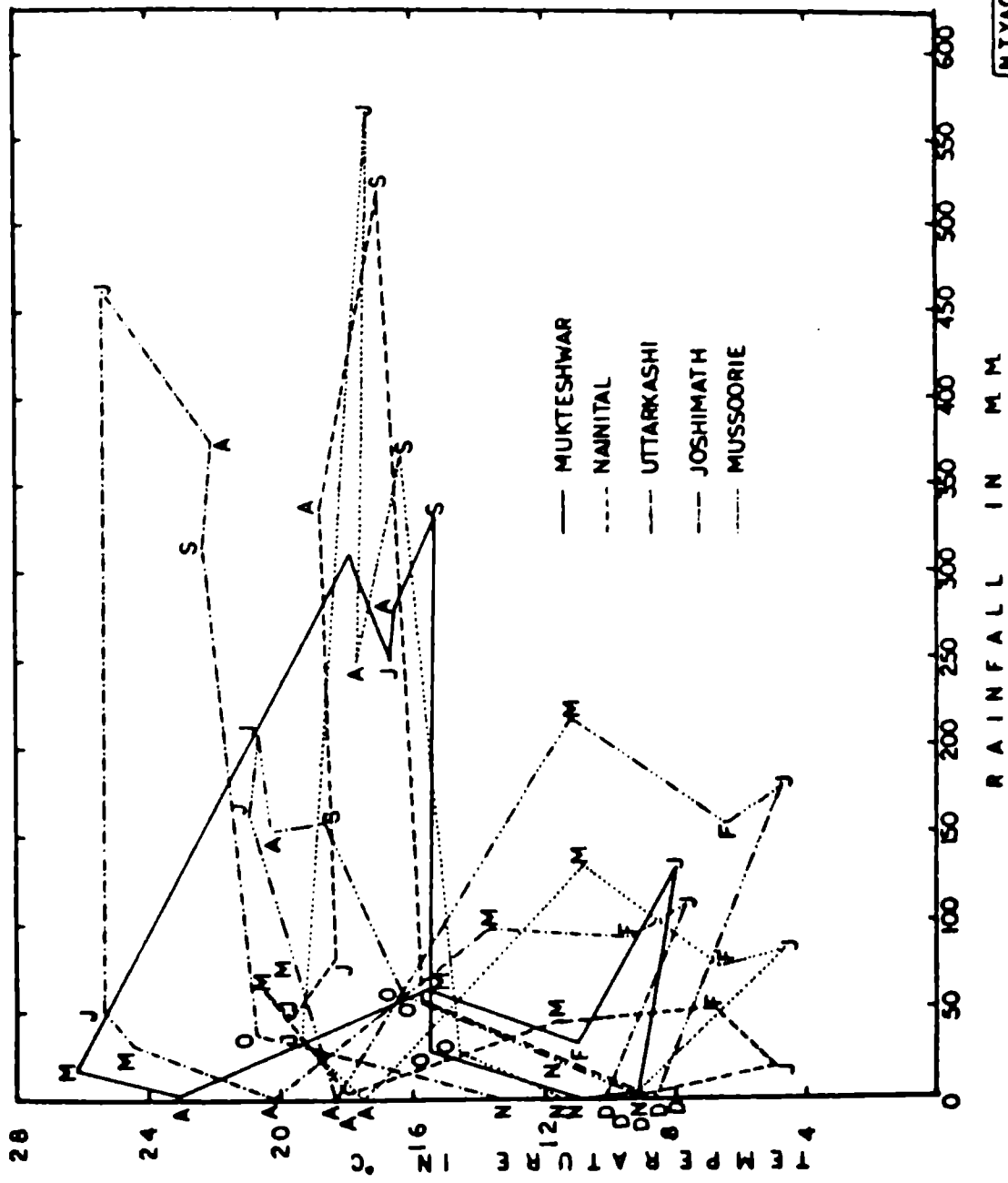


Fig. 7. Relationship between rainfall and temperature.

the wind velocity has been highest in Mukteshwar throughout the year. In the month of July the wind velocity is higher in Nainital after Mukteshwar. During the months of April, May and June the afternoon winds of the mountains blow with greatest violence because in these months the range of temperature both on the plains and among the mountains remains high.

The direction of winds in general is from south-west during the day and from north-east during the night, which is the right-angle direction of general Himalayan trend. The above said course of wind is, however, forced to follow the courses of deep valleys, through which they pass, thereby causing the endless local variation in the wind direction. Strong winds may be experienced during the night due to local effects produced by the climate of the terrain.

Special Weather Phenomena

Thunder storms occur throughout the year, frequency being least in November and December. The period from May to September, receive greater frequency of thunder storms. Thunder storms during winter and pre-monsoon months are sometimes accompanied by hail. Fog is the common phenomenon during the monsoon months in the hills. Fog also occurs in association with western disturbances. During winter season valleys experience morning fog frequently.

Climate and Human Comfort

Griffith Taylor had developed climograph in the second decade of the present century and adopted it to show the influence of climatic conditions on human activity. It is prepared for the people of temperate climate, for measurement of tropical region, suitable for them, Taylor had also made a tentative scale for the measurement of comfortable or uncomfortable climate for European people.

Climographs for different resorts have been prepared in Fig. 8. The generalised climographs of U.P. Himalaya show that only Uttarakashi and Joshimath go up to the scale of usually uncomfortable and often uncomfortable, but the British hill resorts (Mussoorie, Nainital and Mukteshwar) fall in the scale of sometimes uncomfortable.

Figure 8 also shows that in Mukteshwar the months of January, February, November and December are in the scale of rarely uncomfortable, while April and May fall in the scale of ideal climate. July

Table 2.4. Mean monthly wind velocity in kms (1978)

<i>Resorts</i>	<i>Months</i>											
	<i>J</i>	<i>F</i>	<i>M</i>	<i>A</i>	<i>M</i>	<i>J</i>	<i>J</i>	<i>A</i>	<i>S</i>	<i>O</i>	<i>N</i>	<i>D</i>
Mukteshwar	6.2	6.2	4.8	6.5	4.5	6.5	4.7	5.4	5.1	NA	NA	NA
Mussoorie	3.5	2.7	2.5	0.4	NA	0.6	0.6	0.5	0.4	0.8	0.8	2.5
Nainital	4.0	2.4	2.6	2.4	3.4	3.4	5.3	4.0	3.8	3.1	2.0	NA
Joshimath	2.4	7.5	8.0	5.2	3.0	1.6	1.1	0.5	0.2	NA	1.4	2.2

Source: Meteorological Department, Lucknow.

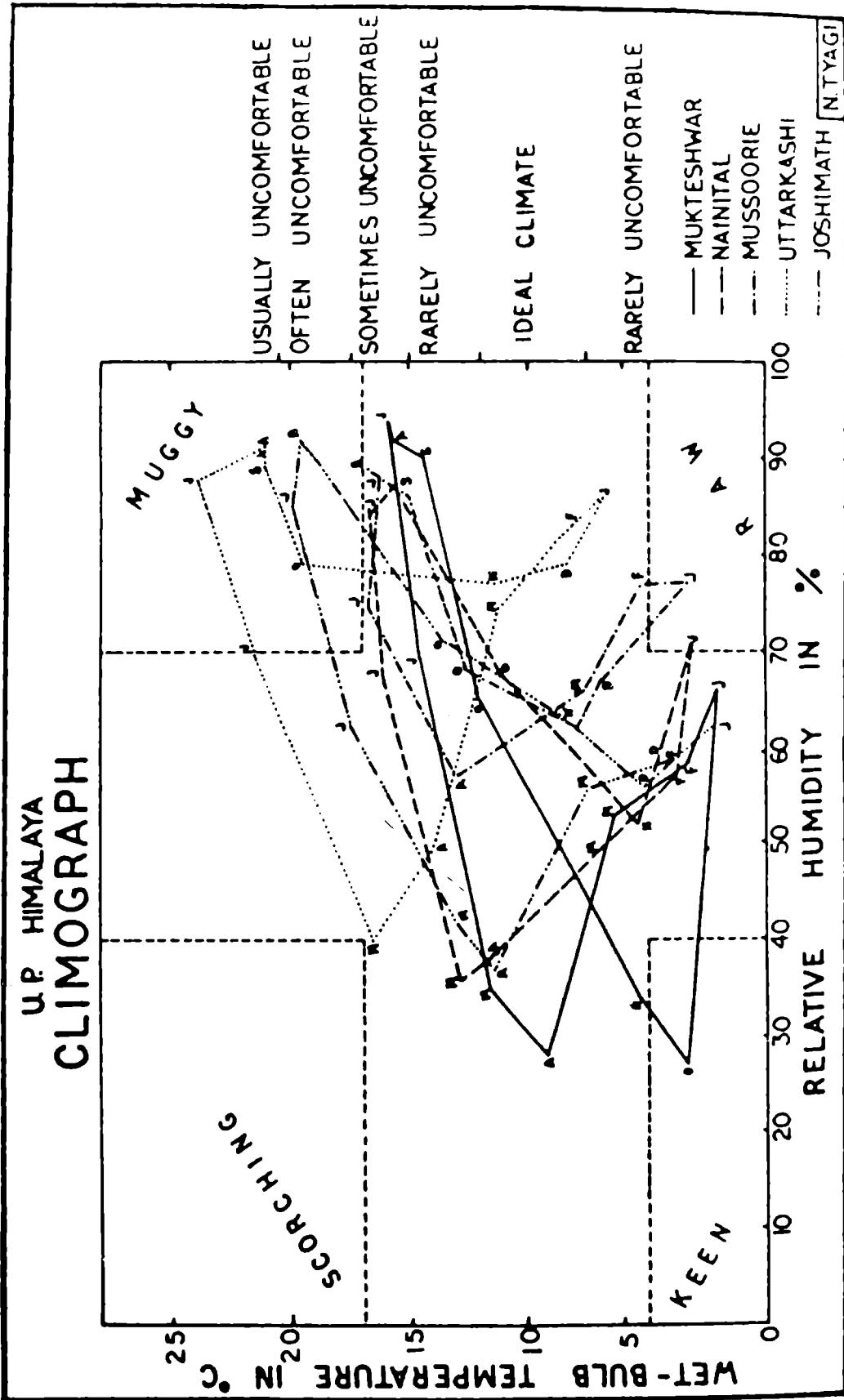


Fig. 8. Climograph.

and August are in the scale of sometimes uncomfortable and June, September and October fall in the scale of rarely uncomfortable.

In Nainital, only June, July, August and September fall in the scale of sometimes uncomfortable, otherwise the months of April and October are in the scale of ideal climate and remaining months January, February, March, May, November and December are in the scale of rarely uncomfortable.

In Mussoorie, January, February and December are in the scale of rarely uncomfortable. In March and November, Mussoorie enjoys ideal climatic conditions. April, May and October fall in the scale of rarely uncomfortable, while June, July, August and September fall in the scale of sometimes uncomfortable.

In Uttarkashi, the months of January and April come in the scale of rarely uncomfortable. February, March, April November and December months come under ideal climate, while May comes under sometimes uncomfortable. The months of June, August and September are in the scale of usually uncomfortable. The month of October is often uncomfortable.

In Joshimath, the months of January, February, May, October and December are rarely uncomfortable while the months of March, April and November are in the scale of ideal climate. June and September are sometimes uncomfortable and July and August are often uncomfortable.

As far as the whole region is concerned only December month in Mukteshwar comes in the preview of keen (low wet bulb-temperature below 4.4°C, low relative humidity below 40 per cent). No month of the year comes in the limit of scorching (high wet bulb-temperature, i.e., 21° to 27°C, low relative humidity below 40 per cent). In the scale of raw (low wet bulb-temperature below 4.4°C, high relative humidity above 70 per cent) comes January month in Nainital and Mussoorie, while in the scale of muggy (high wet bulb-temperature, i.e., 21° to 27°C, high relative humidity above 70 per cent) come the months of June, July, August, September and October in Uttarkashi and the months of July, August and September in Joshimath.

Climographs for five hill resorts of U.P. Himalaya (Fig. 8) very clearly reveal that the climate of the region has been ideal for the Britishers and now can be treated as an asset for the development of physico-environment-oriented tourist resorts.

VEGETATION

The Himalaya has a natural cover of vegetation ranging from sub-tropical forests to sub-arctic. The floral wealth of Himalaya, both in terms of variety and produce is indeed great as Calder describes "The Himalayas have a vegetation richer and more varied than any other part of India."¹²

Vegetation cover conveys more vividly the environmental condition of an area than any other factor of nature. Vegetation types are actually more indicative of conditions, because plants react not only to climate, but to other elements of the environment.¹³ A close relationship exists between climate and types of vegetation. The latter is a response to the former. Climate (specially temperature and precipitation) is the primary factor in determining the types of plants.

In mountain regions, especially on their slopes, temperature and precipitation vary both with elevation and exposure of light. Temperature declines with elevation and the vegetation types make its change accordingly. During the course of their studies, Strahlar¹⁴ and Pearson¹⁵ also saw clear influence of altitude on the types of vegetation.

Likewise, in U.P. Himalaya, up to the height of about 1,200 metres sub-tropical forests drop-out and are replaced by temperate forests. At about the height of 1,800 metres the temperate forests are replaced by sub-alpine forests. The height of 4,200 metres corresponds approximately the tree-line and thereafter up to the height of 4,500 metres alpine meadows usually appear. Above this, there are silvery Himalayan peaks covered with snow and ice-caps (Fig. 9).

Like temperature, precipitation and exposure to the sun rays also illustrate the variation in the vegetation types. In the Himalayan region, the northern slopes usually receive the sun rays only for a few hours during the day at a low angle. In contrast, the southern slopes receive comparatively vertical rays during the middle of the day. As a result, the southern slopes being warmer, fall in the area of greater evapotranspiration, consequently the vegetation is up to higher altitude on the southern slopes than on the northern slopes (Fig. 9).

The supply of mineral nutrients available in the soil is another factor contributing to the soil's effect on plants life. Steep slopes of mountains do not permit the accumulation of deep soil thus, they inhibit the growth of plants that need such soil for their root system.¹⁶

The vegetation belts of the Himalayas are generally arranged altitudinally, but there is a distinct change from west to east as moisture

increases.

Systematic surveys about the vegetation cover of U.P. Himalaya have not yet been conducted properly, hence very limited literature is available. Hooker¹⁷ (1849, 1872-97, 1909) and Champian¹⁸ (1909) have presented very comprehensive material on the vegetation types of Himalaya for the first time. In 1927, Osmastan¹⁹ had made a contribution in this field and studied the flora of Kumaon. He derived the conclusion that climate and altitude are the main factors to determine the types and upper limit of vegetation zones of this region. More recently Schweinfurth²⁰ (1957) has brought out a comprehensive description of the vegetation types of the Himalaya. The work of Champian was supplemented by G.S. Puri²¹ in the year 1960. Champian and Seth²² also made significant contribution in this field through their study published in the year 1968.

According to Champian, the Himalayan region can be divided into six belts in accordance with vegetation and height above sea level:

- | | | |
|-----------------|----|---|
| 1) Up to 3,000 | -- | Tropical moist deciduous (sal trees). |
| 2) 3,000-6,000 | -- | Sub-tropical; pine trees (often up to 7,500 feet on the southern slopes). |
| 3) 5,000-11,000 | -- | Moist temperate; mainly conifers, some oak trees. |
| 4) 6,500-8,000 | -- | Dry temperate; often conifers (mainly in drier inner valleys). |
| 5) 9,500-11,500 | -- | Alpine; dense, small crooked trees, fir and rhododendrons. |
| 6) Above 11,500 | -- | Alpine; dry shrubs. |

In 1963, Rautela²³ classified the vegetation types of Kumaon. Her classification was based on the classification of Champian. She has divided the region into three vegetation types according to the altitude:

- | | | |
|--------------------------------------|----|--------------------|
| 1) 248-1,350 m (800-4,500 feet) | -- | Sub-tropical zone. |
| 2) 1,350-1,900 m (4,500-6,250 feet) | -- | Temperate zone. |
| 3) 1,900-3,050 m (6,250-10,000 feet) | -- | Alpine zone. |

The main feature of the forest types of U.P. Himalaya is that the forest stretches from north-west to south-east direction according to the extension of mountain ranges.

The U.P. Himalaya may be divided into four main forest zones²⁴ (Fig. 9):

- 1) Sub-tropical zone (below 1,200 metres)
- 2) Temperate zone (1,200-1,800 metres)
- 3) Sub-alpine zone (1,800-3,000 metres)
- 4) Alpine (3,000-4,500 metres).

1) Sub-Tropical Zone

This zone is characterised by greater rainfall (250 cms or more annually) with fairly warm temperature (40°C). The climatic conditions of this zone (climax association) make the soil rich with humus for the growth of vegetation. The sub-Himalayan tract of this region is covered with forests of sub-tropical zone. This vegetation zone occurs up to the height of 750 metres towards northern slopes and up to the height of 1,200 metres towards southern slopes (Fig. 9).

Sal (*Shorea robusta*), the most prominent species of this region, is usually found up to the height of 1,525 metres. Sal forests are typical high forests, as trees attain height of usually 25 metres and occasionally 35 metres. These trees shed their leaves with the beginning of dry season. Sal trees are of great commercial value as they fulfil the needs of household purposes. Scientific forest management has also focused largely on the development of sal trees. Environmental aspects influence the distribution of sal trees, as in 'Duns', the northern aspects display a tendency towards pure sal forest and southern aspects towards mixed forest. Sal trees are quite prominent along the courses of rivers.

Besides sal (*Shorea robusta*), the following species are also found in this zone--Haldu (*Adina cordifolia*); Dhuri (*Lagerstromia parviflora*); Sain (*Terminalia tomentosa*) and Tun (*Cedrela toona*). Bhyunal is another important tree of this region which usually grows in the valleys and lower hill slopes. Mango, Pipal and Banyan poplar trees of plains are also found on the lower slopes of the hills.

In the low rainfall and high rainfall regions dry deciduous and moist deciduous trees appear respectively. The floristic composition in dry deciduous is *Angle marmelos*, dry bamboo-break (*Dendrocalamus strictus*) etc and in moist forest is Kanyu (*Holoptela integrifolia*), Kuri (*Nyctanthes arbortrists*), Semal (*Samlia malabarica*), Amaltas, Dhundi etc.

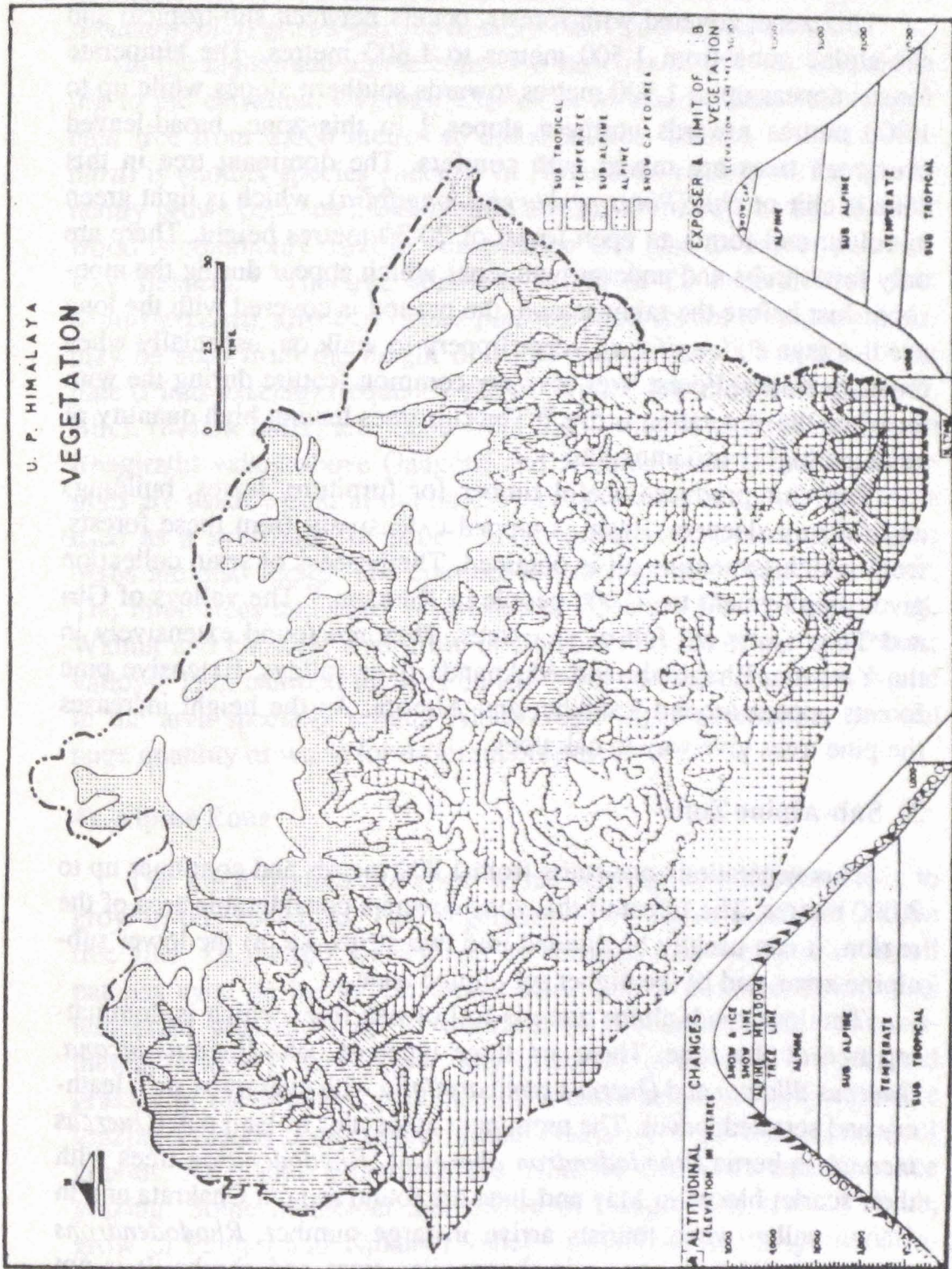


Fig. 9. Vegetation.

2) Temperate Zone

This zone, covered with forests, occurs between sub-tropical and sub-alpine zone from 1,500 metres to 1,800 metres. The temperate forests appear up to 1,900 metres towards southern slopes while up to 1,800 metres towards northern slopes.²⁵ In this zone, broad-leaved evergreen trees are mixed with conifers. The dominant tree in this zone is chir or chil (*Pinus roxburghii longifolia*), which is light green in colour and forms an open forest of 20-30 metres height. There are only few shrubs and undergrowth grass which appear during the monsoon. Just before the rainy season, the ground is covered with the long needles (syn *P. longifolia*), very slippery to walk on, especially when on steep slopes. Forest fires are very common feature during the winter when the vegetation is dry.²⁶ The chir trees having high quantity of resin are highly inflammable.

The chir produces useful timber for furniture, boxes, buildings and railway sleepers. Resin is tapped extensively from these forests, from which turpentine oil is obtained. The process of resin collection gives employment to 10,000 people in Kumaon.²⁷ The valleys of Giri and Tons rivers are full of chir trees. They are found extensively in the Yamuna, Bhagirathi and Alaknanda river valleys. Extensive pine forests appear around Ranikhet and Almora. As the height increases the pine trees give way to oak trees.

3) Sub-Alpine Zone

This vegetation zone starts from 1,800 metres and continues up to 3,000 metres. The forest of this zone covers a considerable area of the region. It can usually be divided into two strips, i.e. a) the lower sub-alpine zone, and b) the higher sub-alpine zone.

The lower sub-alpine zone is full of oak trees which is dominating tree of the zone. There are three types of oak--*Quercus incana*, *Quercus dilatata* and *Quercus semicarpifolia* with evergreen stiff, leathery and serrated leaves. The prominent associates of banj oak (*Quercus incana*) is burns (*Rhododendron aboreum*). *Rhododendron* trees with their scarlet bloom in May and June are found around Chakrata and in Ganga valley when tourists arrive in large number. *Rhododendrons* appear in different sizes and shapes, i.e., trees and shrubs. It is not liked by animals. Banj oak is used for making agricultural implements, due to its hardened wood. It is also used as fuel. It gradually becomes harder with the elevation and it gives place to moru oak

(*Quercus dilatata*) in higher altitudes. It is the mightiest of the three dominant oak trees, attaining 20-30 metres height. Kharsu oak (*Quercus semicarpifolia*) grows just above moru oak (*Quercus dilatata*).

In the higher sub-alpine zone, the varieties of trees differ according to the elevation. Cypress (*Cupressus torulosa*) is the most dominant tree from 2,000 metres to 3,000 metres. Deodar (*Cedrus Deodara*) is another species endemic in Himalayan region, which prominently grows between 2,000 metres and 3,500 metres. Its fine durable wood is commonly used in construction and also as timber and railway sleepers.²⁸ The tree attains a height of 20 metres. Blue pine (*Pinus excelsa*), silver fir (*Abies pindrow*) and spruce (*Picea morinda*) may be seen from the height of 1,900 metres to 3,000 metres. Blue pine (*Pinus excelsa*) frequently grows in poor soil and on steep slopes. Birch (*Betula utilis*) are found from 2,950 metres to 3,600 metres in Bhagirathi valley above Gangotri and at some other locations. Birch trees are usually bent at the base by the pressure of snow. Its bark is used as a substitute for paper. Some undergrowth ferns and alpine herbs are also found. The conifers are rarely higher than 20 metres. The birch trees and other broad-leaved trees are 6 to 10 metres tall. Walnut and chestnut also grow in Bhagirathi, Alaknanda and Pindar valleys. Thin bamboo thickets called 'Ningala' are extensively found in the area specially around Almora. All types of conifers provide huge quantity of wood for different purposes.

4) Alpine Zone

The birch (*Betula utilis*) of higher sub-alpine zone continues to grow in this zone also. This vegetation is the upper-most limit of the tree line, i.e., 4,200 metres and sometimes may be seen in small patches even on higher elevations also. Above this line there exists temperate grasslands up to snowline (4,500 metres). The environmental aspects generally give way to shrubs in the northern part and grasses in the southern part. Alpine grasses provide highly nutritive grazing grounds. *Poa*, *Glyceria* and *Festuca* are the main species of grasses. All alpine grasslands are used for extensive transhumance grazing. Some medicinal and plenty of 'Gaggal', a scented shrub, grow in Pindari and Nilkanth valleys. It is collected to produce incense. There are a number of varieties of medicinal shrubs available in higher Himalaya which are yet to be explored and put to use. Mami, a kind of root, is also collected in Uttarakhand, by which 'Surma' an ash-like material is made for the application in the eyes. Ratan-jyot

another shrub is collected in Yamunotri region.

There is a large variety of flowers in alpine meadows as in the Valley of Flowers. A good number of herbs found in this region are *Getiana*, *Primula*, *Saxifraga*, *Geranium*, *Astem* etc. *Palsatillum*, *Aconitum* are important medicinal plants.

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Chapter 3

Origin and Growth of Hill Resorts

In the earlier days, the remote tract of land stretching from the holy town Rishikesh in the south to Yamunotri in the north-west and to Mansarovar-Kailash in the east was popularly known as Uttarakhand where shrines, temples, rivers, lakes and mountains of sacred and mythological importance are located. The Uttarakhand, now known as U.P. Himalaya has a number of local legends regarding the places of pilgrimage in Kumaon and Garhwal but these legends afford us no aid to their political history.

The name Kumaon has its origin from Vishnu who in his tortoise incarnation dwelt for three whole years on Kamdeo,¹ which was later called Kurmachal (Kurma, i.e., tortoise, achal, i.e., mountain) and hence the modern name Kumaon. In Puranic literature, the region bears the name as Uttarakhand or Kedarnath. In this region every rock and rivulet is dedicated to some deity or saint and has appropriate legend attached to it.

Ancient Period

The Himalaya was the greatest, and the most formidable of all the mountains, that the Aryan had ever come across. It was natural for them to declare this region sacred and as "the abode of gods". Lofty, inaccessible, covered with purest of snows and undefiled by human contact, they were the best and most appropriate dwelling places for the gods.² U.P. Himalaya being so close to the gods, is a holy place and it is dotted all over with old temples and famous shrines.

The world, according to Hindu scriptures, is a vast ocean and *Yatra* to religious places is the only way to ferry across it. The northern part of the region may be called as pilgrimage zone. This part of

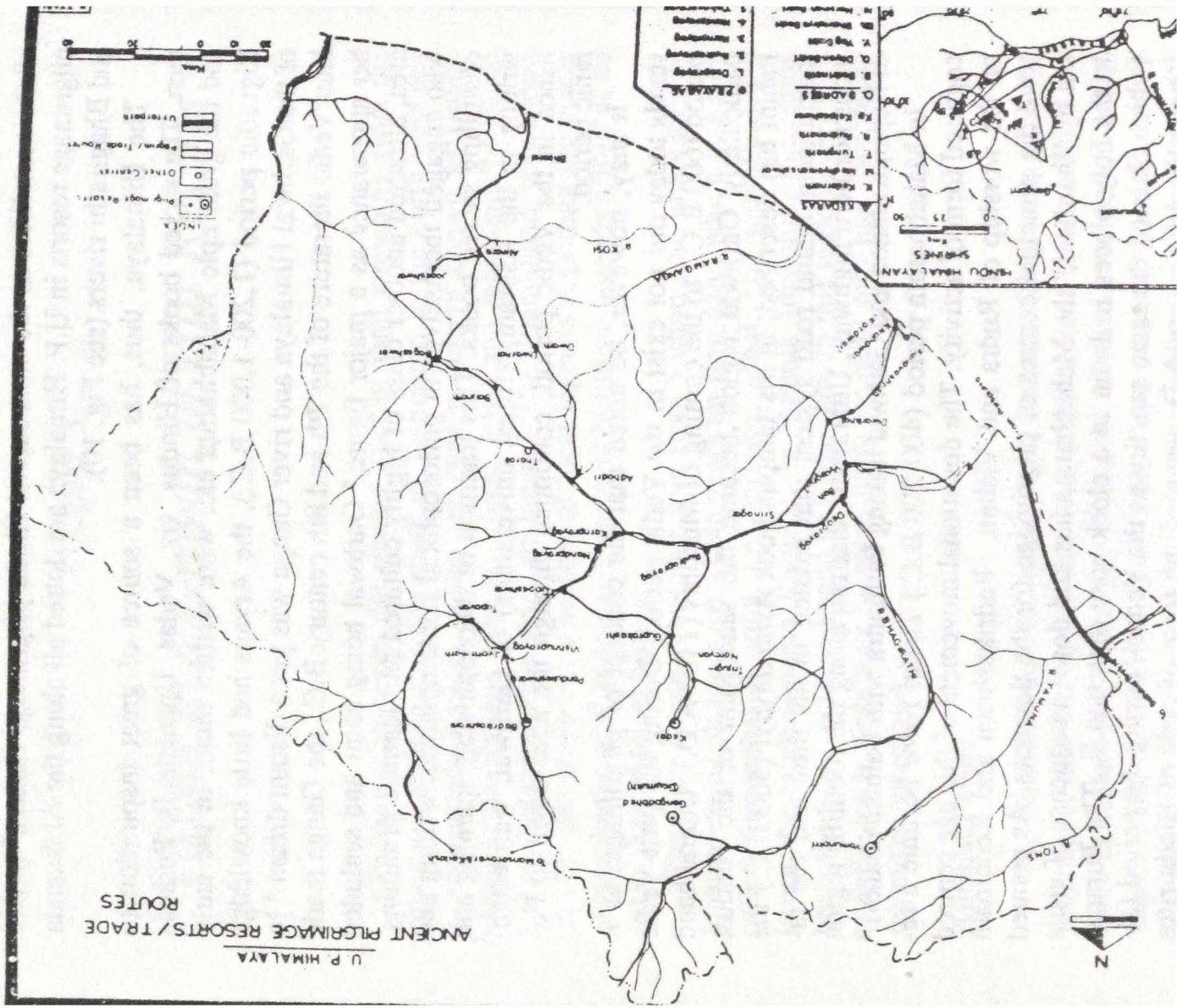
the Himalaya has distinct cultural group, settled long long ago despite difficult access to the outside world.³ Sensitive religious area strewn all around, it has Badrinath, Kedarnath, Gangotri and Yamunotri, with all their satellites as the most sacred Hindu pilgrimage resorts.⁴ Indian pilgrimage resorts in U.P. Himalaya are dotted all along the Alaknanda and Bhagirathi rivers (see Fig. 10).

The Himalaya, thus, has been a source of great inspiration to men. The sacred books of Hindus, viz, Vedas, Upanishads, Puranas and the great epic Mahabharata etc. were written there. In the early Rigvedic period (1,200-1,000 B.C.), the Aryans had little knowledge of the Garhwal Himalaya and river Ganga was yet a distant dream.⁵ In later Vedic literature of the 7th and 8th century B.C., the Ganga made her appearance as a major figure.⁶ Garhwal being calm and secluded area, attracted another class of highly cultured and learned Brahmins, who engaged themselves in philosophical contemplation, writing and compiling sacred books. This tradition of theosophising, learning and writing in the Ashrams (forest universities) of Garhwal, well established in the Vedic period, continued through the ages down to Puranic period.⁷

It may, however, be noted that the concept of pilgrimage, as it stands today did not exist in the Vedic period. During the post-Vedic period (600 B.C.) to the coming of Muslims (1100 A.D.), Uttarakhand particularly Garhwal region became the sanctorum of the Hindus. Panini has described, in his famous book *Ashtadhyayi* (500 B.C.) the magnificent inland road system that existed in his time and the famous northern highway, Uttarapath, that ran along the foothills region of Nepal, Kumaon and Garhwal linking Paliputra with Balhika (Balkh).⁸

In Mahabharata period (400-200 B.C.) *Tirtha Yatra* became a recognised form of activity. The devotional movement of this age centred on the worship of Rudra and Vishnu. Badrikashram and Kedarnath were the principal centres of pilgrimage for the devotees. As pointed out by Bhardwaj,⁹ the Mahabharata has laid down a sequence of visits to the holy places in India in a clock-wise direction.¹⁰ The Puranas (which claimed the same sanctity as the Vedas), during the period following the 4th century A.D. assumed the form of code of Hindu rites and customs.¹¹ God Shiva reigns supreme in Garhwal. Out of 550 temples in Garhwal (Pauri and Chamoli) 350 (64 per cent) are dedicated to Lord Shiva and his female form.¹²

During the Epic period the geographical knowledge concerning the Himalaya increased a lot and *Tirthas* at Garhwal Himalaya grew in considerable number. The number of satellite *Tirthas* also flour-



ished during this period. In 2nd and 5th century A.D., pilgrims proceeded along the Ganga via Deoprayag and along Alaknanda to Badrinath and Kedarnath. In 8th and 10th century A.D., they passed through Jageshwar and onwards to Badrinath via Simli, Tapovan, Joshimath, and to Kedarnath via Gopeshwar (Fig. 10). The first route is easier as it follows the river valleys all along and many of the major *Tirthas* including five prayagas, viz., Deoprayag, Rudraprayag, Kamprayag, Nandprayag and Vishnuprayag (Fig. 10) are on the river Alaknanda. These are the transits for the *Yatras*. The region has also been a part of Mauryan, Kushana and Gupta empires. In the 3rd century B.C., the great emperor Ashoka erected a rock edict on the left bank of the river Yamuna at Kalsi in Chakrata tehsil of Dehradun district. Shankaracharya's efforts in 8th century A.D. further strengthened the ties between north and south. He chose Kedarnath and Badrinath for the reformation of Hinduism. Badrinath was placed in the top hierarchy of Himalaya shrines.

Medieval Period

During the medieval period (around 17th century A.D.), a considerable number of Rajput princes penetrated into the valleys of Himalaya, due to the confusion created by Muslim invaders in the plains, and set-up a number of small principalities. Many places have been named following the native places from where they migrated, e.g., Ajmer Patti and Udaipur Patti.¹³ Kumaon and Garhwal were divided into a number of petty kingdoms under the rulers of different tribes, as Katuri, Khasia and others. Katuris, who are known to have a long dynasty, lost their stronghold on Kumaon by about 14th century A.D.¹⁴ and split into scattered principalities. Somchand (Sombansi or Chandrabansi Rajput) established Chand dynasty in Kumaon. He built the first home at Rajbunga, which subsequently gave place to the name Champawat, which was the residence of Chand rulers of Kumaon (700-1790 A.D.). In the middle of 16th century, Rana Balo Kalyan Chand, a successor of Chand dynasty established his fort at Almora and made it his capital. Raja Udoyt Chand was the last successful Chand ruler of Kumaon and after him the sovereignty of the kingdom, having gone under various Chand successors, was gradually lost. In 16th century, Raja Ajay Pal integrated the fifty fortresses (*garhs*) and their associate territories into Garhwal (fort integrated territory). The Kirtas, Khasas, Seythians and Mongoloid elements have also contributed profusely to the cultural complex of the Garhkum Himalaya.

British Period

In 1743-44 A.D., there was a Rohilla invasion on Kumaon, but they could not establish their foothold. By the early 19th century, the Gurkhas in their long sweep of invasion conquered Garhkum and the territory beyond up to Kangra. Their territorial ambitions brought them into conflict with British. At the end of the war of 1815, the Nepalese ceded the district of Garhwal and Kumaon to the British.¹⁵ After the British occupation, Almora became the administrative seat of Kumaon and Garhwal. The residual State of Tehri was handed over to the Raja of Tehri by the Britishers¹⁶ after retaining the most populous parts of Garhwal (Fig. 11).

The Indian hill resorts as high altitude settlements were originally established by the Britishers in India. The Britishers in mid-19th century felt that the cool climate at the hill resorts was an answer to their problem of their difficult adjustment to tropical life and they started going to the hills for several months of the year to serve the needs of British civil servants and soldiers of East India Company. The British hill resort is a recent phenomenon representing an expansion of colonialism in the tropics.¹⁷ According to Spencer & Thomas, the hill resorts were developed during 19th century by the British and Dutch colonial masters in order to make sojourns in less comfortable foreign land.¹⁸

In the territory gained from Nepalese, major British hill resorts, Mussoorie, Nainital, Ranikhet, as well as several other types of hill resorts were established and developed.

Post-Independence Period

Despite its British origin, the British hill resorts phenomenon has become a part of Indian tradition, and these have flourished even after the large scale departure of its creators. Many Indians stay in hills for several months and continue the tradition started by Britishers, giving continuance to the English clubs and other recreational activities, together with Europeans who are still found there though much less in number. One can also notice recent changes in the hill resorts character. The most apparent is the increasing number of short time participants and the larger size of groups going up to the hills together. With improved transport systems, the ever increasing number of private automobiles and facilities of chartered buses, hill resorts have become by far more accessible not only to Indian elite but also to the middle

U.P. HIMALAYA THROUGH AGES

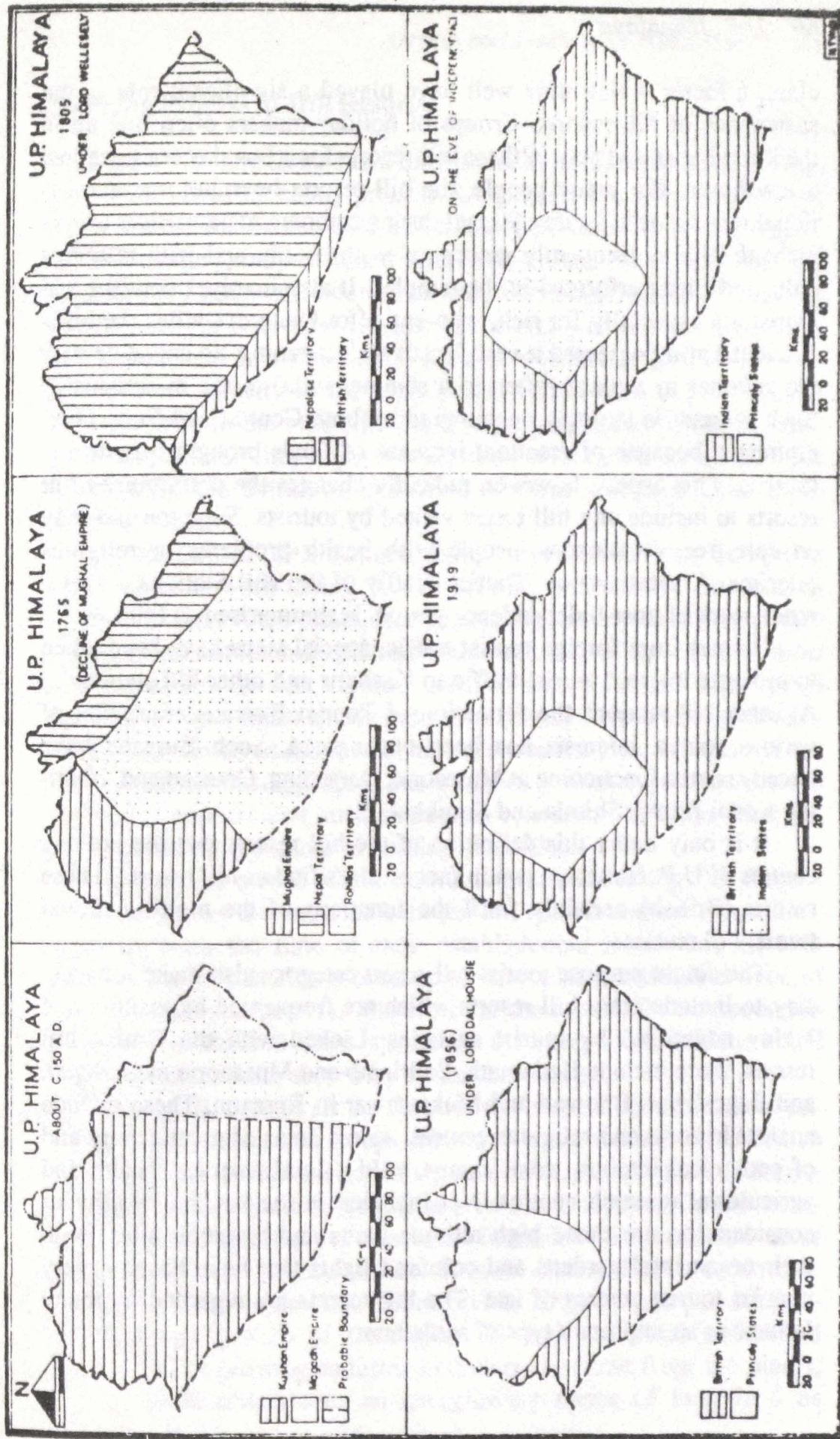


Fig. 11. U.P. Himalaya through the ages.

class, a factor which may well have played a significant role in the sustenance of hill resorts. Groups of holiday-makers often ride up in the hired buses and stay in these hill resorts for a few days or even just a few hours. For many people, the hill resorts have become a vacation resorts, as hills are pleasant during summer. The vertical movement to hills is frequently associated with health, and with religious cults and rites performed in the temples. It also involves comfort and recreation especially for rich, who can afford summer villas the hills. Ancient Latin possessed a verb 'aestivare', meaning 'to spend or pass the summer in a place (often in a summer villa) in the mountains'.¹⁹ Such tourism is strongly encouraged by both Central and State Governments, because of resultant increase of funds brought in with the tourists. This aspect, however, radically changes the definition of hill resorts to include any hill resort visited by tourists. Such tourists may be care-free vacationers, people with health problems or religious pilgrims. A summary of 'Tourist Traffic of the Hill Stations', a reference work of post-Independence period, is summarised as follows:

"Apart from foreign tourist traffic, special steps have been taken to promote internal tourist traffic to Kashmir and other hill stations . . . At other hill stations the formation of Tourist Bureaus consisting of various tourist interests has been encouraged. Such Bureaus have already started functioning at Mussoorie, Darjeeling, Ootacamund, Nainital, Kodai Kanal, Shimla and Ranikhet."²⁰

It is only under this definition of the hill resorts that the holiday centres of U.P. Himalaya can in fact be classified as hill resorts. These resorts (British) certainly fulfil the functions of the multifunctional tourist hill resorts.

The single purpose tourist hill resort category also make it necessary to include other hill resorts which are frequented by visitors and highly advertised by tourist agencies. Linked with the British hill resorts, these include Kedarnath, Badrinath and Mussoorie in Garhwal, and Bageshwar, Bhowali and Mukteshwar in Kumaon. These include ancient historic and religious centres, scenic areas of great beauty and of geological interest, tribal camps, wild animal reserves, health and agricultural research centres. Not included in the list, but worthy of consideration are those high altitude dams and reservoir sites, with their ornamental gardens and coloured lights that have become very popular tourist centres of late. The hill resorts are regarded by many Indians as an important type of settlements.

Changing Process of Hill Resorts

Figure 12, summarised in a diagrammatic form, illustrates the historical hill (British) resort process. Originally, the hill resorts were health centres for British elite and military personnels. By the end of the 19th century, they included in their functions the sanatorium and some military hospitals. Soon after, they became government summer headquarters for both civil services and military activities. The Company established British schools, some of which were primarily military schools. Already in the early years, Indian elite as part of civil services, came to the hills with the Company to the government summer headquarters. They enjoyed the recreational facilities, which were available for the Britishers and some of them sent their children to British schools.

By the turn of 20th century, many missionaries both Europeans and Americans were taking part in opening recreational activities at hill resorts. They often established English schools especially for poorer Anglo-Indian communities. Shortly after the turn of the century, most British hill resorts had formed urban municipalities. They often encouraged local small textile industries (cottage type) and other activities which involved the special high altitude features. In recent years, a new function has appeared, that of quick tourist-trips by chartered coaches. It appears that such short-term recreation holidays shall become increasingly popular in coming years also.

An entrance model of hill resorts is presented in Fig. 13. Stage I in Fig. 13 shows the entrance between hill resorts and their surrounding areas from the time of their establishment to the end of 19th century. The British elite moved up to the top of the hills and lived in large spacious compounds. Therefore, in the model, the compound is shown on the top and bazar just below the compound. Britishers and Indian elite both were served by entire community.

At stage II, though all the functions of stage I continue, there are also new institutions and groups created to serve and aid to the British and indigenous people. Missionaries set up schools, hospitals and agriculture or cottage industry (especially textile groups) for Indian community. The Municipalities were also formed, which collected taxes and provided public utility services both for elite and bazar section.

Stage III shows how the hill resort has taken its place in the general economic pattern of the region. Though the basic goods and workers for its growing industries continue to come from the plains, the hill resort also serves an evergrowing series of hinterland as

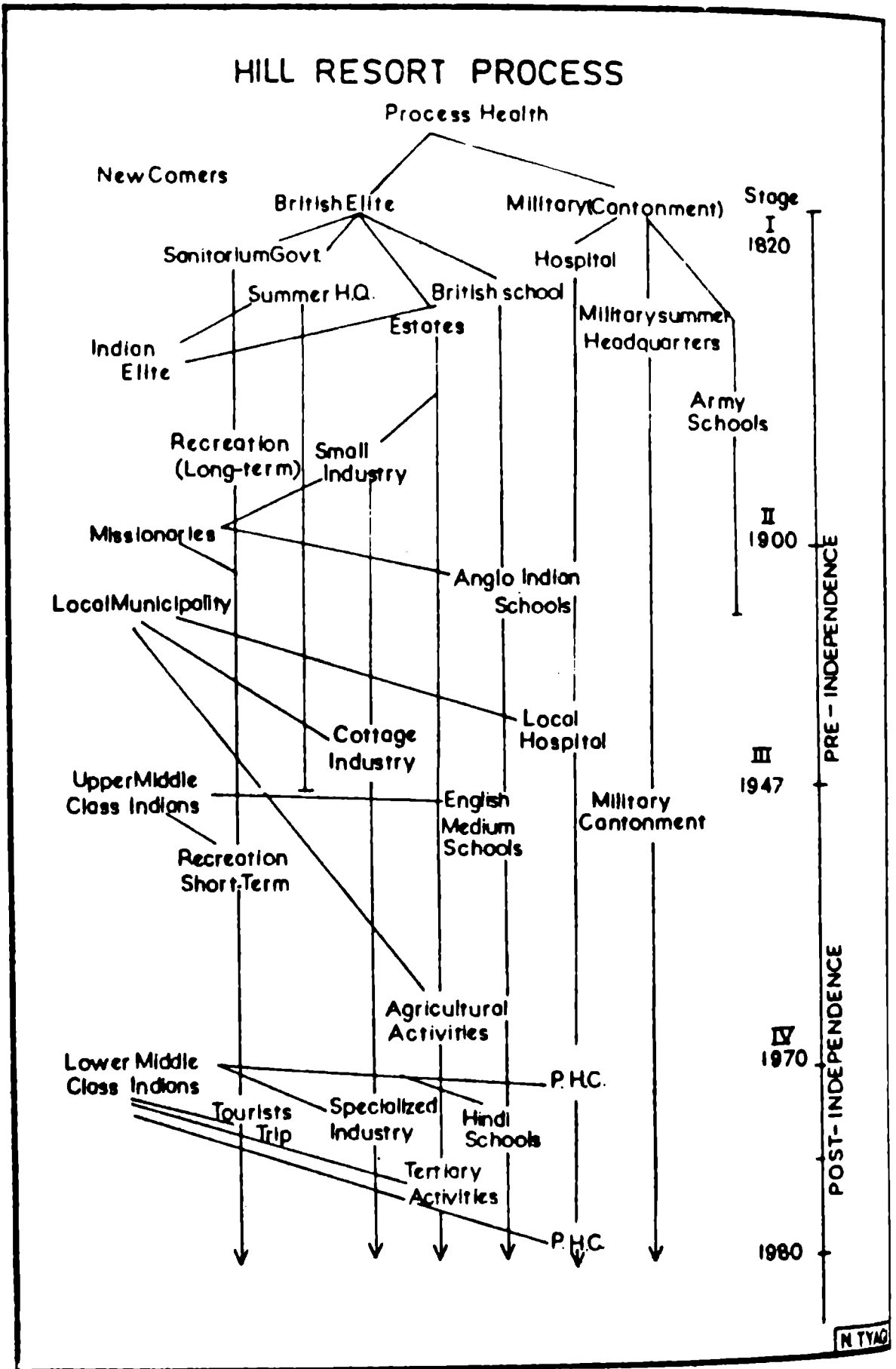


Fig. 12. Hill resorts process.

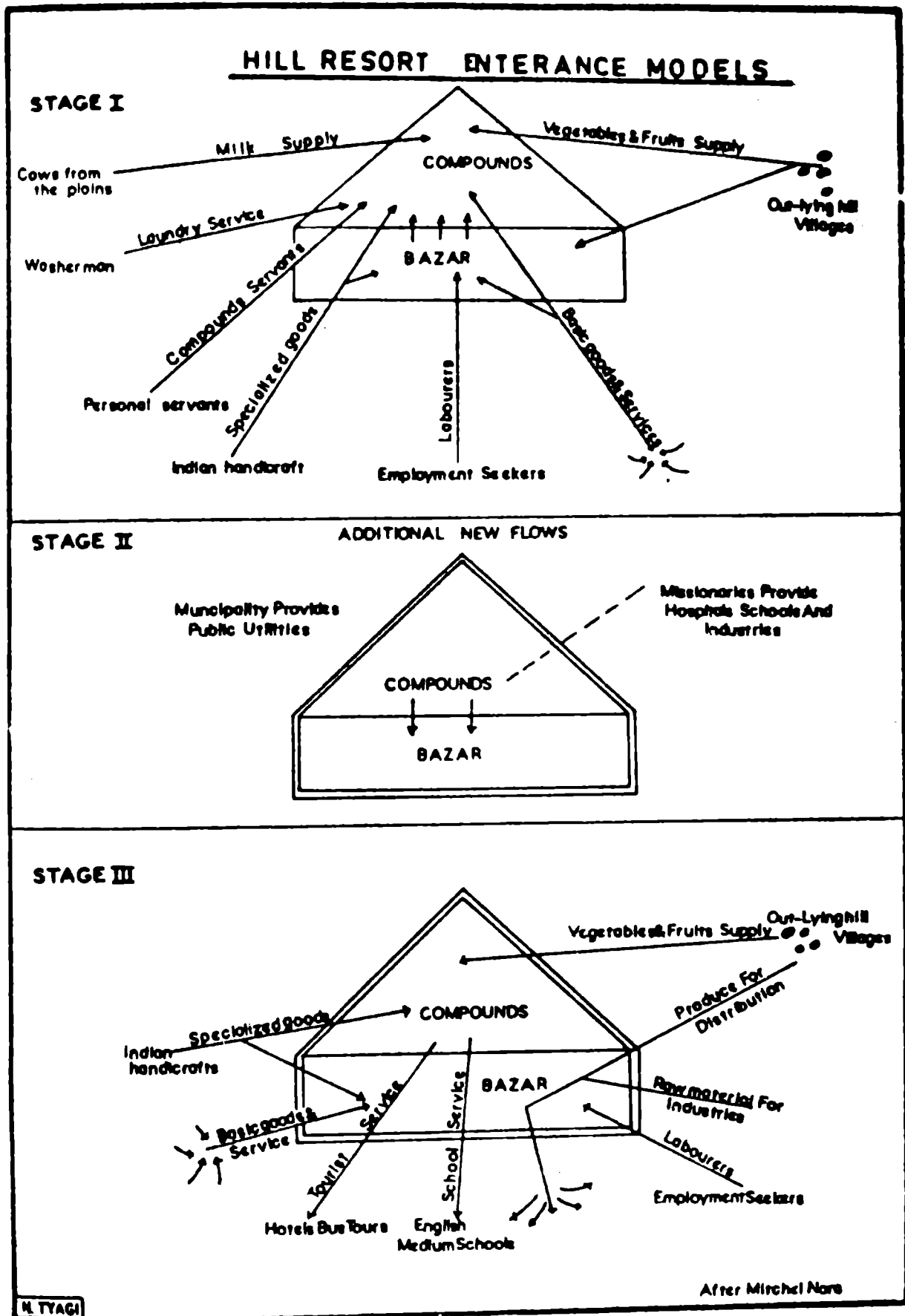


Fig. 13. Hill resorts entrance models.

tourist, school and agricultural distribution centres.

Stage IV (not shown in a diagrammatic form) will be projected as continuance of present functions into the future. Because population at the hill resorts, as elsewhere, is expected to continue to rise rapidly, there will probably be considerable increase in tourist and cottage industries at the hill resorts. It is certainly expected, that many more people will be able to visit hill resorts during the summer, so that hill resorts are likely to remain essentially a seasonal settlement.

Having an overall review of the history of origin and evolution of U.P. Himalaya during different periods, i.e., ancient, medieval, British and post-Independence and a changing process of the functions of hill resorts, a brief evolutionary history of individual hill resorts of the area is taken up with following text. The priority seriatum has been provided to the hill resorts, according to their antiquity.

Badrinath

Badrinath is situated on the confluence of the Rishi Ganga and Alaknanda rivers in the middle of the valley stretching about five kilometres long and two kilometres broad. Guarding it on either side, west and east, there are two lofty mountains Nar and Narayan, respectively and at the distance lies the towering Neelkanth peak.²¹

The temple of Badrinath is dedicated to Lord Vishnu and lies at 30°44' north latitude and 79°32' east longitude²² at an elevation of 3,122 metres above sea level.

Historical records are untraceable regarding the antiquity of the shrine and the temple of Badrinath, but a number of references available in Vedas show that the shrine was worshipped in some other form during the Vedic period. During the reign of emperor Ashoka, the great, Buddhism was widespread in India and this was probably the time when Badrinath temple became a Buddhist shrine.²³ But in the 8th century, Adiguru Shankaracharya revived the Hindu religion and restored the temple. Since then, the Badrinath has become a sacred Hindu temple.

The idol of lord Badrivishal in the temple, is made of black stone 'Shaligram'. The Lord is seated in Padmasan posture. The temple is divided into three parts--the Garbh Griha, the Darshan Mandap and the Sabha Mandap. The idol of Lord Badrivishal is seated in the innermost portion of Garbh Griha. According to the belief in Hindu *shashtras*, no pilgrimage could be completed unless a pilgrim pays a visit to Badrinath.

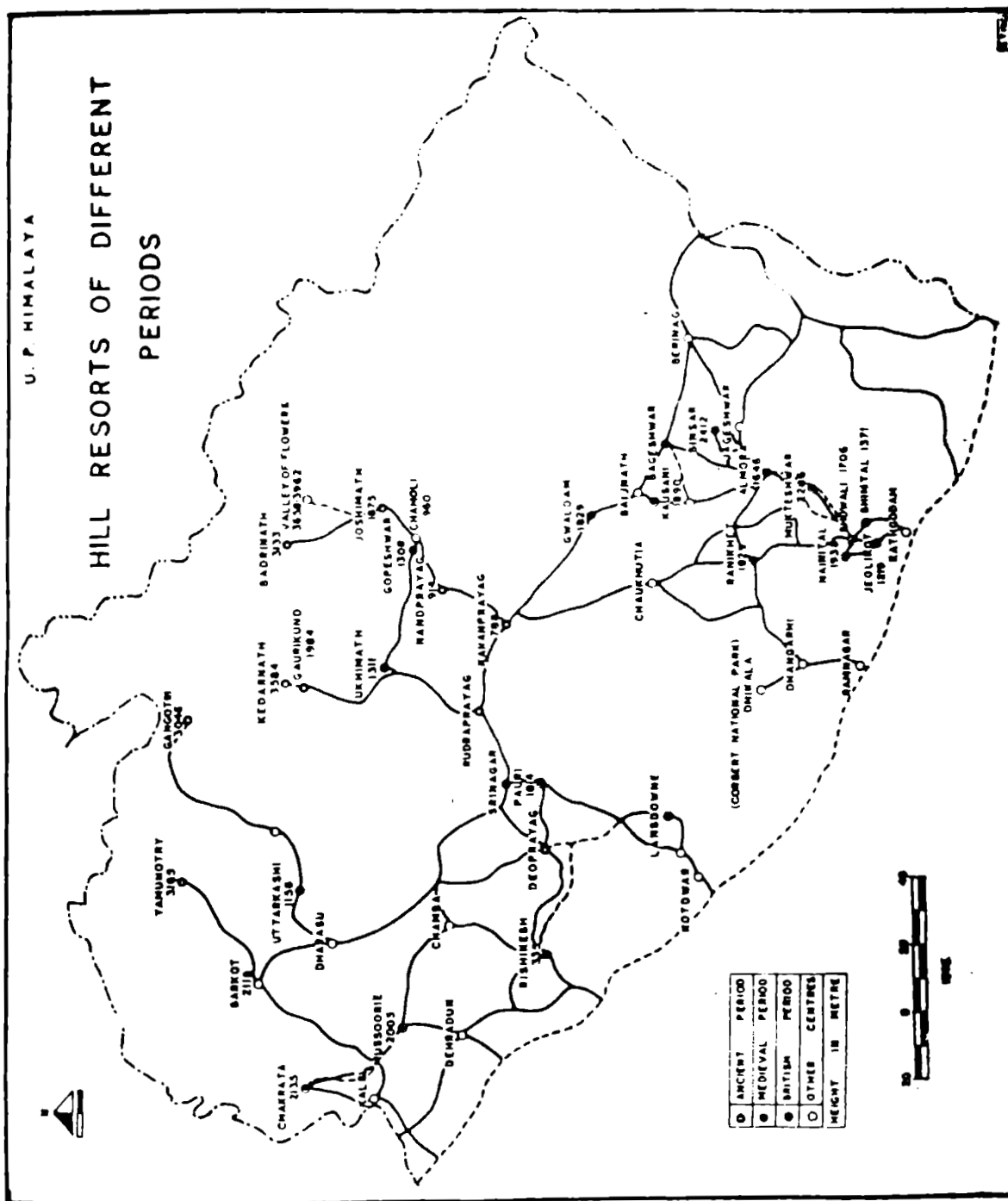


Fig. 14. Hill resorts of different periods.

After the completion of a motorable road in 1968 the number of tourists increased more than double, i.e., 1,00,000 tourists every year.

Kedarnath

Kedarnath shrine stands facing the Mandakini valley against a background of majestic snowy peaks, and located almost midway between Gangotri and Badrinath (as crow flies). It is one of the twelve Jyotirlingas of Lord Shiva. Other eleven Jyotirlingas are located at Saurashtra, Shri Shail, Ujjain, Omkareshwar, Parli, Dakini, Setubandh, Darukavan, Varanasi, Gautmi and Berul. These twelve Jyotirlingas are described in a Sanskrit *shlok*.

There are no historical records available about its origin or construction. According to a legend, the temple was built by the Pandavas to atone their sins after the great war, the Mahabharata. The peace and purity which prevails in this divine land has no parallel. This has been the reason that Adiguru Shankaracharya chose this land to enshrine Lord Shiva.

The temple has been constructed on a rectangular platform by extremely large and even cut grey slabs of stones. The temple has a Mandap and a Garbh Griha. In Garbh Griha there is a conical rock formation, encircled by a narrow Pradakshina path, which is worshipped as Lord Shiva. At the entrance of the temple, there is a huge statue of Nandi, the Bull. The walls inside the temple are exquisitely carved with images of gods. To the south, there is a temple of Bhairava on the top of the hill. The Pandas of Shri Kedarnath temple reside in the valley around Gupta Kashi and Ukhimath for six months of winter when the temple of Shri Kedarnath is closed. At this time, the puja of Lord Shiva is performed at Ukhimath.

Kedarnath was designated as a notified area in 1977. The committee of notified area provided the necessary facilities to visitors and improved the condition of internal roads. At present, Kedarnath is a settlement comprising of two hundred residences. Dharamshalas, hotels and rest houses are plenty in number. Hospital (outdoor facilities), post office and police station and other public facilities are also provided to visitors.

There are two beautiful lakes near Kedarnath, viz, Vasuki Tal and Chorabari Tal, which is now known as 'Gandhi Sarovar', because the ashes of Mahatma Gandhi were immersed here in 1948.²⁴ Kedarnath, Tungnath, Rudranath, Madhya Maheshwar and Kalpeshwar together constitute Panch Kedars (Fig. 10) in this region.

Gangotri

The tiny village Gangotri is situated on the right bank of Bhagirathi, in north latitude 50°50'10" and east longitude 78°59'30" at an elevation of 3,140 metres above the MSL. The temple of Gangotri is dedicated to the Goddess Ganga and is situated near the sacred stone where the Great Raja Bhagirath worshipped Lord Mahadeo and where the heaven born goddess first descended on the earth. It is said that Bhagirath made great efforts to bring down the Ganga at Shri Kanth Parbat, near this place for 5,500 years and later on the Pandavas are supposed to have performed a great Dev Yagya at this place to atone for the death of their kinsmen in the epic battle of Kurukshetra.²⁵ The Bhagirathi (Ganga) flows here for a while in a north-west direction and hence the place is called Gangotri (Ganga Uttari). The Gangotri is enriched with giant trees of deodars and conifers. The shrine was earlier constructed by A.S. Thappa (18th century), the present one was renovated by Maharaja of Jaipur in early twenties of this century.²⁶ The temple contains a small statue of Ganga, Bhagirath and other deities supposed to be connected with the religious belief of the locality. A large number of pandas, priests, few shopkeepers, yogis and sanyasis reside at Gangotri.

The entire administration of the temple and resort is in the hands of local committee, made up of five members. Those members are Tehsildar, Gram Pradhans of village Mukhwa and Dharali and two leading sanyasis of Gangotri temple.

Yamunotri

It stands on the western side of the great peak of Bander Punch, which is 4,421 metres above the mean sea level. The peak remains always snowclad and forms the watershed of Hanuman Ganga and Tons river. The temple has been built at the foothills on the left bank of Yamuna, which is six kilometres below the Yamunotri glacier--the sacred source of the river Yamuna. It is said that the sage Asit had his hermitage here and he bathed daily in both the rivers Yamuna and Ganga throughout his life. During his old age, when disability prevented him from going to Gangotri, a soft stream of the Ganga emerged from the rocks before him at Yamunotri.

The temple of Yamunotri is the main temple for worship. Close to the temple, there are few hot water springs. A handful of rice or

some potatoes tied loosely in a piece of cloth is dipped in the water of these springs and after a while it is completely cooked and is taken home by devotees as *prashad*. The valley is highly enchanting and captivates the heart of pilgrims.

Joshimath

Joshimath, the place of an important Jyotirling of Mahadev, is situated in north latitude 30°33'24" and east longitude 79°36'24" at an elevation of 1,861 metres above the mean sea level and is the home of the semipastoral Bhotias and Indo-Mongoloid people. Adiguru Shankaracharya attained enlightenment here in a cave under a mulberry tree.²⁷ In this cave, he wrote his famous *Shankar Bhasya* and set forth in the great task of reviving the Hindu religion. He also built a temple here during 8th century.

Jyotirmath (Joshimath), the Adiguru's seat, is worshipped by hundreds of pilgrims every day and in the evening Shankaracharya of the Math delivers the holy *Pravachan*. There are well built residences of Rawal and other priests of Badrinath temple, who live here in winter, when the temple is closed. Joshimath thus becomes winter seat of Shri Badrinath and the temple administration. Among the many temples in Joshimath, the most famous are the Narsingh and the Durga temple.

Joshimath is an important place as it happens to be the base for expeditions to Trisul, Kamet, Dunagiri, Nanda Devi, Nilkanth, Devasthan, Changbang etc and treks to the Kauri pass complex, Valley of Flowers, Hemkund Sahib etc. The beautiful slope of Gorson here is being developed as regular skiing place,²⁸ whereas Auli has already been developed as an excellent skiing resort.

Rishikesh

Rishikesh is the gateway to the kingdom of gods. Shri Badrinath, Kedarnath, Gangotri and Yamunotri, where pilgrims begin their pilgrimage. Rishikesh is famous all over the world as an abode of saints and sages. The place is known as a holy place since medieval period. It has a number of important *dharamshalas* and well known *ashrams*.

Swami Shivanand's Ashram, founded in 1936, is the headquarter of divine Life Society and this is the institution of international repute. The famous Swarg Ashram was built by Swami Atma Prakash Kali Kamli Wale and scores of devotees visit this *ashram* every day. Gita Bhavan stands nearby, in which the chapters of Bhagvat Geeta

and extract from the Ramayana have been inscribed on its walls. Most of these *ashrams* are charitable and benevolent religious institutions.

Bageshwar

Bageshwar is situated at the confluence of Sarju and Gomati rivers in latitude 29°50'51" north and in longitude 79°48'52" east, at an elevation of 975 metres above the sea level. The name is derived from the temple, which is dedicated to 'Vak-Ishwari', the 'Lord of Speech', or according to others 'Vyaghreshwar', the tiger lord. Bageshwar is the great mart for the exchange of Tibetan produce between the Bhotiyas and the Almora merchants.²⁹ It is a pilgrimage centre, with fifteen shrines.

The present temple was erected by Raja Laxmi Chand in 1450 A.D.³⁰ In the month of January, thousands of pilgrims come here in Uttarayini or Utraini fair to have a dip in holy water of the confluence. They worship in Shiva temple, built many centuries ago. During the Katyuri rulers, it was one of the administrative centres, near their capital (Dwarahat).

Binsar

Mentioned in the ancient copper plates, issued by Katyuri and later Chand kings, the Binsar abounds in ancient relics. At Pithoni, near the Binsar river, there is an inscription in Kutila Brahmi dating back to 650 A.D. It is a station of the Trigonometrical Survey and lies in latitude 29°42'26" and longitude 79°47'44" at an elevation of 2,441 metres from the mean sea level. It has the summer residence of the Commissioner of Kumaon and a few other houses belonging to Europeans. Binsar is equipped with a celebrated scenic beauty, where nature proclaims its supremacy over man. The view of the snowy ranges there can hardly be surpassed.

Binsar seems to have come into being as sanitorium in 1852, when Major Evans was granted seven acres of land for house. After this, some residences of Europeans were also built. Except where land was cleared for bungalows and compounds, the whole Binsar hill is clothed with forest managed by Forest Department. For those who crave for uninterrupted solitude amidst the scintillating beauty of the Kumaon hills, this ideal spot offers charming cottages.³¹

Almora

Almora is situated in latitude 29°37' north and 90°40' east. The resort and military cantonments are built on a saddle-shaped ridge of two miles in length, running in almost east-west direction with an elevation from 1,592 to 1,687 metres from the mean sea level. On the east and south the Almora hill is bounded by the Suwal river and on the west by Kosi river.³² The surrounding hills are covered with dense forest of fragrant pine. It is totally different from other hill resorts of Kumaon as it receives less rainfall and experiences hardly any fog during the monsoon season.

In the 14th century, the Chand dynasty ruled over Kumaon from the city of Champawat as capital and looked for a more central place for their capital. In 1560, Bhisim Chand selected the Khagmara hill as the new capital and named it as Almora, but unfortunately he was slain before he could move there. His successor Balo Kalyan Chand established the new capital at Almora. Thus, Almora developed not only as a capital town but also as a cultural centre of Chand rulers, until whole of the Kumaon was annexed by the Britishers in 1815. Though the resort had apparently shown signs of accelerating decay under Gurkha rule, it was revitalised and revived again as a British hill resort. Municipality of Almora was started in 1815.

The old fort now has been converted into courts and offices of Deputy Commissioner and his subordinates and the Kumaon Raja's palace as a jail. The selection of site for the Almora town was made due to its strategic position, otherwise it was to be rejected by the Britishers because of its comparatively low altitude. Nevertheless, after it had become a minor hill station, the British were made aware of the existence of other locational factors, such as microclimate.³³ Sandwith had pointed out about the climate of Almora, "The circulation of the air is much free than at Nainital and Bhimtal; and the place is perhaps the healthiest among Kumaon hill stations."³⁴ Almora is peculiarly suitable as a resort for consumptive patients. The Almora cantonment lies within the irregular boundaries and occupies most of the land lying west of the resort.

Srinagar

Srinagar is situated between north latitude 30°08' and east longitude 78°44' at an elevation of 550 metres above mean sea level and covers an area of 544 acres along the left bank of the river Alaknanda.

Srinagar was founded in the 14th century by king Ajayapal of Chand dynasty (and the founder of the present Garhwal king dynasty). Srinagar remained as capital until 1803 of Chand dynasty. Srinagar almost got wiped off in the year 1803, when the fury of Alaknanda conspired with a most disasterous earthquake. The palace looked deserted, ruined and dilapidated.

On the bank of Alaknanda, there is the ancient temple of Kamleshwar Mahadev. According to a legend, whilst in exile, Lord Rama worshipped Shiva and offered thousand lotus flowers, but on reaching Shiva, he found a lotus missing. This one flower was very secretly removed by Shiva to ascertain the degree of devotion of his worshipper. Lord Rama chose to replace the missing lotus with one of his eyes. So the place got its importance and ever since Lord Shiva is worshipped here as Kamleshwar Mahadev. In 1894, a devastating flood caused by the bursting of the Gohna lake, swept away a major portion of the town, but the temple was not damaged. The new Srinagar could not be the same as the Britishers and a few enthusiasts were attempting to modernise the settlement that came up eastwards along the crescented Alaknanda, almost two kilometres away from the lost city at a higher elevation from the older one.³⁵

The settlement was electrified in 1964 and a municipal committee was formed in 1968. Srinagar hastened its pace of growth around late sixties when national highway (No. 45) touched Badrinath. Srinagar being a cross-road centre has benefited the most by the flow of goods, men and ideas, giving a fair promise of growth in Garhwal's urban hierarchy. The establishment of Garhwal University in 1973 offered both challenges and opportunities to local people and development authorities to establish a hill town.

Srinagar is a suave small pilgrim town enroute to Badrinath--Hindus' super Himalayan resort. A cross road settlement sprawling into the pleasantly spacious Alaknanda valley, it serves to numerous pilgrimages and pleasant resorts of Garhwal, viz, Badrinath-Kedarnath* (with all their adjuncts), Gaucher, Joshimath, the Valley of Flowers, Hemkund, Nanda Devi, Rup Kund and leads to many moors and meadows, scenic routes, roadless areas of exceptional solitude and

* Five Badries are associated with (1) Badrinath, (2) Dhayan Badri, (3) Yog Badri, (4) Bhavishya Badri, (5) Narsingh Badri, with five Kedars (1) Kedarnath, (2) Tungnath, (3) Rudranath, (4) Madhya-Maheshwar, (5) Kalpeshwar. Hindus' famous five prayagas (Deoprayag, Rudraprayag, Kamprayag, Nandprayag and Vishnuprayag) also fall along the pilgrim route (Fig. 10).

wilderness that trekkers and trailors ardently seek. Srinagar also hosts mountaineers and expeditionists bound for gigantic glaciers and challenging summits, found in Chamoli district.

Uttarkashi

Uttarkashi is situated on the bank of Bhagirathi on the way to Gangotri at an elevation of 1,153 metres from the sea level. It is the resort of historical monuments, temples, *ashrams* and *dharamshalas*. Among its many temples, the temple of Lord Vishwanath is the most important. Shakti temple is located just in front of the famous temple of Vishwanath, which is dedicated to Goddess of Energy. A massive old brass trident which projects from it carries an inscription in Sanskrit. According to this, the temple of Vishwanath was built by king Gyaneshwar, whose son Guh was a great warrior and had the trident forged.

A point of historical interest is the building which is used as inspection house. This building was constructed by the Peshwa ruler Nana Saheb Dhundu during his exile.

There is a training centre for mountaineering and trekking at Nehru Institute of Mountaineering where young girls and boys are trained.

Bhimtal

Bhimtal is one of the largest lakes situated in the district of Nainital. The lake itself lies at an elevation of 1,372 metres above the mean sea level in latitude 29°21' north and longitude 79°84' east.³⁶ In 1871, the length of the lake remained 1,703 metres and width between 190 metres and 460 metres. Its greatest depth is measured at 265 metres and least depth towards the middle is near about 5.4 metres. There is an old temple on the bank of the Tal, erected by Baj Bahadur Chand, a king of Kumaon in the 17th century. Beyond the embarkment there is a dak bungalow and at a short distance further north is an inspection bungalow belonging to the Government estate. At the southern end of the lake a small bazar has developed.

A dam has recently been constructed at the upper end of the lake, with an object to preserve the fishing. No fishing is permitted in the lake without having a licence issued by the Deputy Commissioner. At the north end of the lake there is a camp for the Boer prisoners of the war, which was established in 1902. A small sanatorium has also been

built in Bhimtal, which though situated at an elevation of 1,525 metres, was discovered to be malaria-free and considered very healthy.³⁷

Mussoorie

Mussoorie, the most representative of Himalayan beauty among the spots and rightly therefore known as the 'Queen of the Hills', is situated at an elevation of 2,005 to 2,430 metres above the mean sea level in north latitude 30°28' and east longitude 78°61' on the southern slopes of Lesser Himalaya. It lies on the first range of the hills, lying east and west parallel to the Siwaliks and on lateral spurs thrown out to north and south.

The Doon region was under Gorkha rule before it passed to the East India Company after the Gurkha war in 1816. A few years after the British occupation, some Englishmen stationed in Dehradun, set out in a search of cooler climate and climbed the hills. After much exploration they decided that present site of Mussoorie was most suitable and the advantage of the place as sanatorium was recognised both by government and by public. During the first decade of the 19th century, the town started to develop, when Capt. Young constructed the first building near Mullinger. In 1826, Landour became a sanatorium for British troops. In 1828, the construction of Landour Bazar was taken in hand. The office of Surveyor General of India was set up in 1832 by Col. Everest in the building still known as park.

In 1832, old brewery was started. Wine was generally imported from Europe.³⁸ In 1834, Mr. Mackinnon opened the first school at Mussoorie. In 1836, Christ Church was erected by Rennie Tailyour of Bengal Engineers and in 1841, the Himalayan Club was formed. The subsequent history of Mussoorie is merely a record of slowly developed prosperity.

Mussoorie was the first hill station to enjoy the benefits of local self-government, which came into being in 1873. In 1880 the ex-Amir of Afghanistan Yakub Khan was placed under detention here in Bellevue Estate. In 1884, the Duke and Duchess of Connaught chose Mussoorie as their summer residence. By this time several Indian princes had been attracted to this area and built their summer residences here.

The first hospital of Mussoorie, the St. Mary's Cottage Hospital was started by Major Alpine in 1902 for the treatment of poor Europeans. In 1920, the Ford Motor Company negotiated a cart road up to Library for the first time. In 1926, a motor road was constructed up to Bhatta village about 5 kms from Mussoorie and a few years later it

was extended up to sunny views. This was subsequently extended 2.4 kms from Mussoorie up to Kincaig and further ahead up to Mesonic Lodge and Bus stand in the year 1931 and 1956, respectively.

Since 1950, Mussoorians have started the autumn festival to attract more and more tourists and visitors. A ropeway (400 metres long) was constructed in October 1970 at a cost of Rs. 6 lakhs, from Library bazar (near Allahabad Bank) to Gun hill. Many other developments (satellite centres) have been raised and improved around Mussoorie to attract tourists, e.g., Campty Fall site and Municipal garden etc. For the first time in 1969, a petrol-pump was installed at Kincaig at Mussoorie.

Nainital

Nainital is situated in north latitude 29°22' and east longitude 79°30', at an elevation of about 1,938 metres above the mean sea level. It is one of the fascinating hill resorts of the country and is famous as an important summer resort of India.

Nainital has its origin since antiquity as it is mentioned in Manasa-Khand of 'Skanda Purana' under the name of Tririkhi Sarovar, or the lake of three Rishis--Atri, Pulastya and Pulha.³⁹ Nainital is formed of two words, i.e., Naini and Tal. Naini is derived from the Goddess Naini, in whose name a temple is erected there on the bank of the lake since the establishment of the resort and Tal is synonymous of the lake.

Nainital was included in British territory in 1816. At that time the glen at the head of Nainital remained covered with dense forests. Prior to 1839, the rest of the valley was resorted to only by herdsmen of the surrounding villages, who brought their cattle during the hot season and late summer rains.⁴⁰ In 1841, the lake was discovered by Calcutta Government officials and a contractor was hired to construct twelve bungalows at the head of the lake. A remarkable development took place after 1862, when the Government of North-Western Provinces made the resort its summer headquarters.⁴¹ Church, hospital and club house were built and cantonment and convalescent depot for European soldiers and barracks for Gurkha sepoys were opened at some distance away.⁴²

Soil and slope conditions were obviously not considered important locational factors in the early years, as the Governor's house narrowly escaped destruction by a serious landslide in 1880. But, it provided a fresh landscape in the upper end of the lake which is now

named as 'Flat'. The Nainital Municipality was established in 1873.

The period of 1895 to 1901 has been an important period in the history of Nainital, when Sir Antony Macdonnell was the Governor of U.P. He appointed a Sanitary Committee in 1896. Government house, Secretariat, Crosthwaite⁴³ and Ramsay hospital⁴⁴ buildings and many school buildings were constructed. The proper sewerage system was introduced in 1943. The settlement of Europeans were on higher ground and Indians on lower one (Fig. 21). The roads of Nainital have been built during the present century.

Besides this, improvement of water works, sewerage and surface drainage works during the first quarter of the present century modified the cultural landscapes of resort. In 1922, electricity was introduced and telephone and telegraph facilities were also provided.

After 1947, Nainital continued to be the summer capital of U.P. Government till 1960. Nainital can now rightly feel proud of its beautiful lake shore, gardens, flower beds and parks with Japanese type of bridge.⁴⁵

Pauri

Pauri is situated in north latitude 30°8'59" and east longitude 78°49'8" at an elevation of 1,814 metres above the mean sea level. Pauri has been the district headquarters and court of Asstt. Commissioner of Garhwal since 1840. Pauri is built on the ridge separating the headquarters of the Kanduigadh from that of Randi river. It is on the northern side of a high ridge and faces the snowy ranges which are visible from all parts of the resort. Pauri's surrounding is an area of imaginative scenery, incredible landscapes, bathed in summer by warm sunshine, sometimes swept by low-lying clouds and misty veils. There is a station of American Episcopal Methodist Mission, established in 1864 in Chopra, 1.7 kms from Pauri.⁴⁶ There is also an orphanage attached to Mission. A government school was started in 1872. There is a large government garden at Gadoli, about five kilometres from Pauri on the same ridge to the south-east. There is an excellent garden containing English fruit trees of all kinds which is used as a nursery for their distribution all over the district.

Chakrata

Chakrata, developed as a cantonment for British troops in Dehra Dun district (1866), is situated in north latitude 30°32'20" and east

longitude 77°54'30" at an elevation of 2,135 metres above the mean sea level. The cantonment, which covers an area of nearly 20-23 sq. kms, lies on two separate hills, Chakrata and Kailana, joined by the neck of land, known as Kailana neck prior to 1866. The site of the present cantonment consisted of a range of grass-clad hills with forests. The choice of its location had been initially determined by strategic factor. Colonel Hume of British Army found Chakrata most ideal to station the British troops and it was the year 1866, that work was started for the establishment of the cantonment. But, no troops reached here until 1869. Meantime, some sappers were stationed here.⁴⁷ Those were succeeded by H.M's of 55th Regiment under Colonel Hume. For the first year, the troops were engaged in road-making, clearing sites and occupying temporary huts but later on substantial barracks were built. A magnificent 131 kilometres long cart road now connects the station with Saharanpur via Timli and Kalsi. At present only one regiment is stationed here, but sites have been cleared for the accommodation for others and also for convalescent depot.

Ranikhet

Ranikhet is situated in north latitude 29°50' and longitude 79°26' at an elevation of 1,829 metres above mean sea level. Ranikhet, literally means Queen's field. According to a legend, a queen encamped here and settled down somewhere near the present site of Ranikhet club and gave the name of locality. Whatever has been the source of this legend, the hill resort has properly justified its name. Ranikhet is a beautiful hill resort and a cantonment. A cantonment, which housed British troops throughout the summer during British rule, was built at Ranikhet in 1869, nearly 80 kilometres away from Nainital (Fig. 40). Ranikhet is protected from the south-west monsoon by high plateau which shields it from the heavier rainfall of many Himalayan hill resorts and thus it enjoys a more equitable climate. Its total rainfall is 102 cms, just more than half that of Nainital.

Chaubattia, situated nearby has been used as sanatorium for British troops, allowing no accommodation for civilians. Now it has been converted as Government Fruit Research Centre. The snowy peaks visible from Ranikhet from left to right are Bandar Punch, Jaulikund, Badrinath, Neelkanth, Kamet, Mana, Trishul, Dunagiri, Nanda Devi, Nandkot, Pantchauli, Tilkot etc. The beauty of Ranikhet appealed and conquered the heart of Lord Mayo, who had been the Viceroy of India during the years 1869-72. Enchanted by the scenic beauty, he gave

serious thought of shifting the army headquarters from Simla to Rani-khet.

A forest nursery of U.P. Government is situated near the cantonment which covers the area of two and half acres. After Independence, a drug factory was also established there 3 kms away on the road running to Ramnagar. The factory is engaged in the research work and production of Ayurvedic drugs from medicinal herbs.

Kausani

Kausani is situated at an elevation of 1,890 metres above mean sea level. According to a traditional folklore, Kausani has been a worship place of famous Muni Kaushik, hence named as Kausani. The origin of existing settlement took place in the British period when the site was allotted to Norman Troop, a British soldier in 1884. He developed it into an excellent tea estate. With the development of an estate some residences were constructed which can be seen at present in the form of State bungalow and prayer hall of Anasakti Ashram. Similarly, the tea workshop of Norman Troop has been converted into a school building, i.e., Boy's Own Higher Secondary School, Kausani.

In the early part of the 20th century, activities of District Board were extended throughout the area. The road connecting to Bageshwar was constructed and a rest house was also built. The work of tea cultivation could not be carried out successfully after the departure of Norman Troop in 1916. A military personnel settlement scheme was implemented just after the second world war and this land was given to soldiers on lease basis.

Kausani gained much prominence first of all in 1909 during the twelve days stay of Gandhiji. He wrote his commentary on sacred book *Srimadbhagwat Gita*, known as *Anasakti Yoga*. He was very fascinated by scenic beauty of this place and called it as "Switzerland of India".

After the independence of the country, the resort experienced rapid development in all respects. In 1947, Sarla Bahen, a favourite pupil of Mahatma Gandhi established here an Ashram, viz., Laxmi Ashram. The followers of Gandhiji converted Zila Parishad Rest House and Normal Troop manager's residence as Anasakti Ashram in 1964. Kausani developed up to a great extent after 1956 as the road connecting Almora and Bageshwar was metalled by then. Kausani was linked with the important historical, religious, cultural and tourists places in the north and the areas of plains in the south.

The traffic pattern of the place improved a lot and a number of facilities developed automatically to cope with the demand. These facilities pertain to education, electricity, water supply etc. Zila Parishad and Forest Department constructed rest houses of their own. Only a few years back, the Mountain Division of Central Command was shifted to neighbouring area. Now there is every sign of development of Kausani in future.

Bhowali

Bhowali, a small health resort, with an excellent climate, lying at a distance of about 11 kms from Nainital, is situated at an elevation of 1,650-1,750 metres above the mean sea level.⁴⁸ The slopes are densely covered with the trees of pine, oak and the air as a result is particularly fresh. It is an export centre of the hill fruits and noted for its apple orchards. As the climate of the place is reputed to be very healthy due to enclosed pine forests, the crisp salubrious air makes it an ideal spot particularly for tuberculosis patients. It has, therefore, the best sanatorium in Uttar Pradesh.⁴⁹ In 1908, a turpentine factory was established in the southern corner of the market, but it was soon damaged in 1918 due to a serious fire. The factory was then shifted to Bareilly in the plains. The resort has a sizeable service area. It is a nodal point for transportation. All the roads from plain to hill areas pass through Bhowali. It is the collecting centre for hilly fruits, e.g., apples, apricots, plums, pears etc.

Lansdowne

Situated at an altitude of 1,776 metres, Lansdowne was founded in 1886 to accommodate three battalions of native troops in the Garhwal district.⁵⁰ It has been a cantonment for British troops, established by Commander Lord Robert. The first regiment was stationed in the area on April 20th, 1886, when the cantonment was not established, the place was then called 'Dada' means 'Hills'. Lord Robert named it as Lord Lansdowne but now it is called only Lansdowne dropping the first name Lord. There were three battalions stationed on 4th November, 1889, i.e., Garhwal regiment under the Commandership of Brig. Genl. Murrey, Gorkha regiment under the same commandership and Kumaon regiment under the commandership of Lt. Col. E.M. Mainwaring.

The construction of regimental building was started in 1890 with the Kamleshwar temple construction. The Cantonment Board was

established in 1906 for further development of the place.

The shops started developing after 1901. The second cantonment was built for Garhwal regiment in 1909. The Kumaon regiment building was established in 1910, Mainwaring road, Fatehpur road and Robert Avon road were also built in the same year. In the meantime a road was constructed by P.W.D. from Lansdowne to Dogadda. Some roads were constructed by M.E.S. too.

Jeolikot

Jeolikot is situated at an elevation of 1,219 metres. It is a health resort and bee-keeping centre of U.P. Government. An attraction for butterfly catchers, Jeolikot is visited not only by apiculturists but also by tourists who come to learn about the birds and the bees. With its mild climate, Jeolikot is an ideal place for people who cannot go on high altitude.

Gwaldam

It is situated about 14 kms from Baijnath. The main highway No. 37 goes to Bageshwar and side road branches off to Gwaldam. This is a delightful route as along with the presence of birds adding a winsome note, one passes through terraced fields and thick pinesets against a backdrop of the Himalaya, and one can watch the Trisul peaks coming closer. Gwaldam with its salubrious climate is a little heaven nesting in the woods. In this area there are several orchards, generally of apples.

Mukteshwar

Mukteshwar⁵¹ is situated at an elevation of 2,280 to 2,400 mts in north latitude 29°28' and east longitude 79°40'. The Mukteshwar range stretching from NW to SE direction forms a comparatively high ground in the area. A splendid panoramic view of the snow-clad Himalaya can be seen from early summer to late autumn from here.

Mukteshwar is named after the temple of Lord Shiva. In ancient times the place was of little importance and known only for its old temple Mahadeo. The people of surrounding villages used to visit the temple only on holy occasions. Now the place is famous because the headquarter of Indian Veterinary Research Institute (I.V.R.I.) was established here in 1893. The institute owns a small thermal power station, built during the British period. Now an additional hydel power

line has been extended to this place after 1960. Recently a sub-station of Central Potato Research Institute has also been established at Mukteshwar. It has a meteorological station established in 1901. The western and north-western slopes of Mukteshwar range are occupied by orchards of local hilly fruits.

Gopeshwar

Gopeshwar is situated on the left bank of the Balasati stream, a tributary of river Alaknanda. The main attraction of Gopeshwar is the massive Shiva temple. As far as the grandeur and architectural style is concerned, it is next only to that of Kedarnath. The temple was repaired during the first decade of the present century by Umar Singh Thapa, a Gorkhali General. It sprawls over a large area. A huge trident, standing in the courtyard of the temple bears some inscriptions which have been attributed to a Gorkha ruler of the nineteenth century. Some of these inscriptions may even date back to the sixth or seventh century A.D. There are several broken idols around the temple which make us believe that there had been some more temples in Gopeshwar in ancient times.

Gopeshwar with its pleasant climate is located only 11 kms away from Mandal and it is being developed in a planned manner as a new headquarter of district Chamoli since 1960. Most of the district offices have been shifted here from Chamoli. A town plan has been prepared and approved by the government in 1962. The residential buildings for officers have also been constructed.

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Chapter 4

Distributional Pattern of Hill Resorts

As a cultural artifact, hill resorts make a bold appearance on the dominantly physical landscape of the hilly and mountainous regions.¹ These resorts are scattered, no doubt, over the whole of India, but most of them are located along the Himalayan front. U.P. Himalaya, although covers the land from 29°5' north to 31°25' north latitude, resorts are located only up to 31° north latitude, because of high altitude and low temperature in the northern region. Altitude, terrain, micro-climate, scenic beauty, accessibility, personal interest of founders, political constraints, strategic importance, plural societies and reputation of a locality have been identified as chief determinants of the locational and distributional pattern of hill stations of India.² Religion and availability of technology may also be listed as additional factors. Here in the present chapter the main purpose is to conduct a comprehensive distributional analysis, in the light of observations made earlier regarding the hill resorts of U.P. Himalaya.

Our specific objectives are (1) to identify the nature of sites of various resorts, (2) to distinguish the peculiarity of considerations involved in the selection of resort sites during the pre-British, British and Post-Independence periods, (3) to discern the relationship between the site and reputation of resorts, and (4) to examine the impact of site conditions on the resort morphology.

Altitude

Altitude had been the dominating factor in determining the sites of British health sanatoria and cantonments. The area of such stations either lies above 1,829 metres from the mean sea level, which is

beyond the approach of tropical diseases, i.e., malaria, ancylostomiasis and cholera or below 2,287 metres, which is free from mountain sickness or disturbing cardiac and thyroid action, which occur with increasing frequency in higher altitudes. L.D. Stamp has also marked suitable site between 1,525 to 3,048 metres for the hill station³ (Fig. 18).

Climate

Climate has the capacity to make the location of any place less or more suitable. The high ranges of Himalaya, in which the early resorts were built had been retained because of the invigorating nature of their climate. The choice of British hill resorts remained the question of scenic beauty, particularly the presence of green grasses and woodlands. All the early high altitude resorts of U.P. Himalaya had spectacular views of snow-peaked mountains.

Accessibility

One of the most important factors to be considered in selection of site of resorts has been accessibility. The concept of accessibility was not based only on distance and availability of means of transportation but also social factors, such as political access and control. As the means of transportation improved, hill resorts became more easily accessible to a larger number of people. Only for army cantonments, the strategic view point remained more important than the accessibility. For the establishment of hill resorts Britishers needed territory to acquire from neighbouring native princes, hence were not always able to obtain chosen sites for the purpose. British cantonments were established close to the territories of hostile hill tribes and acquiring strategic importance, e.g., Chakrata, situated on a mountain road between Mussoorie and Simla. Ranikhet and Lansdowne were also selected as suitable centres for army training purposes.

Interest of Founders

The personal interest of founders has been often decisive element in hill resorts location, specially regarding the British hill resorts. The reputation of certain locality also played an important role in the final acceptance or rejection of a particular site as hill resort. The Britishers

superimposed the idea of hill resorts on the landscape having no consideration about Indian's prejudices or the historical knowledge of social and traditional norms and superstitions hence reputation played only a minor role in this regard atleast in U.P. Himalaya.

Plural Societies

The element of plural societies also determined the decision of hill resort distribution up to considerable extent. One would hardly expect the British Governor, army commanders or Indian princes to spend their vacations or to establish a permanent settlement at an inferior site, while the Eurasian students, army personnels occupied an ideal site just near the previous one. Though social arrangements were often fitted into the internal organisation of a single hill station as for example at Mussoorie and Pauri, the cantonments sometimes caused the establishment of neighbouring hill stations, as such at Landour, Lansdowne respectively, with other satellite hill stations.

Different types of soil, undulating slopes, various formations of bed rocks and landforms on one hand create the natural beauty of the area and on the other give birth to erosion or landslides generating undesirable factor of hill resorts. U.P. Himalayan hill resorts often suffer from the damage from frequent landslides.

Distribution of Hill Resorts

The distribution of hill resorts of U.P. Himalaya in 1980 is shown in Fig. 15. It is quite evident from the figure that there is certainly no regularity in the distributional pattern of the hill resorts in the region. The southern portion consists of more resorts (nearly 63 per cent) in comparison to northern portion. Most of the resorts are characteristically located along the roads because when man travels, he selects the easiest crossing of mountains, hills and minor obstructions and his movements are channeled through valleys and overpasses leaving large areas virtually untouched on either side. The road attracted people and the settled areas in this region developed virtually around these main routes of travel. The map of distribution of resorts (Fig. 15) shows how clearly hill resorts are allied to their means of transportation. A general classification of hill resorts of U.P. Himalaya, according to their sites, period of prominence and reputation of resorts has been shown in Appendix Table 2.

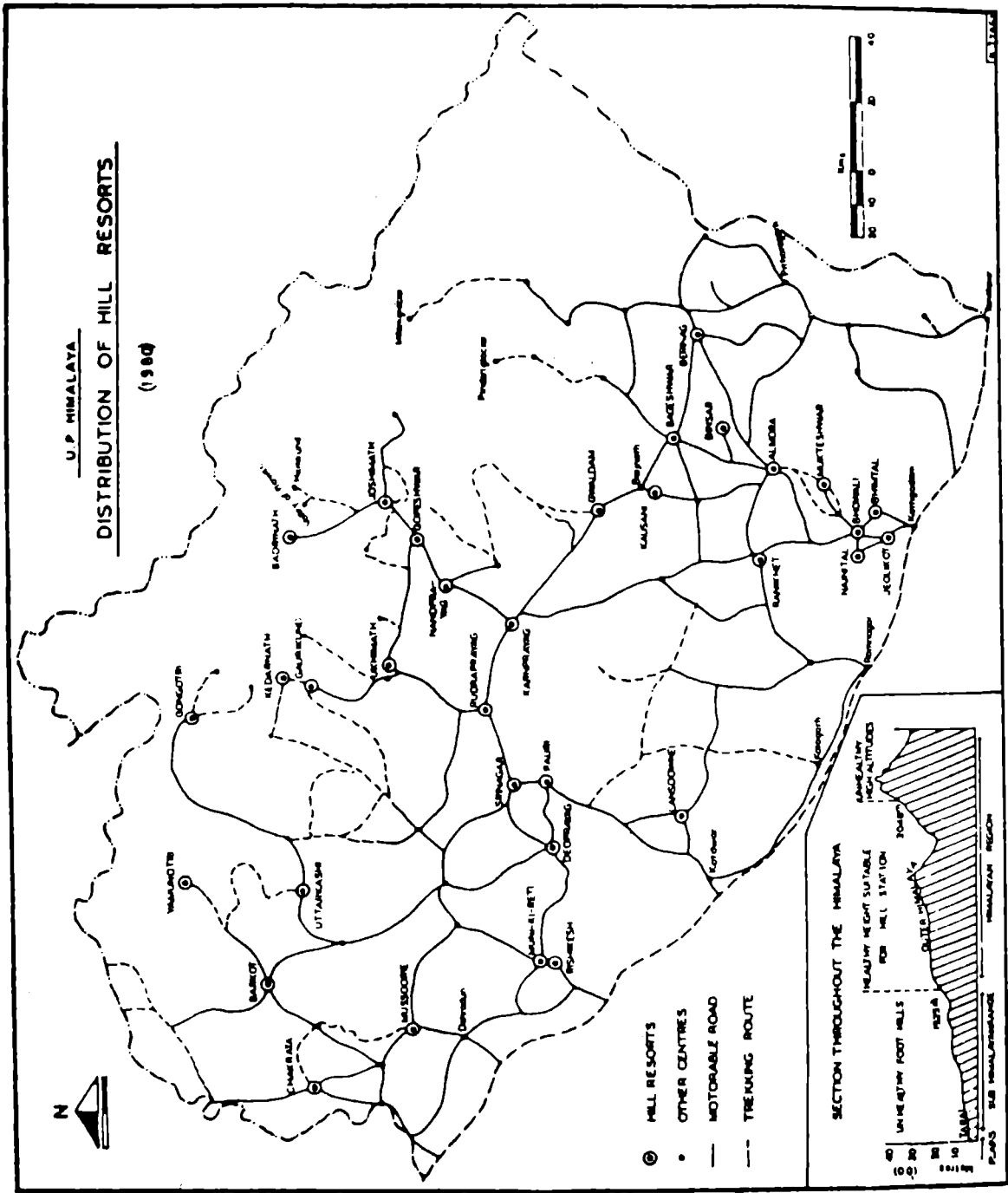


Fig. 15. Distribution of hill resorts.

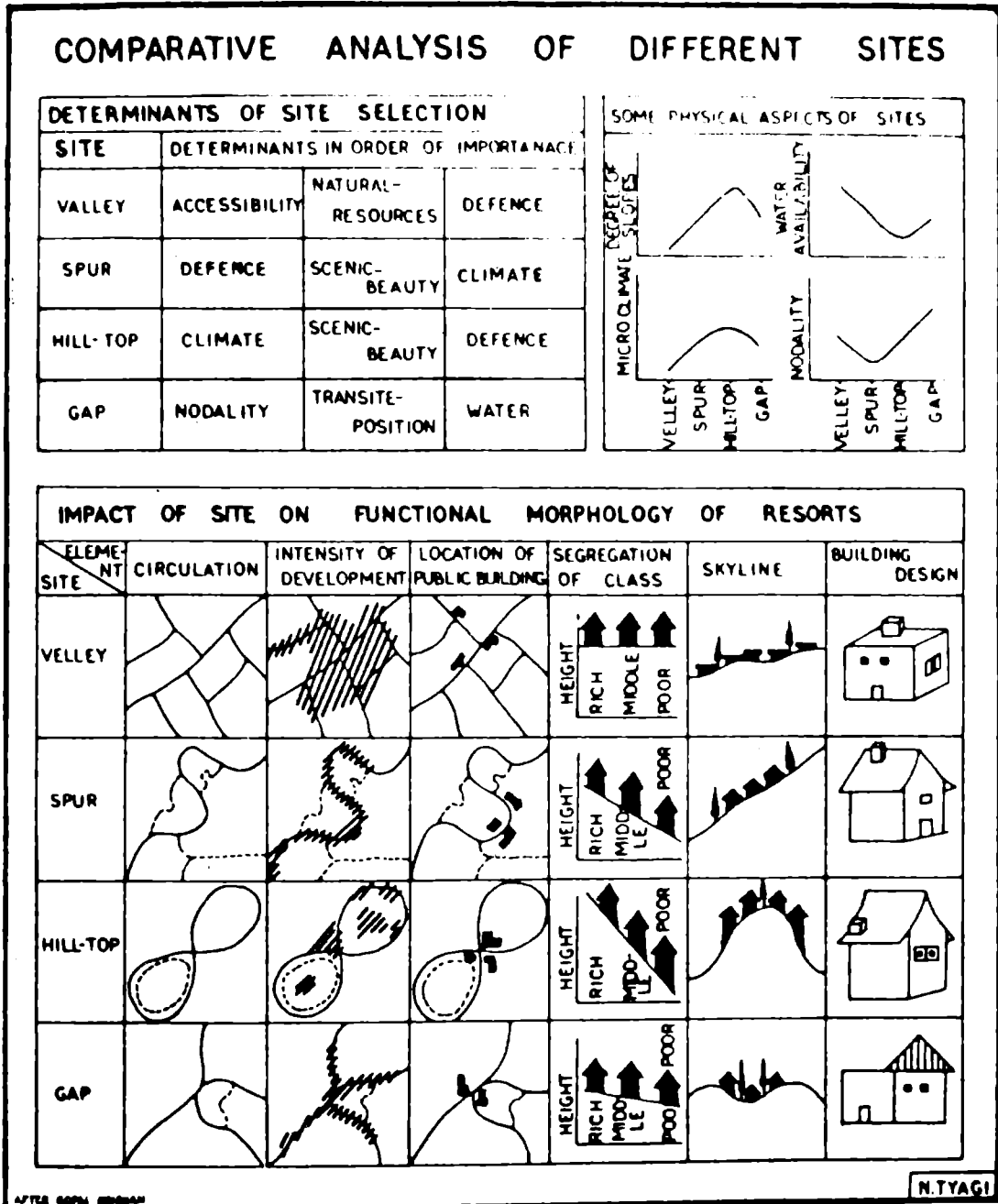


Fig. 16. Comparative analysis of different sites.

Distribution of Hill Resorts According to their Sites

Site stands for the ground on which a settlement is spread over. According to Smailes, the site denotes "the ground upon which a town stands, the area of earth it actually occupies,"⁴ while Dickinson describes, "The site embraces the precise feature of terrain on which the settlement began and over which it has spread."⁵

Site plays a decisive role in shaping the size and distributional pattern of resorts. The site of a resort invariably influences its development, that is clearly discernible throughout its history. Although no towns have sites exactly similar, it is not difficult to recognise well-defined categories of town sites.⁶ Certain physical features have favoured the settlement sites and provided a basis for classification of resort according to their site types. As with the sites of towns, so with their situation, the geographer is led to recognise their categories and towns may be commonly and usefully classified on this basis. The different resort sites, thus, possessed comparative advantages and disadvantages. The choice of a particular site was dictated, among other things, by the original function, it was supposed to perform technology available with the founders of the town and merits of the locality in a wider regional context. Resorts of U.P. Himalaya as in other areas, are found occupying sites of different nature (Fig. 16). On the basis of physical attributes of their sites, these resorts may be classified into four categories as shown in Fig. 17 and in Table 4.1.

Table 4.1. Distribution of hill resorts according to their sites

<i>Site of resorts</i>	<i>No. of resorts</i>	<i>Percentage</i>
Valley	18	54.5
Spur	10	30.3
Hill top	3	9.1
Gap	2	6.1

Table 4.1 reveals that among the 33 resorts 54.5 per cent are situated in valleys, 30.3 per cent on spurs, 9.1 per cent on hill tops and 6.1 per cent in gaps. The location of hill resorts ranges between 1,900-2,400 metres of altitude while the gap and the spur resorts between 16,00-2,400 metres.

Valley Sites

Valley have been the most suitable site for the development of resorts. All the ancient period resorts were developed in valleys, due to advantage of centrality in relation to surrounding areas, adequacy of space for physical expansion, easy accessibility of water and convenience of laying out transport and utility services network. The river provided natural defence in the past. Such sites also involved some loss of fertile land, which is scarce in hill and mountainous regions.

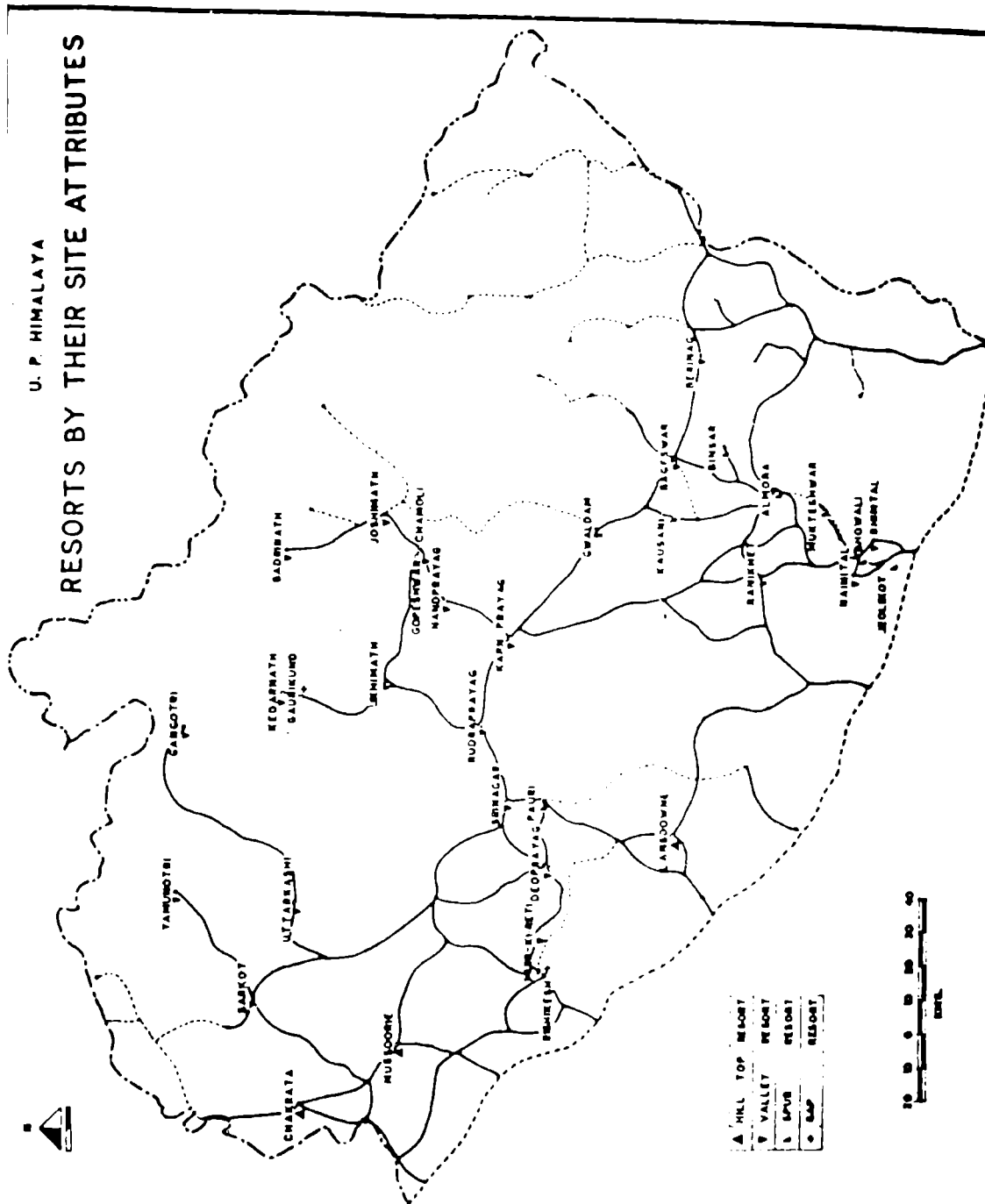
Among all the valley sited resorts 61 per cent are located in Ganga valley, 11 per cent in Yamuna valley, and 5 per cent in Kali valley. Remaining are located on the banks of lakes or along important routes. Valleys or lake sides have been cradle for the development of such resorts. Nainital is situated in a ring pattern around a lake, which has been the main cause for the origin and development of the resort. Other valley resorts are Badrinath, Kedarnath, Deoprayag etc. Nearly all the pre-British resorts occupy their sites in valleys.

Hill Top Sites

Hill top sites had the advantage of a healthy climate, scenic beauty, strategic position and free drainage in comparison to other sites. Their disadvantages were virtual absence of flat land, lack of water supply and inconvenience in intra-resorts mobility. In spite of these disadvantages some British hill resorts had developed on hill tops due to their healthy climate and scenic beauty. Britishers collected all the requisite facilities in such resorts, which remained rather costly. Among such resorts the site of Mussoorie was selected due to scenic beauty and healthy climate whereas the site of Chakrata and Lansdowne was preferred for strategic point of view.

Spur Sites

Transitional between the valley floors and hill tops, spur sites enjoyed the benefits of natural defence, panoramic landscape and moderate climate. They involved only a limited loss of agricultural land. Such sites, however, restricted accessibility from their environs. Intra-site mobility remained also difficult. Landslides were quite common and space for expansion was limited. Most of the British resorts are situated on spurs and enjoyed natural defence and moderate climate



with scenic beauty. Among these resorts Almora, Ranikhet, Pauri, Binsar, and Kausani may be mentioned.

Gap Sites

Gap sites, by their very nature, enjoy nodality. The convergence of routes in the gap made them favoured transit points. Water supply was no problem. Physical expansion was however difficult since gaps generally provided limited sites. Such sites are occupied by Rishikesh and Gauri Kund (Fig. 17).

Thus, all the sites have their own merits and demerits and origin and development of resorts at particular sites depend on them. They not only determined the trend of development of resorts but shape and size also. The population size of resorts by far found some relation with their locational sites. Valley resorts are comparatively large, spur resorts of medium size and hill top and gap resorts considerably small in size. Nainital, for example, situated in valley has the largest of population (26,093 in 1981) in the region, Mussoorie with 18,233 in 1981 is an exception in hill top resorts and enjoys because of its status and a tourist centre of international repute. Almora, the district head-quarter, situated on spur has the second highest population in the region (22,758 in 1981).

Distribution of Hill Resorts According to Period of Prominence

Depending on the basis of period of prominence, the resorts of U.P. Himalaya may be classified into three categories, i.e. pre-British, British and post-Independence period (Table 4.2).

Table 4.2. Hill resorts according to period of their prominence

<i>Period</i>	<i>No. of resorts</i>	<i>Percentage</i>
Pre-British	20	60.6
British	12	36.4
Post-Independence	1	3.0

Table 4.2 Very clearly reveals that more than 60 per cent resorts of U.P. Himalaya pertain to pre-British period and gained their prominence of high magnitude. During British period nearly 36 per cent hill resorts registered their prominence. There has been only one hill resort of post-Independence period, i.e., Gopeshwar.

Pre-British

During the pre-British period (before 1815, when the British registered their first entry into the region on the eve of Anglo-Nepalese war) the consideration of effective administrative control over the acquired territory, defence against invasion from outside, central position and regular water supply were paramount. Resorts like Badrinath, Kedarnath, Gangotri, Yamunotri, Joshimath, Uttarkashi, Bageshwar, Muni-ki-Reti, Rudraprayag, Deoprayag, Kamprayag, Nandprayag, Barkot and Srinagar evolved during this period and occupied valley sites, conveniently accessible to environs and simultaneously enjoying a state of natural defence. Almora, Ukhimath and Gwaldam have been the only exception being spur resorts of this period. Strategic location and pleasant climate had been the main factors behind the choice of their sites. The religious resorts have developed around the famous holy shrines which had been set up by saints at sites of exquisite natural beauty on the bank of perennial rivers where devotees could perform their penance and meditation in a calm, peaceful, serene and sublime atmosphere.

British

Resort sites during the British period were typically associated with hill-tops and spurs. Table 4.2 shows that twelve resorts have developed during this period. Mussoorie, Chakrata and Lansdowne were developed on hill tops and Bhowali, Kausani, Binsar, Mukteshwar, Pauri, Ranikhet, Jeolikot on spurs during this period. Nainital, the best resort and summer headquarter of Britishers and Bhim Tal are the exception of this time, as they are situated in valleys. The Britishers were keen towards the selection of site, offering a healthy climate, panoramic view and strategic location. Hill top answered these requirements the best. Matter of local water supply and problems relating to journey to hill tops could be taken care of since the new founders of resorts were equipped with relatively superior technology.

Post-Independence Period

Only three per cent resorts of U.P. Himalaya have developed during post-Independence period. Economic considerations dominated during the post-Independence period; since 1947, Gopeshwar, the only resort of this period, is situated in valley at a confluence point.

All resorts including British and pre-British have developed as tourist resorts to commercialise the natural beauty of their sites. Thus, there has been evidently a marked contrast between site characteristics of resorts originated during the pre-British period and those emerged during the British period. The former were distinguished by their valley sites and later by hill tops and spurs. Economic consideration rather than physical attributes became more important in case of post-Independence resorts.

Distribution of Hill Resorts According to Their Reputation

According to their reputation, the hill resorts of U.P. Himalaya may be grouped into five categories as shown in Table 4.3.

Table 4.3. Hill resorts according to their reputation

<i>No.</i>	<i>Reputation</i>	<i>No. of resorts</i>	<i>Percentage</i>
I	Religious	14	42.5
II	Administrative	5	15.1
III	Health and tourism	8	24.2
IV	Defence	3	9.1
V	Trade	3	9.1

It is evident from Table 4.3 that the highest percentage (42.5) of resorts according to their reputation comes under the perview of religious. Next higher percentage (24.2) comes for health and tourism sector followed by resorts of administrative reputations. Defence and trade reputed resorts occupied equal share, i.e., 9.1 per cent.

Religious

Religious resorts of U.P. Himalaya developed mainly during ancient period and got their sites in valleys either on the bank of perennial rivers or on the confluence points. They follow mainly the courses of Ganga, Yamuna and Alaknanda rivers. As the means of transportation were not well developed in ancient period, rivers provided main source for the connections. Gangotri and Yamunotri temples were developed at the origin points of the river Ganga and Yamuna respectively, giving way to other resorts to be developed at suitable sites along the down courses. The Ganga attaining the sacred reputation by

Hindus, attracted religious resorts towards her banks. Religious resorts developed on the river Ganga are Rishikesh and Muni-ki-Reti below Deoprayag, where its two important source rivers, i.e., the Bhagirathi and the Alaknanda make their confluence point. Other religious resorts Rudraprayag, Srinagar, Kamprayag, Nandprayag, Joshimath, Badrinath etc. are located on the bank of river Alaknanda and Uttarkashi on the river Bhagirathi. Alaknanda valley attracted more religious resorts (nearly 64 per cent) as it leads the way for pilgrims to Mansarovar and Kailash, the well known abode of Lord Shiva. All prayags (Fig. 10A) are located on the confluence points in this valley. Kedarnath and Gaurikund are sited on the bank of the river Mandakini, an important tributary of the river Alaknanda.

The Kali river makes eastern boundary of U.P. Himalaya, therefore, a small area in her right is drained by small tributaries. Bageshwar is located on the bank of Kali's tributary, i.e., Sarju where tributary of the Sarju, i.e., Gomti makes her confluence (Fig. 4). The Yamuna bore only one religious resort, i.e., Barkot apart from Yamunotri.

Nearly 37 per cent religious resorts are located in the northern part of the region, because this region was hardly accessible, aloof, quite panoramic and fit for worship and penance. The religious resorts are mainly valley resorts specially marked by organised development trade as one of their functions.

Administrative

Irrespective of their origin during the pre-British and British period, many of these resorts emerged due to advent of administration or administrative activities. They were either placed as capital of the erstwhile Princely States or the headquarters of the district or tehsil during the alien reign. Only Gopeshwar was developed as district headquarter after the independence of the country. Hence, administrative resorts pre-dominated both in valleys and on hill tops and spurs. Administrative activities are dominated in Uttarkashi, Pauri, Almora, Gopeshwar and Srinagar.

Health and Tourism

Such resorts have been developed during British period due to attraction and allurements of climate, scenic beauty, snow views etc.

Hence, these health and tourism resorts are mainly situated on the hill tops and spurs. Nearly all such resorts are located in the southern part of the region. The basic economy of these resorts is based on tourism. These resorts originated and developed due to their lovely and attractive sites and environs. Nainital has developed around the beautiful lake, i.e., Naini, which remained by far the main factor for its sustenance and development. Other health and tourist resorts are Bhimtal, Bhowali, Binsar, Kausani, Mukteshwar, Mussoorie and Gwaldam.

Defence

Strategic location has also been an important factor for the development of resorts during British period. Such resorts are mainly established on hill tops and spurs. Chakrata and Lansdowne are situated on hill tops and Ranikhet on spur. In case of Almora strategic location also remained an important factor in its origin but at present, the administrative factor is dominant. Chakrata, Lansdowne and Ranikhet are well known defence-oriented resorts of U.P. Himalaya.

Trade

Trade resorts are developed in valleys especially along the main routes. Rudraprayag, Bageshwar and Jeolikot are important trade resorts. Rudraprayag is situated on the bifurcation point (waterdivide) of Kedarnath and Badrinath. Bageshwar is the trade centre for hilly goods. Although Jeolikot is a health centre, its main business is the trade of honey.

Spatial Distribution of Hill Resorts

In U.P. Himalaya, resorts are generally widely spaced (Fig. 18). The concentration of resorts is no doubt higher in the southern part of the region in comparison to north. The pattern of such distribution of resorts in U.P. Himalaya is an outcome of rugged topography, patches of forests, condition of transportation and communication facilities and congenial environment. This qualitative description of distribution provides no aid to our study in respect of rationality and usefulness. At the same time the quantitative analysis of areal distribution to discern the presence and form of patterns of phenomena is of great interest to geographers. Therefore, an attempt is made here to elabo-

rate the distributional pattern of hill resorts of U.P. Himalaya in a quantitative manner.

To describe the spatial distribution of resorts, the widely accepted method of 'Nearest Neighbour Analysis' is applied here for this purpose.

Nearest Neighbour Analysis

The geographer's task is to evolve a technique of analysis which differentiates between clustered and dispersed spatial distribution and at the same time he tries to distinguish between amount (degree) of clustering or dispersal. No doubt, this (Nearest Neighbour Analysis) method quantitatively defines a scale related to three absolute benchmarks. The scale, in effect, measures the degree of departure of an observed spatial distribution from a theoretical random distribution. The maximum departure at one end of the scale is absolute clustering (all points falling at the place) and at the other end of the scale is absolute dispersal (all points distributed in a hexagonal pattern, each point being equidistant from six other points).⁷

An approach to this type of expression has been derived in the studies of plant ecologists, i.e., Dice,⁸ Clark and Evans,⁹ Moore¹⁰ and Thompson.¹¹ For the first time in 1960 M.F. Dacey used this method in geography, through his series of papers.¹² He applied Nearest Neighbour Analysis to show the spacing of towns (central place). Later on the study of spacing of urban places through Nearest Neighbour Analysis got due attention as an important academic discipline and as a base for decision making in administrative, industrial, commercial and social affairs.

Nearest Neighbour Analysis is a straight line (crow fly) measurement of the distance, disuniting any phenomena and its neighbour in space and was originally developed by plant ecologists, Clark & Evans. The central concept of Nearest Neighbour Analysis is randomness. When there is complete absence of a systematic pattern of points, it is called random. A pattern that is not random becomes either more clustered than random or more uniform than random. In this method one measures the departure from observed spatial distribution to a theoretically random distribution between two extremes, i.e., clustered and dispersed pattern.

The scale of distribution is referred as an *R* scale or Nearest Neighbour Scale and the values of individual *R* can be calculated with

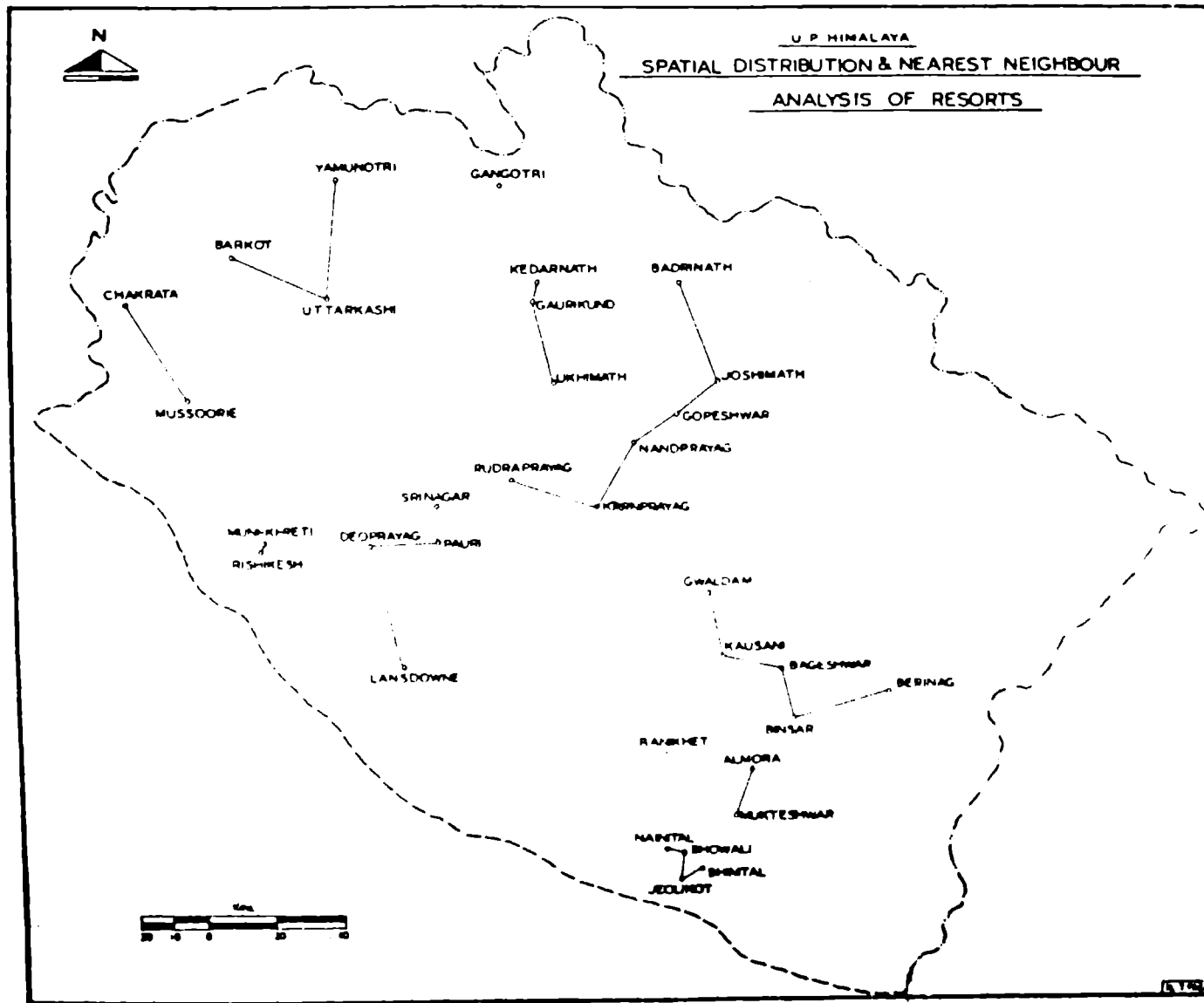


Fig. 18. Spatial distribution and nearest neighbour analysis of resorts.

the help of following formula.¹³

$$R = (\bar{r}A/\bar{r}E)$$

where,

R = Nearest Neighbour Scale,

$\bar{r}A$ = the mean of the series of distances to nearest neighbours,

$\bar{r}E$ = the expected mean distance to a nearest neighbour $\bar{r}A$ and $\bar{r}E$ can be derived as follows:

$$\bar{r}A = (\Sigma r/N)$$

where,

\bar{r} = the distance from each point to its nearest neighbour which is the actual straight line measurement in any direction (A meaning 'Actual').

N = Total number of observations.

$$\bar{r}E = (1/2 P) \text{ or } (1/2(N/A))$$

where,

E = Mean "expected"

P = equal to N/A

N = Number of points

A = Total area.

The ratio of $\bar{r}A$ (observed mean distance) to rE (expected mean value) is expressed as R (nearest neighbour statistics). Individual R scores can take on any value from zero (0) in agglomeration side or absolute clustering to 1.00 towards random distribution up to 2.1491 towards uniform pattern or maximum dispersion, which is analogous to the hexagonal arrangement discussed by Christaller and others. In a random distribution a set of points over a region have the same chance receiving a point as any other area of that size assuming that the placement of each point has not been influenced by any other point.¹⁴

Spatial Pattern of Hill Resorts

In U.P. Himalaya, the hill resorts are distant from their nearest neighbours and hence the distribution is very similar to random pattern. The derived R value (1.01) for U.P. Himalaya also confirms the same result suggesting a slight dispersal (Fig 18).

Table 4.4 shows the R values for U.P. Himalaya as a whole and Garhwal and Kumaon regions separately.

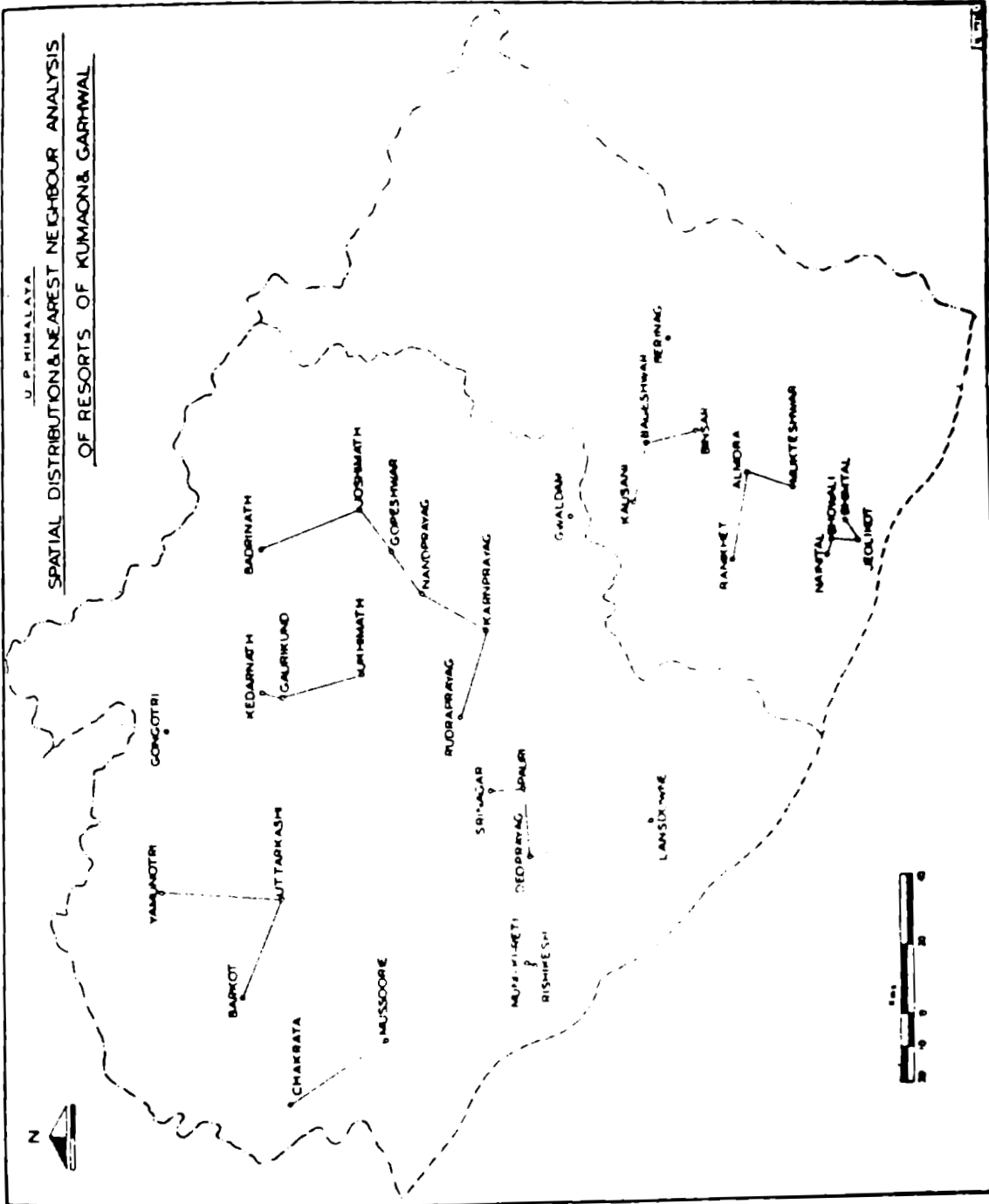


Fig. 19. Spatial distribution and nearest neighbour analysis of resorts of Kumaon and Garhwal.

Table 4.4. Nearest Neighbour Statistics 1980

Region	No. of resorts	Density of resorts per sq. km	Mean observed distance kms	Mean expected distance kms	R value
U.P. Himalaya	33	.0007	19.6145	18.9035	1.0376
Garhwal	22	.0007	21.2031	18.9035	1.1216
Kumaon	11	.0006	13.6009	20.4918	0.6637

There are 33 hill resorts in U.P. Himalaya having density of resorts .0007 per m². The mean observed distance (\bar{r}_A) is 19.6145 kms and mean expected distance (\bar{r}_E) is 18.9035 kms. The *R* value, therefore, for U.P. Himalaya is derived as $(19.6145/18.9035) = 1.0376$ (Table 4.4). Likewise, the *R* value for Garhwal and Kumaon regions were calculated and 1.1216 and 0.6637 were obtained respectively (see Table 4.4).

Although the distribution of hill resorts in U.P. Himalaya shows random pattern, (having slight dispersion) in a regional context, but sub-regions have no analogous pattern. Garhwal and Kumaon with their twenty-two and seven hill resorts respectively present somewhat random pattern but their *R* values 1.1216 and 0.6637 respectively, shows that the distributional pattern of hill resorts in Garhwal is towards dispersal and in Kumaon towards clustering. It is obvious from the map (Fig. 19) also that Kumaon sub-region contains loose clustering. Garhwal sub-region is although approaching towards dispersal, the arrangement of hill resorts is noticeably quite irregular and apart.

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Chapter 5

Morphological Characteristics of Hill Resorts

The word 'morphology' first used in the biological sciences, was defined by Henderson¹ as "the science of form and structure of plants and animals as distinct from the consideration of function." As such, the shape of animals becomes the prime aspect of morphological studies, which never exists as the permanent quality, but is subject to change with the animals' movement.² L.D. Stamp has defined it as "the science of form, structure and development, which influences the form."³ In geography, morphology is involved with the study of forms of earth surface or some other elements, such as human settlements, houses, city, village etc.

Dickinson defined that, "morphology is concerned with the plan and build of habitat, viewed and interpreted in terms of its origin, growth and function."⁴ Morphology of towns thus, reflects its functions and idea of planning and building at each phase of its development. Ratzel has remarked that, "like functions beget like forms," and in identical frame of reference "the nature of both depends on the cultural realm in which they develop."⁵

Morphological study implies the study of factors leading to its development. Morphological studies often deal with the development of forms and pattern of the present city or other urban areas through time, in short, with evolution.⁶

The influence which the city exerts on the social and economic structure of the areas help in the formation of landuse patterns. The different functional characters are found concentrated at different places. The priority is for the economic and social utility of the particular function.⁷ According to Dickinson, the uses which can pay the highest

rent at a particular place occupies the land.⁸ Once the site is occupied, it is the human or cultural factors which give the essential form, shape and sustenance to the town on a particular site according to the needs of the age.⁹

John, E. Brush¹⁰ has discussed the morphology of Indian cities with respect to existing layout of street, the arrangement and characteristics of buildings and associated patterns of landuse. Discussing about the above views, R.L. Singh pointed out that the same should be pursued not only with a view to identifying new categories and pattern or developing new classification but also for the light they throw on historical sequence and functional relationship.¹¹

Smailes, discussing the origins and bases of modern towns wrote, "not only in the service element a generally prominent feature of occupational structure of towns, specialized types of towns, notably holiday resorts have arisen to discharge particular service functions. . . A concomitant of the intense industrialization and urbanization of Great Britain, an island country with stretches of seaside now within easy reach of all major concentrations of population, has been the development of resorts on a scale unmatched in any other country. As a class of towns, resorts are here both more numerous and more highly specialized in functions."¹² Robinson¹³ has expressed that the resorts located in various countries in the world tend to display certain common features of morphology and shape.

In the present chapter, therefore, an attempt has been made to explain some of the common characteristics of morphology of hill resorts of U.P. Himalaya with the responsible factors affecting its origin and development.

Factors Affecting the Origin and Development of Morphology

Morphology is first used for biological organism. The morphology of resorts is quite different from it but the development and formation of resorts is almost alike. Three stages in the developmental biology in an embryo have been recognised: 1) histogenesis, 2) pattern formation, and 3) morphogenesis.¹⁴ The concept of process, structure and stage in the morphology of a resort almost conveys the similar meaning. Some of the factors affecting the origin and development of morphology are as under:

1) *Centripetal and Centrifugal Forces*

Two forces centripetal and centrifugal are the most important factors for the formation and development of the city morphology. For the origin of resorts, some nuclei have worked as the centripetal force, particularly religious nuclei such as temples, shrines and scenic spots like lake view, snowy view etc. They have attracted and concentrated the population and various establishments. Colby has termed the centripetal forces as functional magnetism¹⁵ and functional prestige.¹⁶

The growth of resorts is affected by centripetal forces and forms commonly the concentric growth pattern. At this stage, the centrifugal force ensues and establishments occur towards the peripheral zones. The congestion and suffocation in the heart of the resorts have caused the search of open space, which is termed as spatial force.¹⁷ When the oppressed class tends to move outward, due to increased land value and high taxes, it is termed as the force of social evolution.¹⁸

2) *Road Pattern*

The second most important factor which determines the morphology of resorts is the road pattern, which is the backbone for the development of resorts. In the beginning, they used to be the main attractive force of the resorts. As they give incentive to increasing and speedier mobility, they play an important role in developing and shaping the morphology of the resorts, particularly in the hilly regions of U.P. Himalaya, where accessibility is the main factor for the development of any type of settlement.

Roads are affected by the distribution of nuclei and developed according to the shape of the nuclei. For example, rounded and elongated lakes, rounded hill tops and spurs at nuclei have peculiar type of road development meeting their requirement (Fig. 16). Physical features in total, govern the development pattern and design of the road system.

3) *Human Creative Instincts*

The morphological set-up of functions varies because it is the outcome of human creative instincts projected through the total setting of resources and cultures within the limits of time and space.¹⁹ Indian cities are the reflection of period as Prabhu²⁰ describes that Indian towns are the collection of period pieces.

A second illuminating approach to Indian urban areas is through analysis of various parts of the complex, i.e. old (indigenous), Anglicised and newly developed planned areas. Indigenous and Anglicised are two types of developments and almost in every resort they show a great contrast between indigenous part and Anglicised part. Typical Indian centres contain a congested old section, adjacent to which may be found carefully planned and often spacious sections dating back to British period. This character is very much traceable in some of the resorts of U.P. Himalaya, e.g., Almora where Murli Manohar, Ram Shila wards are older and congested whereas Cantonment area and Mall are new, open and spacious. The study of morphology of resorts of U.P. Himalaya thus, shows either conflict or blending of indigenous features and the hybridized European features. Now-a-days, resorts tend to assimilate the blending character more than the conflict. Resorts, entirely developed or influenced by Britishers, pertain to totally different type of morphology from prior developed resorts of ancient and medieval periods. A keen observation and thorough study of the morphology of resorts discloses the fact that the resorts developed by Britishers and resorts influenced by them pertaining to any period contain different types of morphologies.

Indigenous parts of resorts comprise of generally congested unplanned section, while Anglicised parts incorporate civil lines, cantonment, residential bungalows, offices, courts, parks, English schools, open spaces and wide planned roads. The former part is inhabited by original settlers especially Indians and the later parts by Anglo-Indians, soldiers, officers, civil administrators, missionary persons etc. Cantonments were built during the 19th century and were occupied by permanent garrisons in the beginning.²¹

Britishers developed 'Mall road' in all resorts developed by them, for their recreational and business purposes. 'Mall road' usually became the main thoroughfare, controlling the main stream of flow and morphology. Indigenous part of the resorts were modified. Thus, the mixture of two different cultures created a distinct type of morphology, unique and separate from all.

4) Governmental Control

The governmental development activities during the post-Independence period injected new inspiration in resorts and planned development took place in them.

Morphological Zones

The functions of hill resorts are intermingled and present a complex rather than different functional zones as distinct in towns of plains. But, keeping in view the morphology and the use to which the land is put, the resorts may be divided into different morphological zones.

The morphology of hill resorts of U.P. Himalaya may be studied by analyzing the development of resorts during different periods. Some resorts belong to ancient period and some to medieval. They are originally indigenous. Many more resorts bloomed in U.P. Himalaya during the British period. During this period, a specific type of resorts developed resulting in a different morphology from that of ancient and medieval resorts, which was often pertaining to European style. Thus, the resorts may be classified into five categories according to their period of commencement and influence as following:

1. Ancient and medieval period resorts.
2. British resorts.
3. Ancient and medieval period resorts influenced by Britishers.
4. Post-Independence period resorts.
5. British resorts after Independence.

1) Ancient and Medieval Period Resorts

In this category, those resorts are included which developed during ancient and medieval periods and Britishers did not interfere in their development and existing morphology. These resorts have distinctly Indian towns' type of morphology. They were developed around a shrine, fort or palace of a king.

The streets of these resorts are irregular, narrow and crooked following the shape of nucleus and terrain. The business area is characterised by very clumsy and compact along the main roadside. Adjacent to the business areas, there are residential buildings. The buildings have single and double storeys. There are Badrinath, Kedar-nath, Joshimath, Yamunotri, Uttarkashi, Muni-ki-Reti, Rudraprayag, Kamprayag, Nandprayag, Deoprayag, Barkot, Bageshwar, Gangotri, Ukhimath, Rishikesh and Gaurikund having such morphological characteristics. For the detail study of the morphology of such resorts, Badrinath is selected as a representative resort of this period, as it attracts largest number of tourists among all other ancient and medieval resorts in a limited period of the year, i.e., May to November.

Badrinath

Badrinath, situated at the confluence of Alaknanda and Rishi Ganga rivers in U.P. Himalaya, occupies a unique place among the Hindu shrines. It is one among the four famous Hindus 'Dhams' of the country.²² The famous temple of Badrinath stands in the lap of Narayan Parvat. Badrinath due to its famous temple attracts a considerable number of pilgrims and has been a religious resort since ancient times. Its location and situation at a height of 3,122 metres on a meander as well as confluence point where glaciers come to the rivers and a clear snowy view of Chaukhamba and Neelkanth peaks create allurements and curiosity among common people and invites a large number of tourists. The pilgrim season starts after the month of April and ends before November. From November to April there is off season for pilgrims, as the temperature goes very down even below freezing point.

The townscape, situated in a valley (5 kms long and 2 kms wide), is small in size and stretches along a road which is parallel to Alaknanda river (Fig. 20). The settlement is in a string pattern from the Rishi Ganga to the temple site. Buildings are arranged along the road at both sides in a single row. The houses are concentrated in a compact pattern only near the temple. Houses are generally double storeyed and consist of mainly two types of uses. Upper storey and back portion of the building is used for residential purpose and front portion for the commercial. Buildings located along main route which goes from Badrinath temple to Vamini Gunth village at the left side of Alaknanda river have such type of distinct characteristics. The road is narrow and meets bylanes at different points setting apart the buildings. These houses are kept in residential use only for six months, while other six months of the year forbade any type of use due to snowfall and low temperature. During these months some residents come down to Joshimath and some go to the nearby villages.

During the pilgrim season, Badrinath faces acute shortage of accommodation and visitors have to face a number of troubles. U.P. Town and Country Planning Department conducted a survey and prepared a Master Plan for Badrinath in 1969 (Fig. 20). It is clear from the figure that total morphology of Badrinath will change if the plan is implemented. The settlement will take place between Alaknanda river and Nar Parvat surrounded by the existing motor road going to Mana. Some construction according to the plan has been started of late.

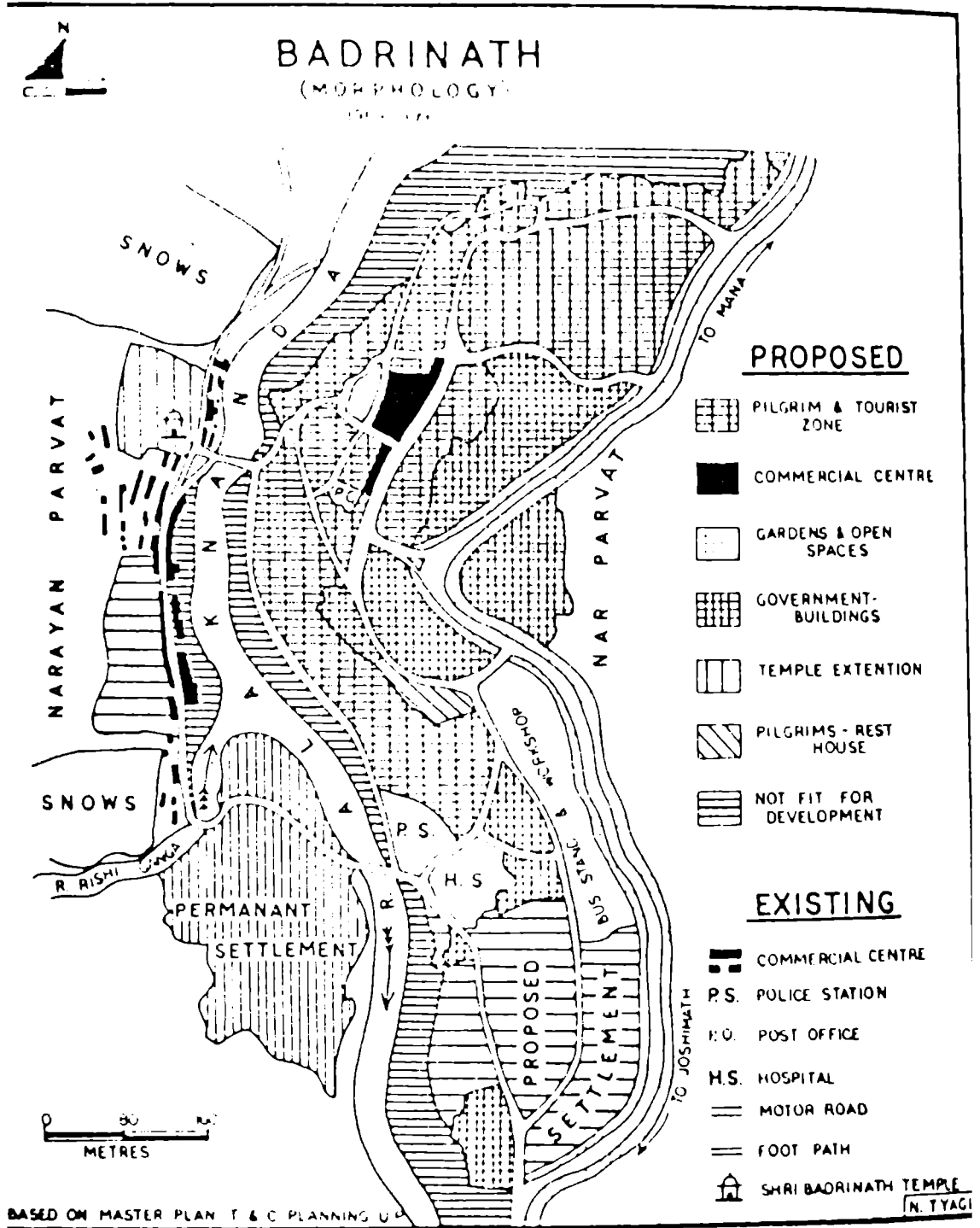


Fig. 20. Badrinath morphology (1969-1991).

Residential Area

The residential area will be developed in south-east of Alaknanda river and south of confluence, especially for local people, tourists and pilgrims and orthodox people respectively. The morphology of houses will automatically change according to the interest of residents.

Commercial Area

The commercial centre, also named as Neelkanth market, is to be developed in the middle of the residential area meant for pilgrims and tourists just east of the open spaces and garden and surrounded by roads (Fig. 20). The business area is connected by 20 feet wide proposed Shankracharya Marg and ten feet wide two bridle paths.

Other Facilities

There is a government hospital and a dispensary in Badrinath, situated on the east and west bank of river Alaknanda respectively. The hospital provides both indoor and outdoor facilities to the public. A dispensary is also run there by the Mandir Committee. Police station is located near the hospital and post office in the south of the Jalan Dharamshala. Now another site for the post office is selected at the south of seed store office (which has been completed now). For administrative purposes 5.3 acre area is allocated at three different points.

Bus Stand

The location of present bus stand is far from the residential area. In the plan, a bus and truck stand of the capacity of 300 buses and trucks has been proposed. The taxi stand has also been proposed near the bus stand with a capacity of accommodation for 100 taxies. A waiting shed for tourists has also been proposed. Badrinath has no petrol pump, therefore, sites for petrol pump and repairing workshop have been proposed.

2) British Resorts

Those resorts, which were developed by Britishers for their civil and military purposes during summer are included in this category. Their morphological characteristics present a contrast to the pattern of ancient and medieval resorts. The tree-shaded streets are broad, metalled and paved. Structures are almost exclusively 'puccka' and many of them are in the midst of large fence compounds with much space

devoted to trees and grass or landscaped in formal gardens. The typical British built residence, called 'bungalow' is a large rambling house with thick walls and high ceilings, large windows and wide varandah with pillars running all around sloping tile roofs. They made a main road (Mall road) along which there were shops for the demands of Britishers and they also used the road for their recreational purposes.

The cantonment area or their cantonment resorts were specially developed which are characterised by a fairly regular alignment of streets and comprise of barracks, with row of residential quarters for the soldiers and their families, separate bungalows for the military officers, hospital, churches and officers' club, together with parade grounds and rifle ranges, ammunition depot and military supply warehouses.

The civil lines, with which the cantonments now tend to become functionally merged, originally contained the offices and residences of non-military branches especially of governments. These areas still serve the same functions for which they were established in the late 19th and early 20th centuries, although Indian officials have entirely replaced the Britishers. These British resorts served as health sanatorium and summer resorts due to healthy climatic conditions. It was at hill resorts that a special type of cultural landscape most resembling that of British Isles was created, but every resort has its business section which show virtually all the features of indigenous settlement, although restricted in the area and relatively small in population.

There has been a noticeable contrast between residential and business areas mainly used by Britishers and Indians respectively. High class residences (relating to Britishers) were concentrated on higher slopes and that of Indians on middle and lower slopes. The business area of Indians were very congested and mostly double storeyed. The upper storeys were used for residential purposes. Nainital, Bhimtal, Bhowali, Binsar, Mukteshwar, Pauri, Kausani, Ranikhet, Jeolikot, Mussoorie, Chakrata, Lansdowne, Almora, Gwaldam and Srinagar are the British resorts with synonymous type of morphology. Nainital has been by far the most offering and beloved resort for Britishers.

Nainital

The peculiarity of Nainital and its morphological complex is that the resort has neither any distinct and specific developed landuse pattern, nor the area has any major morphological zone. However, after thorough study the resort may be divided into broad morphological zones (Fig. 21).

Business Area

Business area of Nainital (Malli Tal and Talli Tal)* are joined by the famous Mall road (Pant Marg) along the lake towards north which is also a business area especially for tourists. The Pant Marg business area comprises of most attractive shops. Here, most of the shops are modern, luxurious and fashionable. Malli Tal is the biggest and busiest centre of the resort. Malli Tal and Talli Tal both are actually business-cum-residential areas. These are self-sufficient units, in the sense, that one can get all varieties of goods of ones daily need from departmental stores in the respective bazars.

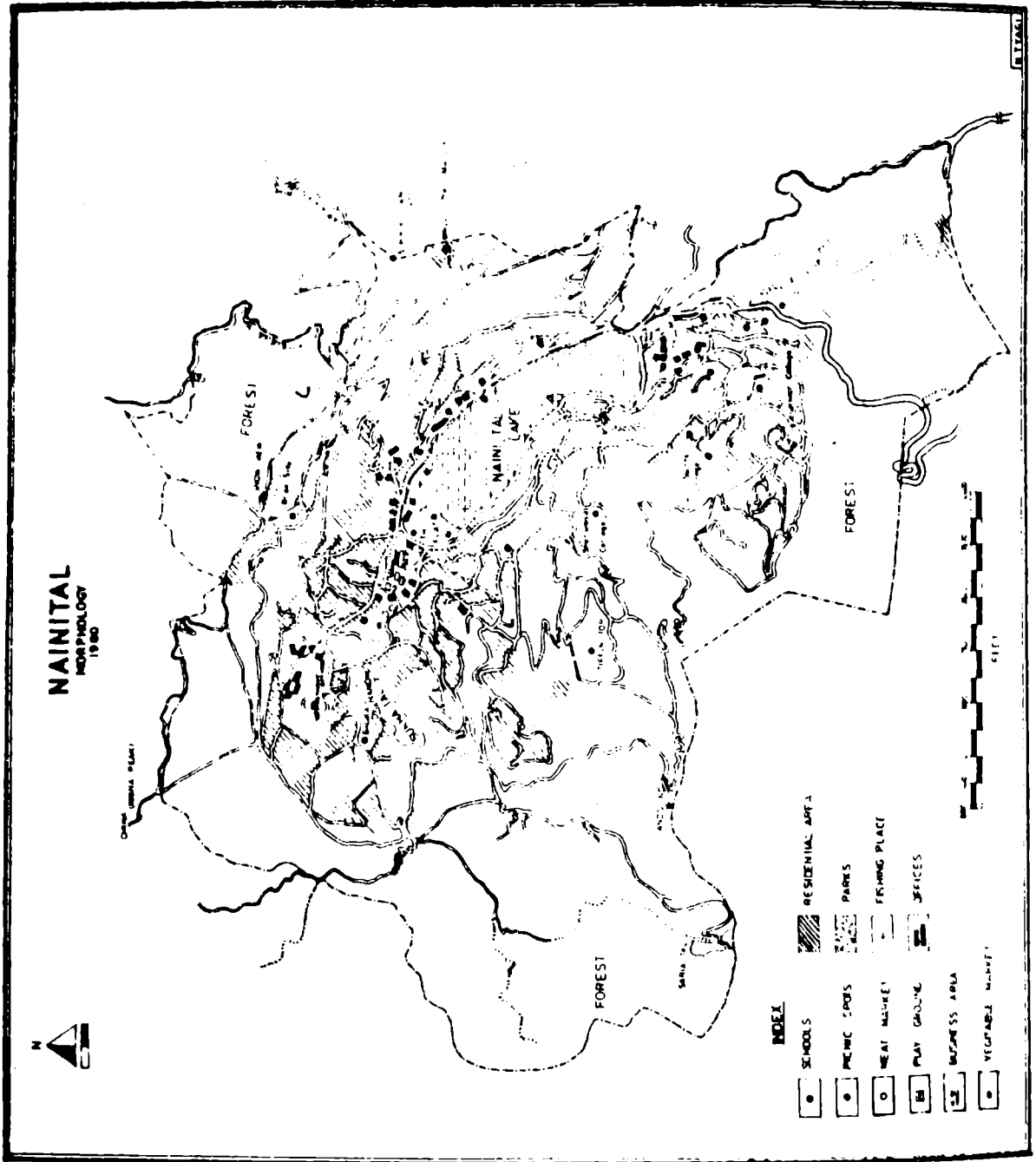
Residential Area

The main residential areas lie in the north-west and south-east of the lake. Residential areas of Nainital may be divided into two groups: (1) Residential civil area, and (2) Residential-cum-business area.

1) *Residential civil area*: The settled areas are scattered throughout the valley slopes of the hills mostly facing the lake. Spacious and most comfortable bungalows are located here which are owned by rich and wealthy Indians. Originally Britishers used to live in these bungalows which are surrounded by reserve forests of oak and cypress on higher altitude and also well maintained by the affluent people. The coverage by the built-up area in this part of the resort hardly exceeds 35 per cent. To the south-east of the lake the sunny slopes and the magnificent view of the lake are chief factors for the development of settlement, whereas on the north-west (Malli Tal and Sukha Tal area), the gently sloping terrain is the most controlling factor for the development of settlements.

2) *Residential-cum-business area*: The majority of native population reside in the market where most of the houses are owned by them. These are very congested and mostly containing two and three storeys. These areas are located on the upper and the lower end of the lake. In this area buildings are used for both purposes--residential and commercial. The upper flats are usually for residences while the shops are on the ground floor. Talli Tal is supposed to be the oldest locality of the resort and this area is very much congested and over-crowded. The living conditions in the houses along the Pant Marg is much better and quite different as compared to the houses of bazar lanes.

* Malli Tal and Talli Tal are the local terms, meaning upper and lower ends of the lake respectively.



Administrative Area

Nainital, since the very beginning of the resort has been enjoying the administrative importance. As the administrative offices are scattered, it is very difficult to demarcate this zone clearly. However, there are two prominent administrative zones at the resort:

1) *The secretariat area*: This area had a great administrative importance during the British regime. All offices of the secretariat of U.P. Government used to shift here from Lucknow for six months during summer. The area has still many offices in its vicinity, such as, D.T.G. Hill Range office, the Deputy Director of Animal Husbandry's office, the Sales Tax office, Kumaon University office etc. Most of the buildings in this area are still lying vacant in a dilapidated condition.

2) *The court area*: Situated on easy reach and lying on Ayarpatta hill at the Talli Tal side, the court area is now considered as the most important administrative zone of the resort. Within a radius of 120 metres almost all the important courts and administrative offices are located here. Some of the important offices are Commissioner's office, the District Magistrate office, office of the Superintendent of Police, the Executive Engineers and Manager of Roadways office, the Treasury office, the Police Line, the Foreigner's Registration office, Irrigation office, and various offices of Forest Department etc.

A large number of administrative offices are widely scattered in Nainital. The Municipal office, Malli Tal Police station and Head Post and Telegraph office are located in Malli Tal near the market.

Educational Centres

Nainital is well known for its European pattern schools and colleges, which have been there since the arrival of Europeans.

It may be noted from Fig. 21 that in contrast to primary and middle schools, most of the higher educational institutions are situated in upper zone, where large and open spaces and playgrounds are available to them. All institutions are not closely situated. It is only Ayarpatta ward which covers a large compact area of all English schools, viz, St. Mary's, St. Joseph's, All Saints and Sherwood. The Government D.B.S. Degree College (now Kumaon University) is also included in this zone. In the Sukha Tal ward, the Polytechnic college, the Balika Vidya Mandir, the Sherwood Sainik school have formed a separate small zone. In the Malli Tal ward various schools for boys and girls are separately located. Similarly in Talli Tal ward the Govt.

Girls Intermediate college and other junior and high schools are set apart from the each other. In Sher-ka-danda ward the Birla Vidya Mandir, the C.R.S.T. Government College, junior and primary schools including Municipal Kindergarten, the Sanwal and the Buck Preparatory schools are so separately located that they do not form a zonal pattern over there.

Hospitals and Religious Centres

At present, there are two government hospitals and an eye hospital, viz., Badri Dutt Pandey Govt. Hospital, G.B. Pant Hospital, Sitapur Eye Hospital; three temples (Naina Devi Temple, Pashan Devi, Hanumangarhi); one gurudwara; five churches (Church of St. Mary, Methodist Church, St. Frances Church, St. Johns Church, Union Church) and one mosque (Jama Masjid) in different parts of the resort.

Recreational Centres

As Nainital has mainly been a tourist resort, it has some advanced recreational facilities like ultra modern clubs, bars and hotels etc. There are six clubs (Boat House Club, Gymkhana and D.S.A., Nainital Mountaineering Club, New Club, Rotary Club, Sharada Sangh), a sport stadium and three parks. Besides yatching and boating on the lake, there are facilities of horse riding and skating. Hiking to the surrounding ridges is another form of popular recreation for tourists. They usually go to places which have some modern amenities and provide a certain amount of enjoyment. Some may go for hiking and mountaineering, while others may seek relaxation and enjoy scenic beauty. Nainital holds a great charm for tourists. Figure 41 shows the location of the centres of tourists interest within the resort, viz, Naina Peak, Lariakanta, Snow View, Tiffin Top, Land's End, Hanumangarhi and Government House.

The hotel industry thrives on the tourists. Nainital has a chain of hotels and boarding houses. The increasing number of tourists has resulted in the opening of these hotels in Nainital. Most of these hotels are located along the Pant Marg and are easily accessible.

3) Ancient and Medieval Period Resorts Influenced by Britishers

The ancient resorts are mostly religious resorts and are not influenced by the Britishers but, some medieval resorts which have strategic positions and healthy climate have been influenced and developed by the Britishers. All characteristics of the morphology of Anglicised

part are developed in these medieval resorts. They also show the morphology of indigenous parts. Thus, they are the mixture of indigenous and Anglicised type of morphology. The Britishers also built cantonments at some resorts. Almora is the best representative of the resorts of this particular type of morphology (Fig. 22).

Almora

Almora, being developed on a narrow ridge, is favoured by north-south road, which divides it into two halves, i.e., the eastern and the western. The roads are generally narrow, which results into high traffic congestion. The streets in the interior part of the old city are highly irregular and in zig-zag manner following the contours of the natural landscape. However, in the cantonment area, the streets are quite wide and surfaced, through which any vehicular traffic can move. This change in pattern of streets has been introduced after the British occupation of the area. Considering the morphological and functional characteristics, the following morphological units may be recognised in Almora.

Business Area

The market is roughly confined from Police station to Nanda Devi temple which enjoys a saddle position in between the two high grounds of the main ridge. The location of the market was selected by Raja Baj Bahadur Chand in the 16th century in close proximity of his fort. The same location was later on favoured for the growth of the business and for varieties of shops. The core of the business area is formed by Unar and Karkhana bazar, after which the establishments along the road developed in a scattered way. The sizes of these establishments are larger as compared to the core area where they are compact and smaller. Thus, the commercial zone may be sub-divided into two zones: 1) the southern business core, and 2) the northern scattered business-cum-residential core. The upper storeys in the business area are mostly residential.

Residential Area

The residential area of Almora may be divided into two parts:

1) *Indigenous residential area*: The area situated on the south eastern part of the ridge. This region can be marked by fairly small segments of *mohalla* boundaries and small size of settlements. The residential buildings are constructed in quite congested form on smaller

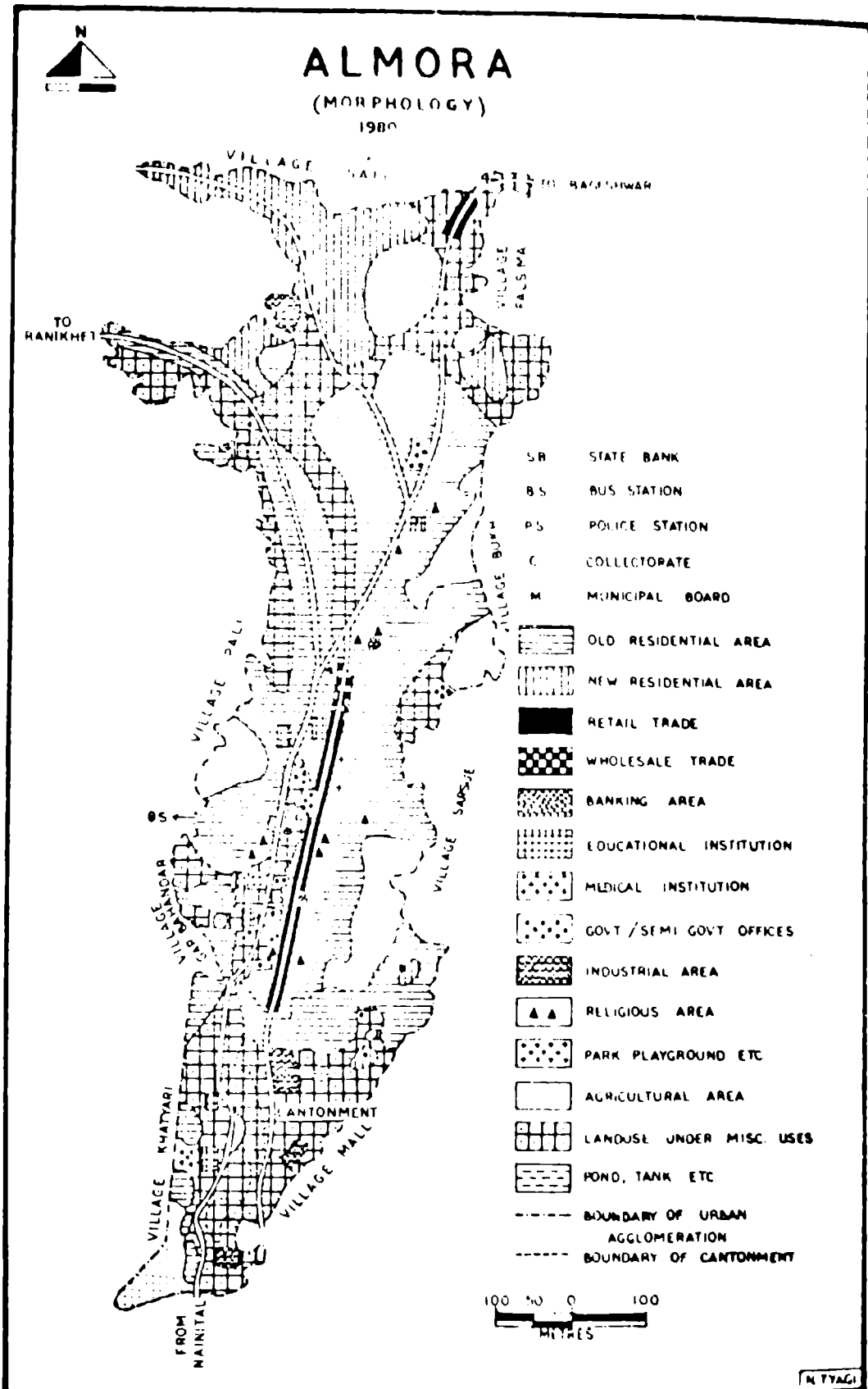


Fig. 22. Almora morphology (1980).

sizes of plots. This is the oldest zone of the settlement, whose nucleus has been the fort, now occupied by the Government offices.

2) *Anglicised residential areas*: This type of area is situated on the north-western and north-eastern sides. The sizes of the establishments are sufficiently large. Western impact on the houses can be marked in this zone. In the north-western side, most of the retired military and government officers have their own bungalows.

Administrative-cum-Hotel Zone

This zone is roughly tongue-shaped wedge between two roads. The establishments belonging to administrative offices and some hotels with a few shops are located here. Almost, all the establishments in this zone are entirely unfunctional, i.e., administrative or for tourists comforts. The size of the buildings are appreciably large as compared to the indigenous part of the resort.

Educational-cum-Residential Zone

This zone stretches along the Mall road towards the west. Educational establishments came into existence along the road due to major attraction of the road. Government Girls' school, Government Inter college etc are all located in this zone. The buildings are fairly compact in this zone and sizes are comparatively smaller (except that of educational establishments). There are fifteen primary schools, three junior high schools, seven intermediate colleges and one Government Degree college in Almora.

4) Post-Independence Period Resorts

During this period, resorts developed in a planned manner. The morphology, therefore, developed in a very distinct way. These are characterised by specialized functional uses such as, business area, residential area, educational area etc. The street and road patterns of such resorts are planned. Residential colonies, where buildings emerged in a sophisticated manner of homogeneous shape and size with some modernized designs, are arranged. Gopeshwar is the only resort of this category with the seat of district headquarter.

Gopeshwar

Gopeshwar was made a district headquarter of Chamoli in 1960. Chamoli and Gopeshwar were included in the town area and in the

year 1967, the boundary of the town area of Chamoli was extended to engulf the settlement of Gopeshwar with its periphery. The morphological zones of Gopeshwar may be described as follows:

Business Area

The business area of Gopeshwar is entwined with the Mandir Marg (Fig. 23). The road is only 3.5 metres wide and straight. Although the business area of Gopeshwar could not extend rapidly but assessing the demand for business area in future some vacant spaces of the resort are reserved for the purpose. These areas are allocated in the east of the site of Gopeshwar village and near the district hospital (Fig. 23). Buildings used for business purpose are recently constructed and they are spacious, of modern designs and according to a specific plan.

Residential Area

Gopeshwar got its shape according to the town plan after 1967. Gopeshwar has a meagre share of private residences. Most of the residential buildings are built for the government officers nearby their offices, hence, the residential area of Gopeshwar has been developed near the government offices.

The Kund area is reserved for the residences of officers. Workers have no specific area for their residences, so their residences are located here and there near their offices. Nearly 75 per cent residential quarters of Gopeshwar are government buildings and provided to officers as well as office workers and others. In the year 1973-74, there was a plan to build 468 houses at Gopeshwar which was increased after 1977, when government approved plan was implemented for the development of Gopeshwar. The road running through the interior of Gopeshwar is 6 metres wide, while, the connecting roads and streets of houses and offices are narrow up to 1.5 to 1.8 metre in width. The buildings of residential colonies are arranged in a beautiful way and comprise of single storey.

Other Uses

There are two hospitals in Gopeshwar. Many offices are located in the residential areas. A large number of temples are located in Gopeshwar (Fig. 21).

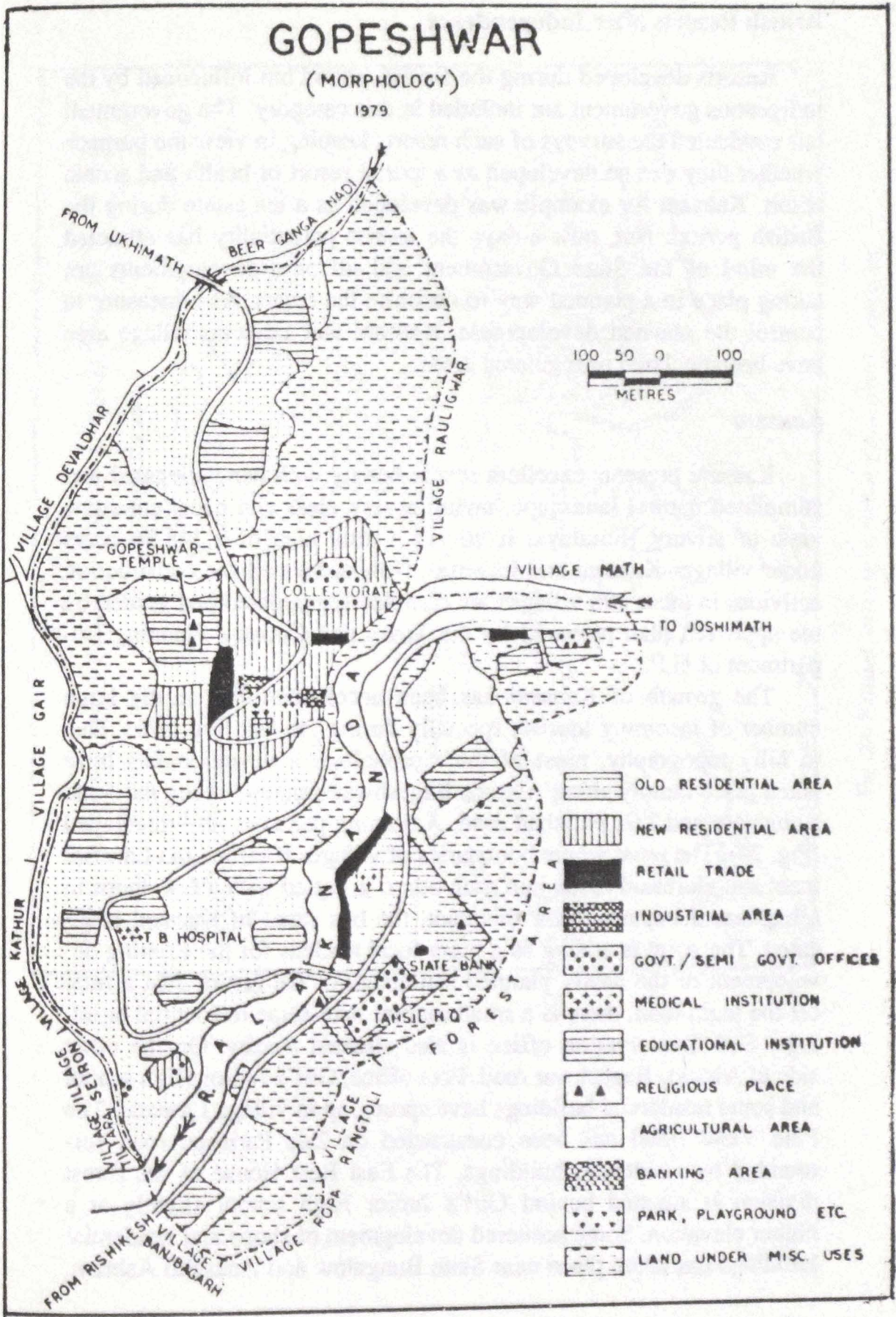


Fig. 23. Gopeshwar morphology (1979).

British Resorts after Independence

Resorts developed during the British period but influenced by the indigenous government are included in this category. The government has conducted the surveys of such resorts keeping in view the purpose whether they can be developed as a tourist resort or health and scenic resort. Kausani for example was developed as a tea estate during the British period. But, now-a-days the tourist potentiality has attracted the mind of the State Government and all new developments are taking place in a planned way to decorate the resort. As a measure to control the planned development, Kausani and Lawesal village area have been declared as regulated areas.

Kausani

Kausani presents excellent scenic beauty with her variegated and stimulated natural landscape having a very clear and excellent snow view of silvery Himalaya. It covers a total area of 1,348.36 acres under villages Kausani and Lawesal. Now-a-days all the construction activities in these two villages are completely regulated and guided by the approved plan prepared by the Town and Country Planning Department of U.P.

The growth of Kausani has been accelerated due to the large number of incoming tourists specially during the last five years. Due to hilly topography, most of the morphological developments have taken place mainly along Almora-Bageshwar road and along the State Bungalow and Zila Parishad road. Adjoining parts are also developed (Fig. 24). The point where boundaries of villages Kausani and Lawesal meet and aforesaid roads join each other, is dotted with a few shops in a haphazard manner. Near this spot, the bus stand of Kausani is located. The point is arising as a main focal nucleus for the existing development of the newly planned settlement of the resort. Just a little off the main road, there is a small market with some residential buildings. Soil Conservation office is also situated nearby. On the other side of Almora-Bageshwar road, Post office, Girl's Junior High school and some residential buildings have sprung up in village Lawesal. The Pine View Hotel has been constructed on Zila Parishad road surrounded by residential buildings. The East Rest House of the forest division is situated behind Girl's Junior High school slightly at a higher elevation. Some scattered development of shops and residential buildings has taken place near State Bungalow and Anasakti Ashram.

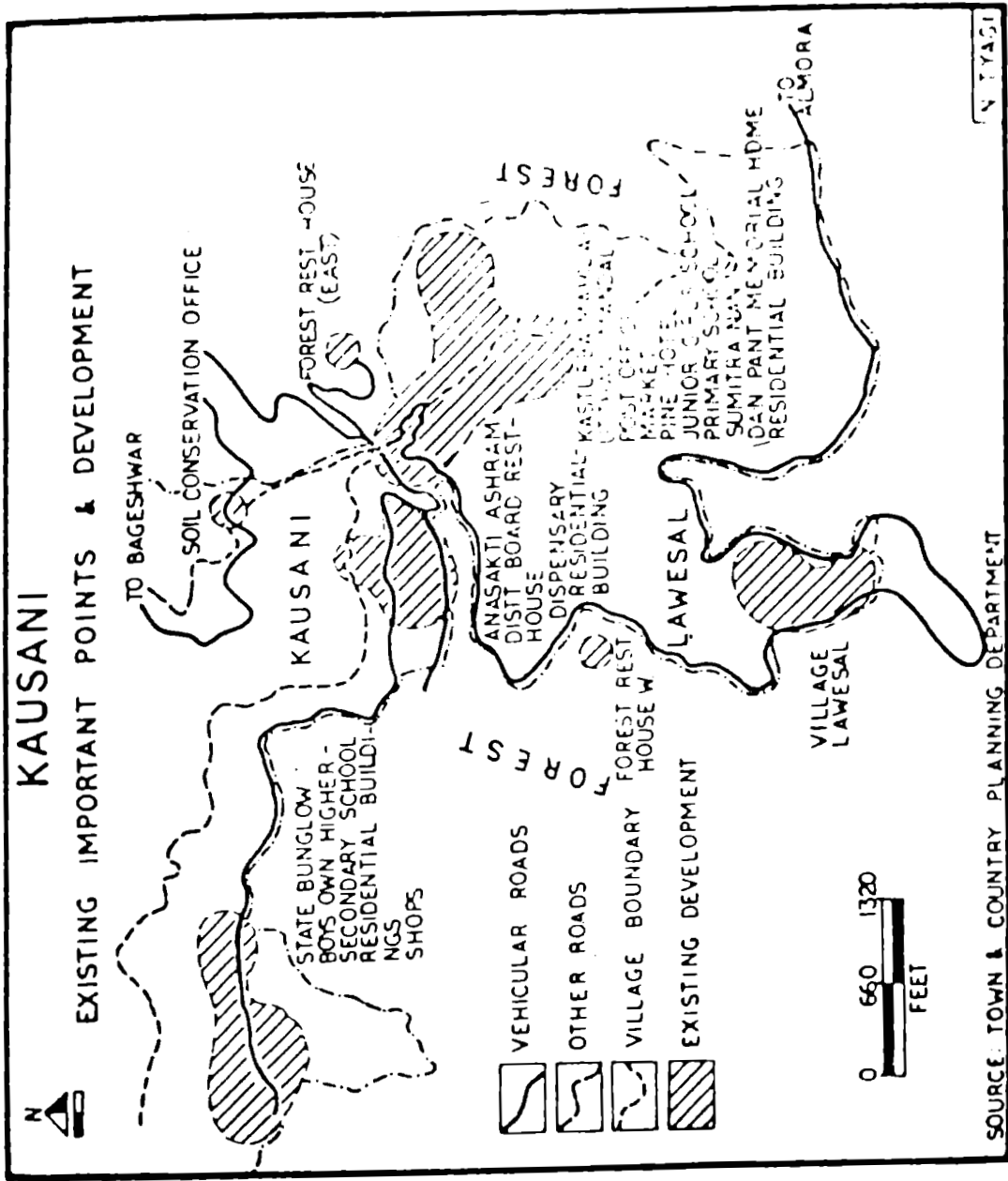


Fig. 24. Kausani, existing important points and development.

The Boys Own Higher Secondary school is located near State Bungalow and Zila Parishad Rest House and a dispensary near Anasakti Ashram.

Out of the total area of Kausani-Lawesal, about 10 acres is under undefined use and remaining (1338.36 acres) is under regulated area. Out of which only 3.78 per cent land is developed and is under residential, commercial, public and semi-public, traffic and transportation uses. The remaining land is mainly in the form of agriculture, forest, barren, streams and ravines. The break-up of existing landuse is shown in Table 5.1.

It is quite evident from Table 5.1 that the public and semi-public facilities and traffic and transportation are the major landuses of developed land. Industries, recreational and entertainment facilities are totally absent.

Table 5.1. Existing landuse of Kausani

Sl. No.	Landuse	Regulated area		Developed area	
		Area in acres	Per cent	Area in acres	Per cent
1.	Residential	10.50	0.78	10.50	20.60
2.	Commercial	0.75	0.06	0.75	1.47
3.	Public & semi-public facilities	21.25	1.56	21.50	42.15
4.	Traffic & transportation	18.25	1.35	18.25	35.78
5.	Forest & barren lands	542.25	40.20	--	--
6.	Agriculture & gardens	714.91	53.02	--	--
7.	Streams & ravines	40.20	3.00	--	--
Total		1348.36	100.00	51.00	100.00

Source: Town & Country Planning Department, U.P., 1975.

Residential Area

The total area under the residential uses is 10.5 acres, which is 20.6 per cent of the developed land. Kausani-Lawesal being rural settlements and tourists resort the permanent residential buildings are comparatively small in number. There are 230 residential units in Kausani. The population distribution is sparse and most of the buildings are scattered over agricultural land, setting apart from each other being segregated at few places along hill slopes, and *kutchha* paths.

Commercial Area

The total area under commercial landuse is about one acre which is about 1.50 per cent of the developed land. This area comprises of Pine View Hotel excluding other 72 shops existing there. Considering the requirements of incoming tourists in enormous number and the local population, the existing commercial area seems considerably inadequate. Out of the total shops 65 per cent belong to hotel and restaurant, 15.5 per cent to general merchants, 8.5 per cent to cloth merchants and remaining 11 per cent to miscellaneous items.

Traffic and Transport

There are two important roads in Kausani and Lawesal area, the Almora-Bageshwar regional road and a local road connecting State Bungalow to this regional road. Other roads are Anasakti Ashram and Zila Parishad road. In addition to these, there are pedestrian paths in these villages. The total area under this use is 18.25 acres, which is 35.78 per cent of the developed land.

Other Landuses

Although the regulated area of Kausani-Lawesal covers 1348.36 acres, nearly 96.22 per cent share of the total area is under agricultural activities, gardens, streams, ravines and forests. Some portions of the regulated area are totally barren. The existing mosaic of the landuse is, in many ways, helpful in maintaining the resorts' natural beauty.

The pattern of existing landuse is very scattered and there is enough scope to improve it (vide Table 5.1).

The External Shape of Resorts

Having a thorough and comprehensive study of the morphology of hill resorts of U.P. Himalaya, we may classify them into some general categories, keeping in view the outer shapes and forms of the resorts. Although, they are actually the end product of the interplay of various physical and cultural factors through different periods of history, a hypothesis may be evolved relating to their outer shape.

Figure 25 shows the external shape of some resorts of U.P. Himalaya. The shape of resorts is mainly affected by physical features. Due to river Bhagirathi, Uttarkashi developed in elongated shape and due to river Alaknanda, Srinagar developed in a rectangular shape. Although roads are the main arteries for the formation and development of elongated and rectangular shapes, they are also the result of

site. Mussoorie, Almora and Uttarkashi present elongated shape while Bageshwar, Pauri, Badrinath, Gopeshwar present rectangular shape. Apart from all, Nainital comprises of circular shape. The streets are generally in radial pattern surrounding the lake Naini. Rishikesh and Bhowali show almost amorphous shape.

Resort Sites and Morphology

In comparison to functions the morphology of resorts is a reflection of their sites. No doubt, almost all the resorts look to be developed in linear form but they possess significant difference in their internal layout, building heights, skyline views, segregation of people by socio-economic status and circulation pattern (Fig. 16). These envisageable differences are meaningfully related to site conditions.

All the hill resorts visualized, have their principal commercial lanes or bazar stretched along the main spinal road running through the middle of the resorts. By the side of these commercial lanes, there are residential areas along the commercial strips. The upper storeys of the houses of business areas are usually used as residential purposes.

The intensity of morphological development does differ significantly on various types of sites. The intensity remains highest along the main terrace in case of valley resorts and on the sunny slopes. Vertical expansion of settlements are more pronounced on hill top, spur and gap resorts, while horizontal spread is typical in valley resorts. Accordingly, the nature of skyline differs with the site of resorts (Fig. 16).

Residential segregation by socio-economic status has been a common phenomenon in all the resorts. The residences belonging to high class people are located on higher and sunny slopes, while the low class residences are concentrated on lower slopes. The residential pattern of valley resorts is not very different than a typical town of the plain. As far as the general distribution of buildings with their uses is concerned the high class residences belonging to affluent society people are more frequently seen in the proximity of the olden site, i.e., palace, lake, temple, fort, nearby main commercial lanes and low class residences predominantly on the periphery.

There has been a marked difference in circulation pattern of resorts according to their varying sites. Valley resorts have generally straight roads and grid-iron circulation network. Spur resorts have

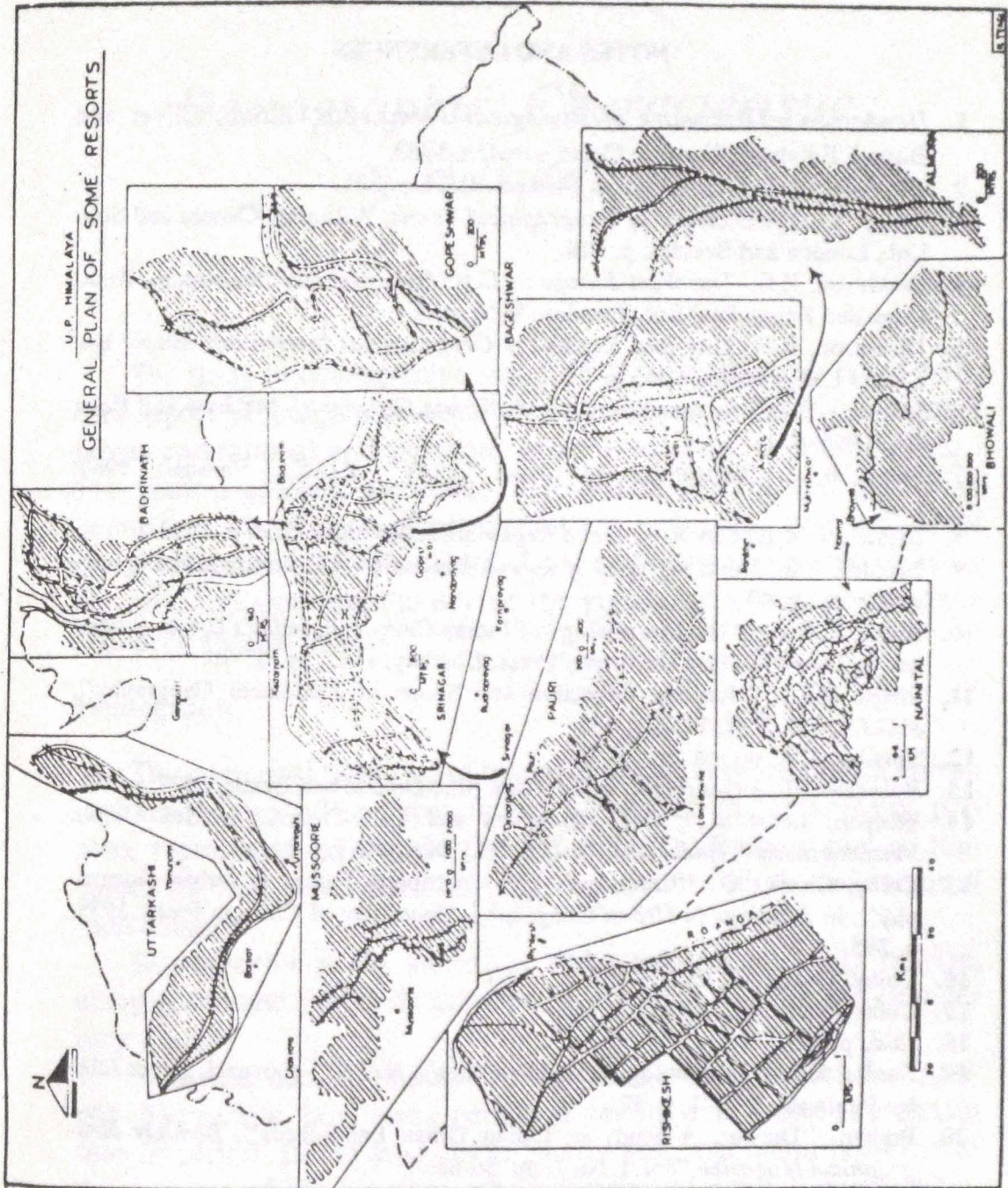


Fig. 25. General plan of some resorts.

only one spinal road. Hill top allowed a circulation in the form of rounds encircling the main ridge. Gap resorts are marked by a radial or linear circulation pattern.

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Chapter 6

Demographic Characteristics of Hill Resorts

The study of demographic structure of the settlements is a significant aspect of geographical study of a region with a view to attain a proper and rational understanding of the special character of the area.¹ The present chapter, therefore, discusses in general, the growth of population, distribution of population and population composition of the hill resorts of U.P. Himalaya. Age composition, dependency ratio, sex ratio, religion and literacy of the population of the resorts have also been studied in detail.

Demography

The numerical portrayal of human population is sometimes known as 'demography'. The population is viewed as an aggregate of persons, represented by certain type of statistics. Demography is concerned with the behaviour of aggregate and not with the behaviour of individuals.²

Demography is the statistical and mathematical study of size, composition and spatial distribution of human population and changes over time.³

Statistical data of population are the raw materials of demography. They show, how many people or events were found at a certain date or period. In the study of economy too, population becomes as much a part of the habit, as other elements of natural environment. The differentiation of economies of any region is the combined result of natural environment and its resources and the stage of population of that region.

Population Growth

Change in the size of population is called growth. The rate at which population is changing affects not only its size but also numerical increase and its composition. Positive and negative growth of population comes from only three sources, i.e., birth, death and migration. Population growth is the dynamic equilibrium between forces of increment and forces of decrement.

As a whole, the growth of population in some main resorts has been presented in Table 6.1. It is apparent from the table that between 1921 and 1971 the population figure has rose from 31.55 per cent in Lansdowne to 413.26 per cent in Rishikesh. Five hill resorts, Rishikesh, Pauri, Chakrata, Ranikhet and Srinagar have more percentage of increase than the state which has been only 150 during this period. Among these, three resorts Rishikesh, Pauri and Chakrata have more percentage of increase than the country, i.e., 288 in the same period.

Table 6.1. Growth of population at the resorts
(Base year 1921)

<i>Resorts</i>	<i>(in per cent)</i>				
	<i>1921-31</i>	<i>1921-41</i>	<i>1921-51</i>	<i>1921-61</i>	<i>1921-71</i>
Almora	15.9	31.53	52.61	98.61	149.80
Bhowali	-34.35	-5.2	76.44	35.66	104.18
Chakrata	5.82	-34.40	-12.04	188.91	318.43
Lansdowne	13.23	21.77	-12.84	25.85	31.55
Mussoorie	-40.14	-28.09	-14.04	18.70	117.40
Pauri	54.94	50.02	18.00	299.14	373.47
Nainital	-4.95	-9.9	16.58	43.18	128.11
Rishikesh	15.61	46.01	118.00	217.77	413.26
Srinagar	-30.00	-9.81	9.90	39.67	156.49

Figure 26 shows the growth of population of ten hill resorts from 1901 to 1971. The population of 1981 is given in Appendix Table 3. The growth of population of eleven other resorts, for which data has been available since 1951, is shown in the inset map in Fig. 26. All the lines showing the population growth are zig-zag, intersecting each other and are unfolding the fact that the growth of population among the resorts has been fluctuating. After 1951, almost all the lines are

moving upward with a steep rise, showing enormous growth except Lansdowne and Bhowali, where the lines between 1961 and 1971 are just deviating parallel showing a poor growth. Except ten resorts, shown in Fig. 26, three other resorts, Gopeshwar, Uttarkashi and Joshimath have also steep rise in population growth as their lines are rather vertical in Fig. 26 (inset). Other lines showing various resorts are horizontal, revealing meagre growth of population.

Figure 26 shows the increase of population in all resorts, by which it is clear that Nainital which ranks second in 1901 occupies first in 1971. Almora ranks second in 1901 and second in 1971. Chakrata has lowest population in 1901 and ranks eighth in 1971. Figure 26 (inset) shows that highest increase in population occurred in Gopeshwar.

Population Variation through Decades

The population variation in per cent from 1901 to 1981 has been given in Table 6.2. It is obvious from the table that the average population growth remained 40.48 per cent in the first decade of the present century. Second and third decades experienced minus growth, i.e., -10.17 and -19.66 per cent respectively, due to incidence of cholera in U.P. Himalaya. Since 1931, all the decades registered increase in average growth which remained 38.15, 46.44, 47.48, and 66.82 per cent in fourth, fifth, sixth and seventh decades respectively.

The general growth of population of resorts increased roughly by 12 to 78 per cent during 1901 to 1911. The figure remained much higher than the figures of Uttar Pradesh and India, i.e., 8.98 and 0.35 per cent respectively. The following decade (1911 to 1921) witnessed a considerable reduction of population in nearly all the resorts which remained from -7 to -37 per cent. There have been heavy incidences of plague, cholera and malaria in different parts of the country.⁴ The period 1921-1931 has recorded the growth of population in the resorts ranging between 15 per cent to 35 per cent.

The decade of 1931-1941 shows an increase of 13 to 212 per cent, except in Nainital and Chakrata. The growth of population continued in 1941-1951 decade with a net variation of 16 to 86 per cent higher than the figure of the state and country in that period. The resorts have further witnessed a phenomenal increase in population during 1951-1961 and 1961-71 decades (Table 6.2).

Among the resorts, for which the population data are available only for 1961 and 1971, the increase in population has been recorded at 13 to 600 per cent in Mukteshwar and Gopeshwar respectively.

Table 6.2. Decade-wise population variations at the resorts in per cent (1901-1971)

Sl. No.	Places	1901-11	1911-21	1921-31	1931-41	1941-51	1951-61	1961-71	1971-81	Increase in percentage since 1951
1.	India	.35	8.27	19.12	31.92	41.42	26.41	38.23	20.06	--
2.	Uttar Pradesh	(-) 8.89	0.61	12.81	26.00	22.93	9.90	30.68	25.49	--
3.	Almora	22.85	(-) 20.85	15.90	13.49	16.03	30.14	25.17	8.09	63.68
4.	Chakrata	51.20	(-) 22.80	(-) 5.83	(-) 30.35	34.60	148.95	91.13	- 14.55	375.83
5.	Lansdowne	59.29	(-) 19.28	(-) 13.23	40.35	(-) 20.43	44.40	4.52	21.53	50.93
6.	Mussoorie	38.20	26.63	(-) 40.15	20.14	19.56	38.08	83.14	1.08	152.88
7.	Nainital	48.78	19.35	(-) 4.96	(-) 5.20	29.40	22.81	59.30	3.68	95.65
8.	Srinagar	12.72	(-) 7.93	(-) 30.00	28.38	21.87	27.09	83.63	64.77	133.37
9.	Ranikhet	78.10	(-) 37.17	3.85	29.25	82.61	19.08	30.77	30.70	55.72
10.	Rishikesh	12.71	(-) 7.93	(-) 30.00	28.38	21.87	27.09	83.65	65.16	135.43
11.	Bhowali	--	--	(-) 34.36	44.40	86.15	(-) 23.11	50.51	46.47	15.72
12.	Pauri	--	--	(-) 51.95	212.21	86.63	42.55	18.62	53.27	69.10
13.	Uttarkashi	--	--	--	--	--	122.16	124.87	66.83	399.50
14.	Deoprayag	--	--	--	--	--	40.01	4.87	11.39	46.82
15.	Muni-ki-Reti	--	--	--	--	--	78.20	20.81	101.07	115.29
16.	Kausani	--	--	--	--	--	--	37.36	4.13	--
17.	Mukteshwar	--	--	--	--	--	--	13.29	- 0.44	--
18.	Gopeshwar	--	--	--	--	--	--	599.71	52.80	--
19.	Joshimath	--	--	--	--	--	--	139.60	47.13	--
20.	Karnprayag	--	--	--	--	--	--	78.30	--	--

Table 6.2 continued

<i>Sl. No.</i>	<i>Places</i>	<i>1901-11</i>	<i>1911-21</i>	<i>1921-31</i>	<i>1931-41</i>	<i>1941-51</i>	<i>1951-61</i>	<i>1961-71</i>	<i>1971-81</i>	<i>Increase in percentage since 1951</i>
21.	Ukhimath	--	--	--	--	--	--	27.54	--	--
22.	Gwaldam	--	--	--	--	--	--	(-) 12.14	--	--
23.	Barkot	--	--	--	--	--	--	13.64	74.18	--
24.	Bageshwar	--	--	--	--	--	--	96.07	1.25	--
25.	Jeolikot	--	--	--	--	--	--	--	28.55	--
Average growth		40.48	(-) 10.17	(-) 19.66	38.15	46.44	47.48	66.82	--	--

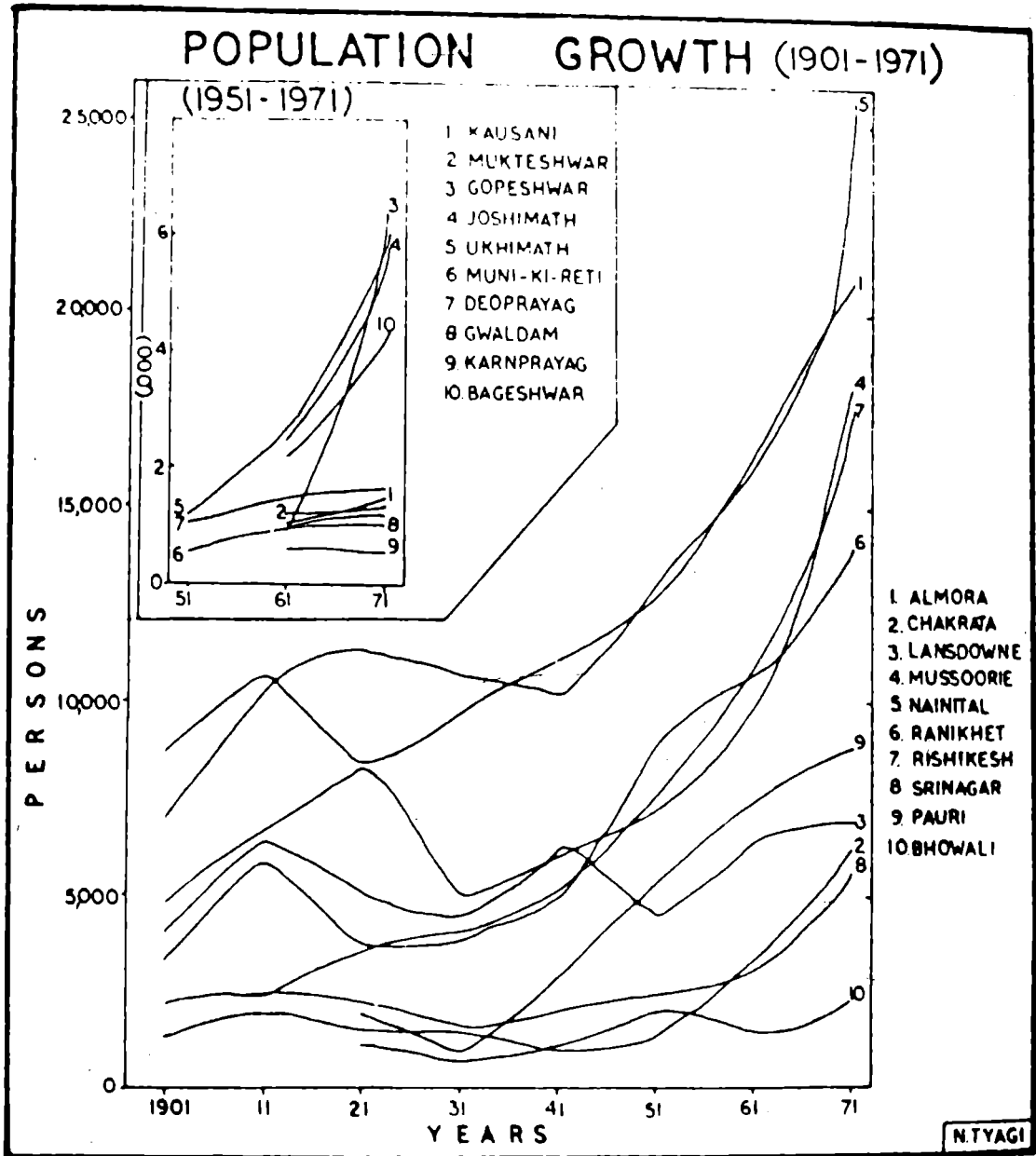


Fig. 26. Population growth (1901-1971).

Population Distribution

Population distribution is a branch of demography that studies the way in which population is arranged within the physical space, which is available to them for exploitation and settlements. As the population does not spread like a drop of oil in the water, the distribution is not uniform everywhere. The population of U.P. Himalaya is unevenly distributed according to suitability of human comforts. Some areas are more dense than others. In U.P. Himalaya, the distribution of population has been influenced mainly by the factor of relief, climate and vegetation. Man's choice always operates within the limits imposed by environment and government,⁵ which is apparent in the areal distribution of population in the region especially in the resorts.

The distribution of population according to the size of resorts is shown in Fig. 27 and population for the year 1981 is given in Appendix Table 3. A careful watch of Fig. 27 reveals that population concentration in the resorts of southern region is higher due to proximity to the plain, satisfactory transport connections and pleasant temperature than that of northern region. Major resorts giving accommodation to higher number of population in 1971, as Nainital (25,617), Almora (20,881), Mussoorie (18,038), Rishikesh (17,646) and Ranikhet (13,917) are located in the southern portion of the region. The resorts of higher altitude, located in the north, are comparatively smaller in size (Fig. 27). There seems a correlation between the size of resorts and their altitude and location. Gopeshwar with a population of 6,354 in 1971, Uttarkashi (6,020), Joshimath (5,852) and Gwaldam (521) are some of the resorts located in the northern portion of the region. Badrinath, Kedarnath, Gangotri and Yamunotri are the resorts where no population has been recorded in the Census as their population comes down to Joshimath, Ukhimath and surrounding neighbouring villages in winter season and Census is conducted in the month of January. The size of Joshimath and Ukhimath is rather increased due to the addition of the total population of Badrinath and Kedarnath respectively. Some resorts of the higher altitude in northern region have become administrative centres, hence, their population has increased significantly.

Density of Population in Resorts

The term density has been used in different ways--arithmetic, physiological, agricultural and economic. Arithmetic density means

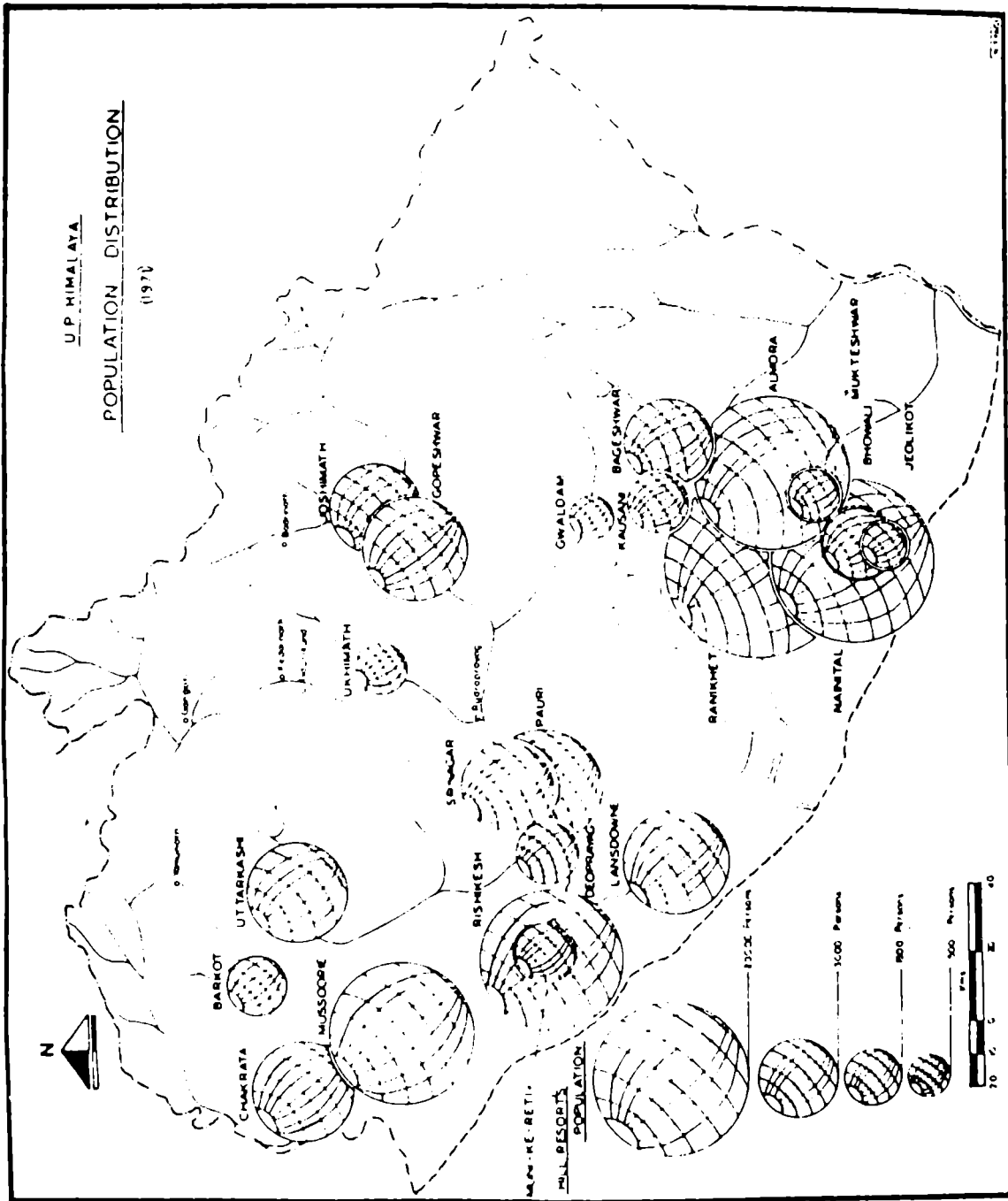


Fig. 27. Population distribution (1971).

the average number of persons living on a unit of territory without any consideration to the quality of territory.⁶ This criteria has been used here in the present study of the resorts. The density of population expresses all the geographical phenomenon in a synthetic form. It gives an idea about the extent and manner in which man has utilised the resources of the land he occupies.⁷

The density of population of resorts of U.P. Himalaya per sq. km is given in Appendix Table 4. It gives a very clear picture of density of population at all resorts. Resorts like Kedarnath has 44 persons per sq. km, while Almora has 2,834 persons in the same unit. According to the density of population, the hill resorts of U.P. Himalaya may be grouped into three following groups:

- 1) Higher density resorts.
- 2) Medium density resorts.
- 3) Low density resorts.

1) Higher Density Resorts

Resorts having density more than 2,000 persons per sq. km are included in this group. They are Almora and Bhowali. Almora has highest density, i.e., 2,834 as it is a reputed tourist centre and district headquarter.

2) Medium Density Resorts

Lansdowne Nainital, Rishikesh, Srinagar and Muni-ki-Reti are the resorts of this group with 1,331, 1,822, 1,121, 1,180 and 1,243 density per sq. km respectively. These resorts pertain to British period and have their speciality as health, cantonment or religious centres.

3) Low Density Resorts

Remaining resorts having density less than 1,000 per sq. km fall in this group. These resorts lie either enroute to major resorts or at higher altitude or with a location unfavourable for settlement.

Population Composition

Population composition has a substantial influence on the capacity or potentiality for population growth in future years. Thus, population composition may be viewed as an active factor that determines the condition of population growth. This is true because the present age-

sex composition of the population is greatly influenced by the growth trends of the past and may be said to be in part a residue of past demographic processes.

Population composition understood in terms of the ascribed and achieved attributes of the people provides basic information about the social, economic and demographic structure of the population.⁸ The individual characteristics of some components of population composition have been explained in the following text.

Age Composition

In actual population is more complex. Its vital rate does not remain fixed, and therefore, gives a less definite pattern to its structure. The age composition is related to the past history of growth, however, it helps to determine the future capacity for growth.⁹

Aspects of age structure have some significance for nearly every type of population study as for general health and mortality, to marriage pattern and aspects of manpower and dependency. To know the real manpower available for an area, to utilise its resources and to develop it economically, the study of population according to age structure is necessary.

The age structure of Indian population has a characteristic flat base and slender top, peculiar to developing countries,¹⁰ because a large supply of children has been added to the population every year, particularly female children. A careful watch of the age pyramids clearly reveals that the age structure of hill resorts is highly distorted, showing less resemblance with the population pyramid of the country. The excess in the age group of 20-24 and abnormal excess in the age group of 30-39 is the main cause of distortion, as most of the young men go to plains in search of employment.

Table 6.3 shows that in all the resorts population below 19 years is 42 to 53 per cent except in Bhowali with 33 with per cent, lowest among all resorts. The percentage share of the population of the resorts between the age group 20 to 29 years ranges from 25 to 56. The elderly population (40-49 age group) ranges between 10 and 20 per cent among the resorts. But, aging population (above the age of 60) is remarkably few. The most noticeable feature of the age structure of resorts is that there is relatively low percentage of persons of aging group. It results due to comparatively early death. In this group, there are only 2 to 9 per cent persons of all the total population.

Keeping in view the female and male percentage in different age groups (Table 6.3), it is clear that highest percentage of the male and female is in the age group 0-14. Number of female children is more than the male children in this age group in almost all the resorts. The percentage of male and female is higher in the age group of 30-39 among all the resorts. In Bhowali, the number of female in this age group is the highest among all the resorts and in male population Chakrata ranks highest. Only Srinagar and Almora have the higher percentage in the age group of 20-29 years in comparison to other age groups.

Table 6.4 shows the population of 1981 according to age groups in different districts.

Among the resorts Chakrata has minimum percentage share of population in age group of 0-15 and 15-19 due to establishment of a cantonment. Among the aging population the highest percentage comes for Bhowali where a T.B. Sanatorium is located due to its good climate for health. The area occupied by youth is highest in percentage rectangle. But, the area diminishes in every successive higher age group until it becomes smallest in the oldest age group.

Dependency Ratio

Dependency ratio is to measure the impact of age composition on the livelihood activities of the population. The share of dependent population in 15 resorts, according to age, is shown in Table 6.5.

It is obvious from Table 6.5 that total dependency of the population ranges from 41.53 per cent in Mussoorie to 56.58 per cent in Rishikesh. It is due to the fact that Mussoorie is a tourist resort and Rishikesh is a religious resort. There is a marked differentiation in the fraction of dependent population of the resorts. Percentage of population under 20 years of age ranges between 32.73 (Bhowali) to 53.18 (Mussoorie). Bhowali being a centre of T.B. Sanatorium contains less percentages of children while Mussoorie being a centre of high standard English medium schools and pleasant and healthy climate especially for children has higher percentage of youth population among all the resorts. Percentage of population belonging to 60 years old and above varies from 2.59 (Nainital) to 8.8 (Bhowali). Nainital has lowest percentage of aging population as the percentage of youth and elderly population has enormous share.

Table 6.3. Distribution of population according to age-groups at some resorts (1971)

	Age groups							
	0-14	15-19	20-24	25-29	30-39	40-49	50-59	60+
<i>Uttarkashi</i>								
A	36.64	10.59	9.78	9.71	15.74	9.11	5.33	3.05
B	31.16	12.06	9.96	9.81	17.33	10.52	5.74	3.33
C	46.16	8.06	9.46	9.55	12.99	6.69	4.61	2.58
<i>Joshimath</i>								
A	34.17	10.37	11.67	11.15	14.85	8.61	4.92	4.23
B	28.19	11.08	13.03	13.16	16.00	9.45	5.30	3.76
C	44.98	9.11	9.20	7.52	12.75	7.09	4.22	5.08
<i>Gopeshwar</i>								
A	37.03	12.05	10.22	8.95	14.47	9.23	4.54	3.46
B	82.56	14.41	10.52	8.99	15.55	10.11	4.61	3.21
C	43.93	8.41	9.77	8.89	12.81	7.88	4.44	3.84
<i>Pauri</i>								
A	38.87	11.48	8.93	7.60	11.98	9.16	7.01	4.98
B	35.94	11.86	9.12	7.29	12.77	10.01	7.33	5.64
C	42.52	10.88	8.68	7.99	10.98	8.09	6.61	4.16
<i>Deoprayag</i>								
A	37.32	12.37	7.72	7.26	12.7	9.43	7.66	5.50
B	35.84	14.65	7.76	7.10	12.76	8.10	8.65	5.10
C	39.29	9.10	7.66	7.50	12.46	11.34	6.23	6.07

Table 6.3 continued

	Age groups							
	0-14	15-19	20-24	25-29	30-39	40-49	50-59	60+
<i>Lansdowne</i>								
A	30.25	13.71	12.32	8.93	13.92	9.36	8.45	5.11
B	24.89	15.37	12.66	9.02	10.66	7.97	10.24	6.16
C	42.70	9.67	11.52	8.72	14.53	5.91	4.26	2.65
<i>Srinagar</i>								
A	32.91	10.97	15.37	11.64	11.40	9.07	4.18	3.89
B	23.14	12.58	19.51	11.56	13.52	11.22	4.32	4.10
C	50.89	8.01	7.45	11.79	7.50	6.89	3.93	3.52
<i>Ranikhet</i>								
A	26.33	16.18	12.99	12.76	16.16	9.24	3.48	2.82
B	20.93	18.72	14.20	13.83	17.37	9.57	3.09	2.89
C	37.74	10.82	10.42	10.48	13.61	8.56	4.31	4.02
<i>Bageshwar</i>								
A	40.70	6.44	10.36	8.46	12.00	9.66	5.60	6.74
B	39.21	9.18	7.20	7.93	12.99	10.89	6.52	6.04
C	42.46	3.22	14.06	9.07	10.84	8.21	4.53	7.56
<i>Bhowali</i>								
A	25.21	7.52	8.84	4.87	20.29	9.66	14.77	8.8
B	23.20	8.52	7.02	5.28	5.76	13.18	23.67	13.33
C	27.96	6.15	11.33	4.31	4.19	4.85	2.59	2.54

(Contd.)

Table 6.3 continued

	<i>Age groups</i>							
	<i>0-14</i>	<i>15-19</i>	<i>20-24</i>	<i>25-29</i>	<i>30-39</i>	<i>40-49</i>	<i>50-59</i>	<i>60+</i>
<i>Chakrata Cantt.</i>								
A	14.66	8.84	13.79	13.87	28.15	12.36	5.60	2.70
B	14.08	7.02	13.58	13.88	29.84	12.72	6.06	2.76
C	18.64	21.51	15.25	13.82	16.42	9.90	2.34	2.08
<i>Mussoorie</i>								
A	40.79	12.39	9.59	7.35	12.13	9.19	5.13	3.40
B	37.86	13.22	9.30	7.57	12.20	10.16	5.97	3.70
C	45.92	10.98	10.08	6.95	12.01	7.47	3.67	2.86
<i>Rishikesh</i>								
A	35.90	8.44	10.95	9.27	13.28	8.78	6.09	7.24
B	33.16	8.20	11.23	9.54	14.06	9.46	6.83	7.49
C	39.86	8.78	10.55	8.89	12.16	7.81	5.02	6.89
<i>Almora</i>								
A	35.10	12.08	11.64	7.88	11.08	8.99	6.11	7.09
B	33.63	11.68	13.08	8.55	11.16	8.81	5.78	7.27
C	37.20	12.65	9.59	6.92	9.97	9.24	6.57	6.84
<i>Nainital</i>								
A	35.87	10.30	12.87	9.35	12.36	9.78	6.84	2.59
B	41.25	6.12	12.70	8.41	13.19	9.13	6.47	2.68
C	27.79	16.57	13.19	10.82	11.12	10.77	7.39	2.45

A = Total; B = Male; C = Female.

Table 6.4. Percentage of dependent population according to age in the districts of U.P. Himalaya in 1981

<i>Districts</i>	<i>Percentage of population under 20 yrs of age</i>	<i>Percentage of population 60 yrs & above</i>	<i>Total</i>
Uttarkashi	44.66	7.01	51.67
Chamoli	49.69	6.87	56.56
Tehri	45.66	3.79	49.45
Dehra Dun	46.66	6.14	52.80
Garhwal	51.86	22.01	73.87
Pithoragarh	37.51	7.08	44.59
Almora	50.75	7.61	58.36
Nainital	51.75	5.50	57.25

Tables 6.4 and 6.5 show the dependent population of 1981 which makes this clear that a significant proportion of population belongs to dependents. The dependency ratio in resort of U.P. Himalaya is thus, significantly high. The dependency ratio may be calculated by comparing the proportion of population which is non-productive with that of the working group as follows:

$$D.R. = \frac{P < 20 + P > 60}{P 20 \text{ to } 60}$$

where, D.R. = Dependency ratio

P = Population.

Tables 6.6 reveals the dependency ratio for fifteen hill resorts of Himalaya, calculated according to the formula.

The result procured in Table 6.4 varies from 71 (Bhowali) to 130 (Mussoorie). The majority of dependents come with the age group of youth (77 to 122) while only a few with old (5 to 16). Thus, old aged dependency load is very small in comparison to youth dependency load.

The ratio of dependents on each hundred persons in productive age group is only an approximate measure. Actually all the persons between 20 to 60 years are not engaged in bread winning (special!y females) and substantial fraction of teenagers and all retired persons are not totally uneconomical. Therefore, it is considered necessary to calculate the dependency ratio per hundred workers. Dependency ratio per hundred workers is presented in Table 6.7 -

Table 6.5. Percentage of dependent population according to age at the resorts in 1971

<i>Resorts</i>	<i>Percentage of population under 20 yrs of age</i>	<i>Percentage of population 60 yrs old & above</i>	<i>Total</i>
Mussoorie	53.18	3.4	56.58
Pauri	50.30	4.98	55.28
Almora	48.18	7.09	55.27
Deoprayag	44.69	5.50	55.19
Bageshwar	47.14	6.74	53.88
Chakrata	29.57	2.7	52.27
Gopeshwar	49.08	3.46	52.24
Rishikesh	44.34	7.24	51.58
Uttarkashi	47.23	3.5	50.28
Lansdowne	43.96	5.11	49.07
Joshimath	44.54	4.23	48.78
Nainital	46.17	2.59	48.76
Srinagar	43.88	3.89	47.77
Ranikhet	42.51	2.82	45.33
Bhowali	32.73	8.8	41.53

Table 6.6. Dependency ratio at the resorts of U.P. Himalaya in 1971

<i>Resorts</i>	<i>Total</i>	<i>Youth</i>	<i>Old</i>
Mussoorie	130	122	8
Chakrata	128	122	6
Deoprayag	123	111	12
Pauri	123	112	11
Almora	123	107	16
Bageshwar	116	102	14
Gopeshwar	110	103	7
Rishikesh	106	91	15
Uttarkashi	101	94	6
Lansdowne	96	86	10
Joshimath	95	87	8
Nainital	95	90	5
Srinagar	91	84	7
Ranikhet	82	77	5
Bhowali	71	56	15

Table 6.7 shows that highest dependency ratio is 293 in Jeolikot. It is because of a meagre per cent of population which is engaged in construction work (Table 7.3). A remarkable dependency ratio can be seen also in Deoprayag and Nainital (257 each) and in Almora (244). The lowest dependency ratio is in Chakrata Cantonment resort, i.e., 33.

Table 6.7. Dependency ratio on per hundred workers at the resorts 1971 and 1981

Sl. No.	Resorts	Dependency ratio	
		1971	1981
1.	Uttarkashi	142	258
2.	Joshimath	101	225
3.	Gopeshwar	126	260
4.	Deoprayag	257	355
5.	Muni-ki-Reti	228	332
6.	Pauri	235	319
7.	Srinagar	171	316
8.	Lansdowne	104	203
9.	Almora	244	332
10.	Bageshwar	223	267
11.	Ranikhet	116	227
12.	Nainital	257	331
13.	Bhowali	201	332
14.	Chakrata	33	146
15.	Mussoorie	205	280
16.	Rishikesh	207	335
17.	Kausani	169	314
18.	Mukteshwar	117	N.A.
19.	Jeolikot	293	N.A.
20.	Ukhimath	81	108
21.	Barkot	79	282
22.	Gwaldam	82	N.A.
23.	Karnprayag	126	249
24.	Kedarnath	--	108
25.	Bhimtal	--	339
26.	Badrinath	--	183

Sex Ratio

A ratio is a single term indicating the relative size of two members. The ratio between the two members is called a sex ratio.¹¹ There are many occasions that requires brief summary of sex composition in the study of population. This is not difficult, because classification by sex usually places everyone, unequivocally into one of the two categories, male or female. India is reputed to be having more males than the females.¹² The ratio falling below 900 females per thousand male is a glaring anomaly in the demographic balance. The social attitude in India is in favour of male babies. In most cases, boys in families are

highly welcomed while the girls are not wanted. The hard lot of life of the women folk is the cause of their persistent deficiency in the structure of population. This characteristic is generally traceable in the population character of resorts of U.P. Himalaya too.

The general distribution of sex ratio in 1971 and 1981, at 24 resorts of U.P. Himalaya is shown in Table 6.8. It is evident from the table that sex ratio is highly unbalanced in resorts of U.P. Himalaya ranging from 143 (Chakrata) to 850 (Bageshwar) except Jeolikot with 1,784, which is rather an exception. Due to cantonment, Chakrata has lowest number of females and Bageshwar being an old settled religious settlement with minimum migration of outside persons has more number of females. Among all the resorts, sex ratio is distinctly lower because most of the young men go out in search of employment in the plains or in military services. Country people coming to resorts as labourer usually leave their families at their parental homes and live in resorts alone. Thus, the migration at resorts becomes mainly masculine, and as the result the number of female per thousand male is low. Bageshwar, Ukhimath, Pauri and Bhowali have sex ratio of more than 700, while Almora, Kausani, Nainital, Gopeshwar, Rishikesh, Gwaldam and Deoprayag have the ratio between 600 and 700.

Sex Ratio and Age Group

To obtain more clear picture of sex ratio at hill resorts, the result of sex ratio has been examined according to different age groups. The sex ratio by age in 1971 is shown in Table 6.9. It gives a very typical pattern of distribution. The analysis of the distribution of female population in different age groups indicates that there is a remarkable variation from young to old aged persons.

In age group of 0-14 the deficiency of females to the male population is comparatively lesser. In Srinagar females are more (1,094) in comparison to males. The lowest ratio is in Chakrata (190). The deficiency increases considerably in the age group of 15-19. Bageshwar, Bhowali and Nainital present the excess of females in the age group of 20-24, 30-39 and 15-19 respectively.

In Chakrata, deficiency of females goes up to 79 and 55 in the age group of 30-39 and 50-59 respectively, which is the lowest in all the resorts of U.P. Himalaya. In the age group of more than 60, there is rather improved ratio of females to males.

Table 6.8. Sex ratio at the resorts of U.P. Himalaya (1971 and 1981)

Sl. No.	Resorts	No. of females per thousand males	
		1971	1981
1.	Jeolikot	1,784	--
2.	Bageshwar	850	714
3.	Ukhimath	808	--
4.	Pauri	788	731
5.	Bhowali	730	791
6.	Deoprayag	694	--
7.	Rishikesh	693	762
8.	Gwaldam	686	--
9.	Almora	681	824
10.	Kausani	678	1009
11.	Karnprayag	674	676
12.	Nainital	666	732
13.	Gopeshwar	647	649
14.	Barkot	596	578
15.	Uttarkashi	579	573
16.	Mussoorie	571	654
17.	Joshimath	553	573
18.	Srinagar	543	573
19.	Ranikhet	473	484
20.	Lansdowne	426	412
21.	Muni-ki-Reti	414	466
22.	Mukteshwar	402	--
23.	Chakrata	143	271
24.	Badrinath Puri	--	540

Religion

Religious institution of U.P. Himalaya is a mosaic of six major religious communities and persuasions. Largest religious community pertains to Hindus, which are 85 to 99 per cent of the total population of the resorts. Next to Hindus come Muslims. Other communities following these two groups in succession are Christians, Sikhs, Jains and Buddhists. The respective strength of the above mentioned religious communities is shown in Appendix Table 6. The highest percentage of Hindus is in Deoprayag (99.8) and lowest in Mussoorie (73.5). Other resorts where Hindu community percentage is comparatively higher are Gopeshwar (97.9), Joshimath (96.8), Bageshwar (95.2), as these are Hindu religious resorts. As long as people seek certain spiritual protection under some kind of religious faith, Hindus are likely to decline in number, while others will gain. But this process is even so

Table 6.9. Sex-ratio by age at the resorts (No. of females per thousand males) (1971)

	<i>Age groups</i>							
	<i>0-14</i>	<i>15-19</i>	<i>20-24</i>	<i>25-29</i>	<i>30-39</i>	<i>40-49</i>	<i>50-59</i>	<i>60+</i>
Uttarkashi	856	386	350	564	434	362	465	448
Gopeshwar	873	377	600	639	533	505	623	774
Joshimath	883	455	386	316	441	415	182	746
Deoprayag	761	431	685	734	678	972	500	826
Pauri	933	723	750	864	678	637	711	582
Lansdowne	732	268	388	412	453	316	177	184
Srinagar	1094	345	207	553	301	333	493	466
Ranikhet	853	273	347	358	371	423	660	659
Bageshwar	921	299	1660	972	709	641	592	1063
Bhowali	880	527	1179	597	5095	269	80	142
Chakrata	190	440	161	143	79	111	55	107
Mussoorie	691	473	618	524	561	419	351	441
Rishikesh	833	742	651	646	600	573	509	637
Almora	772	756	512	565	624	732	794	657
Nainital	448	1804	687	856	561	785	760	607

slow that there is hardly any remarkable change in the religious structure of the resorts. History has shown that in spite of major upheavals during Muslim and European rulers, the loss of Hinduism took place temporarily and ultimately it resurfaced. The end of European rule has given birth to a secular state where the causes of Hindu faith are not likely to suffer. Above all, the overwhelming majority of the Hindus over the other communities easily establishes its supremacy shadowing others under its vast image.

The resorts where the number of Hindus are above 90 per cent are Uttarkashi, Joshimath, Gopeshwar, Deoprayag, Muni-ki-Reti, Srinagar, Lansdowne, Almora, Bageshwar, Chakrata and Rishikesh. Other resorts having more than 80 per cent of Hindu population are Pauri, Ranikhet, Nainital, Bhowali and Mussoorie (Fig. 28). The percentage share of Hindus is not below 70 per cent in any resort of U.P. Himalaya. Nainital, Ranikhet, Mussoorie, Bageshwar and Bhowali are the resorts where Muslims are found in good numbers (2 to 11 per cent). The number of Sikhs is considerable in Mussoorie (5.9 per cent of the total). The number of Christians in U.P. Himalayan resorts is highest in Mussoorie, i.e., 6.07 per cent. Buddhists also have remarkable number in Mussoorie. The combination of different communities at 16 resorts of U.P. Himalaya is shown in Fig. 28.

Literacy

Education has potentially negative influence on the reproductive rate, firstly because education develops opportunities, which conflict with child-bearing and rearing and secondly because of the changes in value or knowledge of women. According to the data from Indianapolis Survey, education and successful planning were positively correlated.¹³ Though, there are no studies to prove a direct relationship between the level of mother's education and her child-bearing behaviour, yet it can be explained in terms of the opportunity cost of staying at home, which is probably higher in case of educated women. They also have a better understanding of the implications of economic, health etc or having more children. The lack of education of girls is without doubt a major factor in keeping up a large family norm.

Table 6.10. Literacy at the resorts in 1971 and 1981 (in per cent)

Sl. No.	Resorts	1971			1981		
		Total	Male	Female	Total	Male	Female
1	Almora	72.10	41.25	24.85	78.14	60.70	39.30
2	Lansdowne	70.76	56.21	14.55	77.30	80.45	19.55
3	Ranikhet	68.79	53.66	15.13	76.47	75.13	24.87
4	Nainital	68.05	44.39	23.66	74.11	61.68	38.32
5	Jeolikot	66.85	25.04	41.80	--	--	--
6	Uttarkashi	63.22	47.24	15.98	65.54	73.29	26.71
7	Srinagar	62.59	49.01	13.58	68.29	72.28	27.72
8	Chakrata	62.39	57.00	5.39	67.24	82.13	17.87
9	Mussoorie	62.05	42.72	19.33	64.45	66.10	33.90
10	Bhowali	62.01	40.17	21.84	71.07	61.32	38.68
11	Rishikesh	61.96	40.38	21.57	64.49	63.43	36.57
12	Gopeshwar	59.66	42.52	17.13	68.26	71.59	28.41
13	Deoprayag	59.33	42.77	16.56	62.90	63.46	36.54
14	Pauri	57.85	39.49	18.35	65.94	66.30	33.70
15	Kausani	53.21	42.66	10.55	--	--	--
16	Mukteshwar	53.13	41.98	11.15	--	--	--
17	Joshimath	52.10	40.99	11.10	63.53	74.22	25.78
18	Muni-ki-Reti	51.06	39.61	11.45	64.49	78.15	21.85
19	Bageshwar	49.60	34.39	15.21	63.14	64.32	35.68
20	Karnprayag	48.36	37.98	10.38	60.45	72.5	27.5
21	Ukhimath	47.51	37.28	10.23	80.83	98.99	1.01
22	Barkot	43.61	39.39	4.22	59.89	78.89	21.11
23	Gwaldam	34.43	17.27	15.16	--	--	--
24	Kedarnath	--	--	--	80.83	98.99	1.01

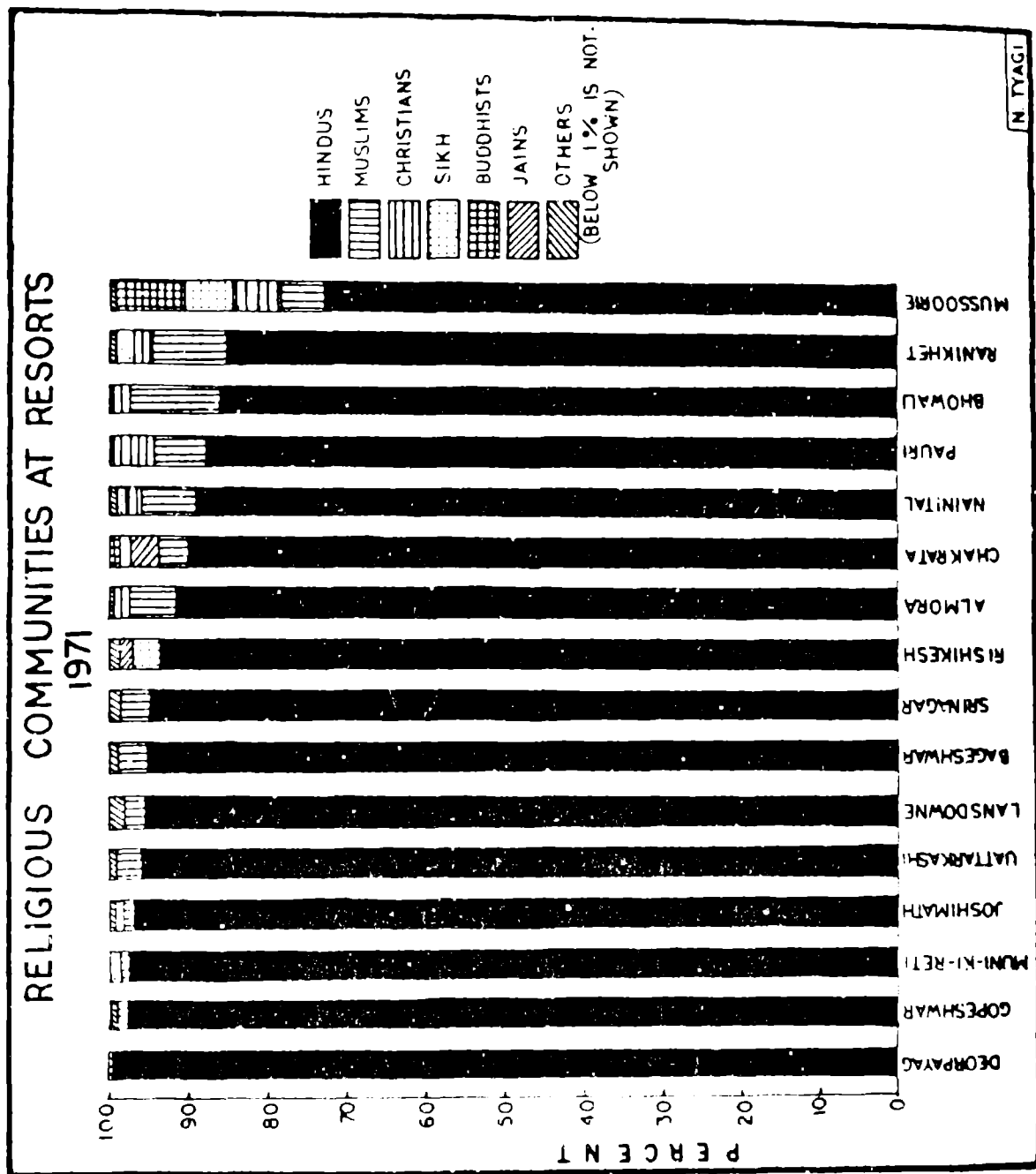


Fig. 28. Religious communities at resorts.

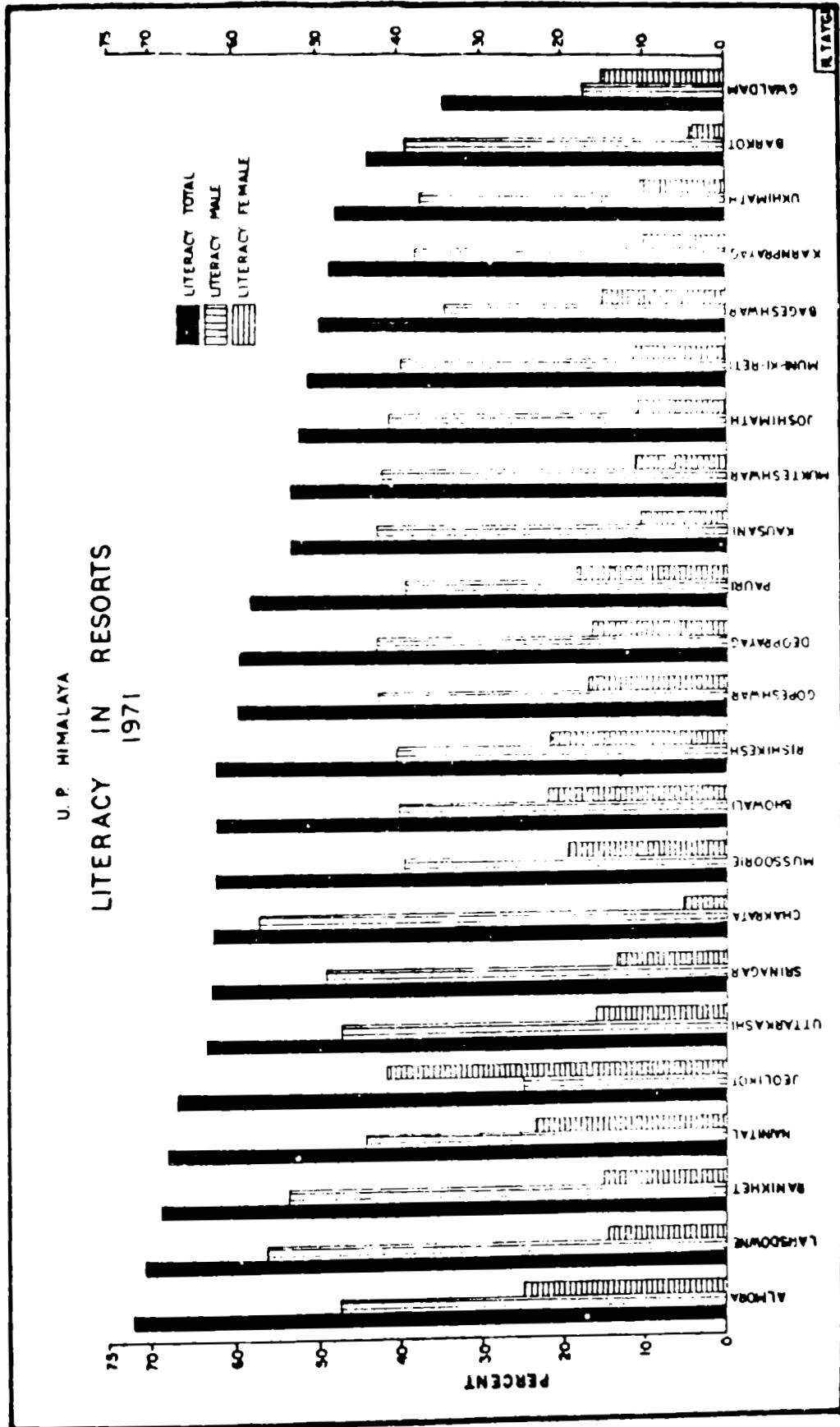


Fig. 29. Literacy in resorts (1971).

Level of literacy, as a mark of social progress, is poor in India,¹⁴ which is rather cent-per-cent true in case of U.P. Himalaya too. The low percentage of literacy is due to the backwardness of the people of the area. Of the total population, only 57.85 per cent persons of hill resorts are literate. There exists a great variation in the percentage of literacy among resorts ranging from 34 to 72 per cent of the total population (Table 6.10).

It is clear from Table 6.10 that Lansdowne (71), Ranikhet (69) and Nainital (68) have comparatively higher literacy percentage. The literacy for female population is even lower which is ranging from 10 to 41 per cent and in male population 17 to 57 per cent (Table 6.10). Chakrata ranks first in the literacy of male population (57) while Gwaldam ranks last (17.27). In female population the literacy percentage is highest in Jeolikot (41.80) and lowest in Chakrata (5.39).

Figure 29 shows the total, male and female literacy of the resorts by zig-zag lines and average literacy by horizontal line. Only Jeolikot has exceptionally higher female literacy than male.

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Chapter 7

Functional Classification of Hill Resorts

Although one commonly speaks of hill resorts as if they are all alike, this convenient designation should not cause us to gloss over the wide differences which exist among them. In U.P. Himalaya, most of the hill resorts appeared and developed under colonial interest and sponsorship, but there are noticeable variations in urbanization and development which took place under colonial auspices. Site, size, age, occupational structure and demographic features are some of the highly evident distinguishing variables while other factors such as cultural and leadership characteristics are also of comparatively lesser significance. These differences necessitate the need for classifying hill resorts in order to facilitate their study and analysis in a comprehensive manner.

Classification is a mean of enlarging our understanding about whatever complex matter we may be studying¹ as it is useful for comparative purpose or for studying the relationships between community types and political and other social variables. It enables us to predict other distinctive traits associated with communities in each of the devised classes. Moore and Smelser,² therefore, have very promptly emphasized that despite the difficulties of scarce data, wide ranges in scales and types of urbanization (development) and significant difference in stages of national development, classification is essential.

Functional Classification

One long-recognised approach to classification involves the economic base or productive specialization of the community.³ As a report of National Resource Committee in 1937 mentioned, "Cities

must be distinguished according to the principal function they serve. Whatever uniformities there may be found in the life of urbanites, it will make some difference whether the city in which they live is an industrial; a commercial or residential city; a capital and education centre; or a resort; whether it depends upon mines, oil wells, timber, port, river, or railroad and whether its economic base is unitary or multiple, balanced or unbalanced".⁴ Of particular significance for the geographer are the several classifications which distinguish cities according to the principal functions which they perform.⁵

No doubt, the classification of hill resorts may be cited in terms of attributes (according to sites, locations etc), but keeping in mind that difference is rather relative than absolute, classification has been developed with respect to their functions also. In order to study future prospects of a hill resort, a functional analysis of hill resorts becomes an indispensable pre-requisite.

Functional Classification Adopted Previously

Many attempts have been made, both here and abroad, to frame a classification or typology on the basis of economic functions. Efforts in the United States date from 1905, when a geographer, W.D. Tower⁶ revealed a classification of cities according to their economic specialization. In 1915, Henri Pirenne⁷ classified the urban areas of newly developing countries in a very simple way into two major groups, i.e., (1) Political, intellectual centres, such as Delhi, Queta and Peking, and (2) Economic centres, such as Bombay, Guaquil and Shanghai. Arousseau⁸ (1921) has categorized towns into two types, i.e., (1) active, and (2) non-active or inactive. Active towns were further divided into (a) administrative, (b) defence, (c) cultural, (d) productive, (e) communication, and (f) recreational centres. Marking the noticeable difficulty of classification out of the multi-functional character of the centres, he advocated to give emphasis upon 'phase or the dominant function'.

Mckenzie⁹ (1925), a sociologist, classified American communities into four broad groups (1) Primary service communities, which function as an intermediate link between the rural countryside producing primary products and the metropolitan centre, (2) Commercial community, which may be explained as centre of collection and distribution, (3) Industrial community or centre, and (4) Other communities or recreational and resort centres, which have no specific economic base and do not specialize in any of the aforesaid functions. James¹⁰

(1930) identified six types of Indian towns, i.e., (a) capital cities, (b) religious towns, (c) manufacturing towns, (d) military posts, (e) inland marts, and (f) sea ports. Hall¹¹ (1934) classified Japanese towns as castle towns (centres of defence and administration); temple and shrine towns; commercial towns and modern industrial-cum-commercial cities.

It was not until this time, however, that the first systematic classification of urban areas according to empirically derived criteria appeared. First of all, W.F. Ogburn¹² (1937), a sociologist and Chauncy D. Harris¹³ (1953), a geographer, used census data pertaining to occupation and employment to group cities into such types as, manufacturing, retailing, mining and educational, and the percentages of population engaged in these functions. Harris was the first, who had made a classification of American towns on the basis of statistical criteria, as manufacturing, retails, wholesale, transport, diversified, mining, university, resort and retirement towns. He had suggested different criteria for the classification of towns located outside United States.¹⁴ The method of classification derived by Harris (1945) particularly drew considerable attention of cognate researchers and became the subject of subsequent revisions by a number of scholars including Grace Kneedler¹⁵ (1945) and Victor Jones¹⁶ (1954).

Hart¹⁷ (1955) too followed Harris and categorized American south cities on the basis of occupational data of 1950 into eleven categories adding two new classes, i.e., professional and military centres and leaving the resort and retirement towns classified by Harris. He also subdivided diversified centres into three types, i.e., diversified, manufacturing, subordinate and retail subordinate.

Duncan and Reiss¹⁸ (1956) classified towns in manufacturing and non-manufacturing types while, Weimer and Hoyt¹⁹ (1948) on the basis of employment categorized towns as industrial, commercial, political, recreational or health resort and educational centres. Gist and Halbert²⁰ (1954) adopted the way shown by Aourousseau, but he added one more, as diversified towns, i.e., towns which do not specialize in any particular function. Pownall²¹ (1953) brought into prominence that dominance or significance of a function can be determined only by a positive or negative simple percentage deviation from natural or state mean for towns of different sizes.

Hoselitz²² (1955) had divided cities into two types (1) generative (if impact on economic growth is favourable), and (2) parasite (if it exerts an opposite impact). But, this classification has the limitation

of not being detailed enough to handle all varieties of cities found in newly developing countries. Rober Redfield²³ (1954) had modified Hoselitz classification substantially and categorized cities into two groups, viz, 'Orthogenetic' and 'Heterogenetic', in terms of their cultural roles. They refer to the former classification, cities of orthogenetic transformation, as being cities of a moral order, and the later, cities of heterogenetic transformation, as being cities of a technical order. But, this classification, because of its inability to differentiate among wide variations in urbanization is commonly unusable.

Alexander²⁴ (1954) had followed the basic and non-basic concept and on the basis of it, he had classified primary and secondary services of towns. Alexanderson²⁵ (1956) also followed the method of Alexander in the study of industrial structure of American cities. But, Blumfield²⁶ (1955) indicates that this concept can be applied for small and simple centres only.

Thompson²⁷ (1955), considering the unsuitability of single criterion in the comparison of two areas with divergent economy used both the employment data and value added by salaries and wages. Mattila and Thompson²⁸ (1955) devised a new method to ascertain the dominance of a function of towns. They advised to prepare index of surplus worker over the national average for the function, based on the following formula:

$$ei = \frac{et \cdot Ei}{Et}$$

where,

ei = local functional employment.

et = local total employment.

Ei = national functional employment.

Et = national total employment.

According to them, the equal values of *ei* and $\frac{et \cdot Ei}{Et}$ shows that the function is balanced not specialized.

Nelson²⁹ (1955) modified the idea of Pownall and used arithmetic average of percentages of labour force engaged in various functional groups of all the towns or centres in the state for the classifying centres. He derived the mean percentage of each function of the centre and also their standard deviations. Thus, he grouped the cities of America into ten categories and also the three classes of specialization. The functional categories are: manufacturing, retail trade, whole-

sale trade, professional services, transportation and communication, personal service, public administration, finance insurance and real estate, mining and diversified centres, while three classes of specialization are (1) Mean + 1 SD, (2) Mean + 2 SD, and (3) Mean + 3 SD.

John Webb³⁰ (1959), in the study of the Urban Centres of Minnesota, found that the best measurement for specialization is the ratio of local functional percentage to the mean percentage of all the towns in the urban complex. To calculate the functional indices he multiplied the local functional percentage with all individual's ratios. 'Specialization indices' derived later, by adding all the functional indices of a town and dividing them by 100, he grouped seven categories of the towns on the basis of 'Specialization indices' with the adjectives of 'most specialized', 'least specialized' and 'intermediants'.

Among Indian geographers, V.A. Janaki³¹ (1954) has categorized the towns of Kerala into five groups as (1) administrative centres, (2) commercial and industrial towns, (3) agricultural, collecting and distributing centres or market towns, (4) temple towns, and (5) plantation towns, showing effect of physical and economic factors on the functions and growth of the centres. Kashi Nath Singh³² (1959) followed the method derived by Nelson in classifying the towns of Uttar Pradesh.

Amrit Lal³³ (1959) has traced absolute four positive values with reference to the median for measuring the specialization in major industry groups. He had classified minor functions into two groups, i.e., (1) normal, and (2) above normal intensity classes.

Mrs. Mahamaya Mukherjee³⁴ (1968) developed a new statistical method for functional town classification which mitigated the lacunae of the existing methods. Following the idea of J.W. Webb, she actually calculated a functional index and a specialization index for all the towns of the region in question. For functional indices she devised the following formula:

$$F.I. = \frac{ei - \frac{(et \cdot Ei)}{Et}}{\frac{et \cdot Ei}{Et}} \times \frac{ei}{et} \times 100$$

where,

ei = local functional employment.

- e_t = local total employment.
- E_i = state functional employment.
- E_t = state total employment.

It can be expressed as,

$$F.I. = \frac{\text{Functional population of a place in surplus or deficit of the State average}}{\text{Required population to equal the State average}} \times \text{local functional percentage}$$

For finding the functional specialization index, she added all the values of various functions. The categories are framed on an arithmetic progression at an interval of 40. Nine categories (1) agriculture, (2) mining, (3) household industry, (4) manufacturing, (5) trade, (6) transport and communication, (7) professional service, (8) personal service, and (9) public administration are recognized and discussed, based on functional index (F.I.).

Dr. O.P. Singh³⁵ (1968) criticizing the methods of classification utilised by various earlier scholars suggested a new method of Functional Centrality and Specialization Index. According to him, the ratio of the regional share and the regional share of the function will determine whether a centre is specialized or not. Thus, if a centre maintains a positive ratio, i.e., it has more of function than of size, it will decidedly be called specialized in that function. For this purpose, he derived two types of indices (1) Functional Specialization Index (F.S.I.), and (2) Functional Centrality Index (F.C.I.), to represent respectively specialization and hierarchy of central places. With a view to render also the possibility of good intra-central and inter-regional comparison of individual function, the functional specialization indices were calculated by multiplying the above mentioned ratio of functional share and size share by the mean percentage of all the centres of the region. The two indices can be expressed in the form of following formulae:

$$FCI = \frac{C_f 100}{R_f}$$

$$FSI = \frac{\frac{C_f 100}{R_f}}{\frac{C_f 100}{R_s}} \times M_f$$

where,

C_f = functional population of the centre.

R_f = regional functional population.

C_s = total population size of the centre.

R_s = total population size of the region.*

M_f = mean functional percentage of centre in the region.

F.C.I. and *F.S.I.* stand for functional centrality index and functional specialization index.

Functional set up of Hill Resorts in General

The map (Fig. 30) very clearly shows the functional structure of working population of hill resorts of U.P. Himalaya in 1971. The size of the circles and divisions on centre show the size of working population and the functional structure respectively of resorts echoing the clear picture of the relationship. The detailed description of the functional structure of working population of all the 27 resorts of U.P. Himalaya is given in Table 7.1. The mining activity is almost insignificant, as 74 per cent hill resorts have no worker engaged in this function. Out of 27 hill resorts, 7 have not engaged any worker in construction, 6 in transport, 4 in commerce, 3 in manufacturing, 1 in primary activities and 1 in services.

'Services'** is by far the most important function of hill resorts as the percentage of workers engaged in this function is not less than 14 at any hill resort (Table 7.1). 27 per cent hill resorts have more than 75 per cent workers engaged in this function. Out of the total 13 (48 per cent) hill resorts engage more than 50 per cent workers in this category (Fig. 27). Commercial activity is the second most important function of hill resorts, as 13 hill resorts engage workers in this function between 10 to 30 per cent of the total working population. Later, in diminishing order they are manufacturing industry, transport, construction and primary activities.

For a comparison of functions among and within the resorts in relation to their size (total population), percentage value of various functions for each resort is calculated and mean values of these func-

* R_s consists of a summation of population figures of individual centres or own region.

** The term 'services' includes here personal, professional, public and other services.

Table 7.1. Persons engaged in different functions at hill resorts (1971)

(In per cent)

Sl. No.	Resorts	Functions					
		Primary	Manufacturing	Construction	Commerce & Trade	Transport	Services
1.	Nainital	1.37	7.35	2.95	17.28	7.99	63.06
2.	Ranikhet	1.91	5.54	0.49	11.01	3.84	77.24
3.	Almora	1.20	11.17	1.61	16.82	6.48	62.66
4.	Mussoorie	2.35	8.54	5.44	20.60	11.04	52.18
5.	Rishikesh	1.95	16.95	4.08	24.83	15.00	37.17
6.	Chakrata	0.15	1.71	0.30	4.34	1.71	92.12
7.	Lansdowne	0.40	3.79	0.42	5.56	1.43	88.29
8.	Joshimath	35.28	5.30	4.75	6.12	2.44	46.09
9.	Gopeshwar	34.40	13.11	1.42	6.66	4.65	39.68
10.	Pauri	9.82	7.36	3.81	16.36	6.27	56.40
11.	Uttarkashi	20.90	9.24	6.90	13.51	2.46	46.97
12.	Srinagar	5.07	7.09	4.51	12.03	3.52	67.74
13.	Bageshwar	36.40	10.11	1.42	21.27	8.91	21.79
14.	Bhowali	9.35	12.65	1.37	20.08	20.59	45.94
15.	Barkot	61.70	3.19	5.31	13.67	1.67	14.43
16.	Mukteshwar	0.15	0.16	3.00	0.79	0.13	95.09
17.	Ukhimath	60.47	5.45	--	5.45	--	28.62
18.	Kausani	39.35	2.07	--	3.20	1.31	54.04
19.	Deoprayag	--	7.02	0.04	12.64	2.81	76.11
20.	Muni-ki-Reti	2.62	14.57	4.37	9.32	11.66	57.43

(contd.)

Table 7.1 continued

Sl. No.	Resorts	Functions					
		Primary	Manufacturing	Construction	Commerce & Trade	Transport	Services
21.	Gwaldam	279.29	4.91	--	--	--	15.78
22.	Karnprayag	65.10	00.67	5.36	6.04	3.35	19.46
23.	Nandprayag	22.37	--	--	--	--	77.62
24.	Jeolikot	24.60	5.79	14.49	5.07	4.34	45.65
25.	Dharasu	48.10	1.26	--	16.45	--	34.17
26.	Gauri Kund	82.45	--	--	--	17.54	--
27.	Binsar	100.00	--	--	--	--	--

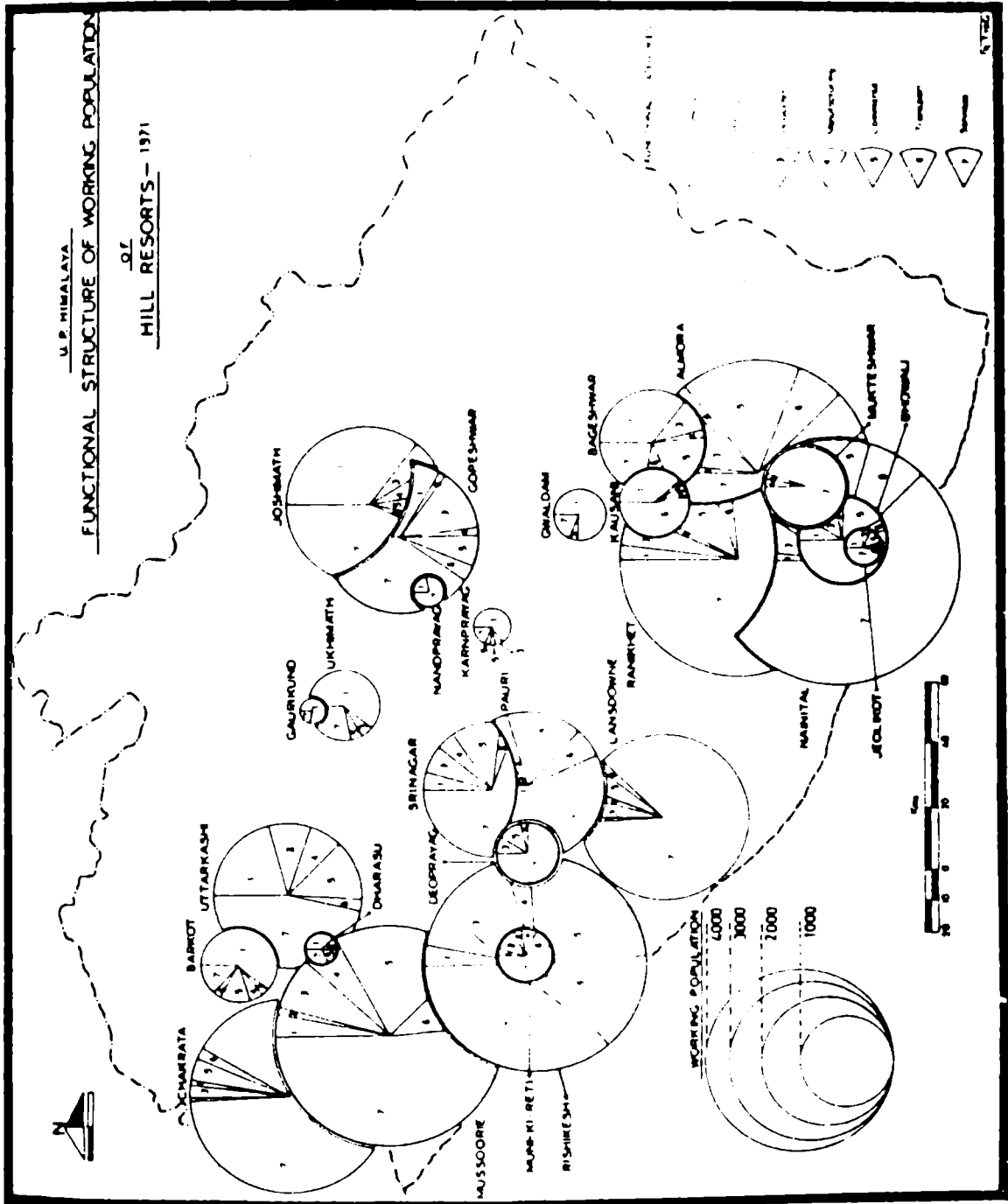


Fig. 30. Functional structure of working population of hill resorts (1971).

tions for five size classes of the resorts are derived from Table 7.2.

After a critical observation of the structure of functions (Fig. 30) and examination of mean percentage for various size classes of resorts (Table 7.2), some generalized conclusions may be formulated.

- 1) Hill resorts of below medium size (population less than 10,000) are higher in number.
- 2) All the hill resort have least fraction of labour force engaged in construction. There is an opposite relation between size and construction employment. As the size of resorts increases, the construction employment decreases, showing a tendency of decrease with the increase of class size.
- 3) 'Services' engages larger share of total working population.
- 4) Medium and above medium class resorts comprise of least percentage in primary activities, whereas in below medium resorts the engaged percentage is higher. With the increase in the size of resorts, percentage of primary activities goes on decreasing.
- 5) Manufacturing is widely and uniformly distributed function at hill resorts of U.P. Himalaya. There exists a positive relationship in this function up to the resorts with 20,000 population.
- 6) No definite trend is traceable in commerce and transport functions. Commerce comprises nearly equal share in the lower (6.68) and above the medium (7.4) class centres, while in transport it has shown an increment with the increase in size with fluctuating characteristics having lower and upper class centres.

The most convincing generalization may be formed that above the total population of 20,000 it shows the decreasing tendency in employment in all functions except services (Table 7.2), which is a noticeable sign of commencement of problems at the resorts.

The same calculation has been made on the total workers of the resorts (Table 7.3) to gain more accurate result of the reality, but the formulations framed above have only been confirmed. The trend of employment in all the functions are rather same except in manufacturing. In this function the increment has been registered upto 92 per cent from lower to below medium class. It is also clear from Table 7.3 that resorts having workers between 1,500 to 3,000 contain rational and proper distribution of workers in various functions which is also visible in the resorts of above medium size class.

Functional Classes of Resorts

Hill resorts, having their popularity as a tourists' resort, as a health resort or as a religious resort etc, perform many sort of functions. They are most commonly multifunctional, as they are referred. Therefore, they create a problem in their classification into various categories. The recognized drawback of single dimension typologies has led to the efforts to conduct classification based on more than one variable. An approach in this direction has been to develop occupational profiles or patterns of occupational distribution. Keeping this in view, the occupational profiles of hill resorts have been shown in Fig. 31. It is evident from Fig. 31 that resorts vary very much in their occupational characteristics. Cantonment resorts--Ranikhet, Lansdowne and Chakrata are showing synonymous functional characteristics while Uttarkashi, Bageshwar and Kausani are in one group, showing different type of occupational characteristics. Rishikesh, Srinagar and Almora have different characteristics of occupational profile in comparison to Pauri, Mussoorie and Nainital, being well reputed tourists resorts.

The percentage values of functional structure of individual resorts (Table 7.1) and graphical representation of some of them (Fig. 31) do not reflect significant result for the classification, unless they are not compared in relation to regional context. Here, barring the classification of resorts of U.P. Himalaya on faith and intuition, a statistical classification is formulated for the purpose. The procedure and methodology of classification is based on O.P. Singh's classification (as derived in preceding pages) with wide and major modifications and some inevitable additions to establish the fact in a more accurate and rational way.

As the data regarding the employment in various occupations are available from the census of 1971, they are made the base for the statistical classification. The whole of the administrative unit of U.P. Himalaya has been taken as a region. First three categories of the census classification of workers, i.e., cultivators, agricultural labourers and persons engaged in livestock rearing, plantation etc, are added and kept in primary function in the present classification.

Functional Classification

To find out the specialization, the mean of various functions and the specialization categories for each functions, the values of standard

Table 7.2. Mean percentage of functions at hill resorts of different size classes on total population (1977)

<i>Size class</i>	<i>No. of resorts</i>	<i>Primary</i>	<i>Manufacturing</i>	<i>Construction</i>	<i>Commerce</i>	<i>Transport</i>	<i>Services</i>
20,000 (Upper)	2	0.35	2.62	0.63	3.55	3.31	16.16
15,000-20,000 (Above medium)	2	0.7	4.14	1.55	7.4	4.24	14.49
10,000-15,000 (Medium)	1	0.86	2.55	0.22	5.08	1.77	35.6
5,000-10,000 (Below medium)	7	6.62	2.88	1.29	3.85	1.32	30.59
5,000 (Lower)	15	21.61	2.81	1.66	6.68	2.6	20.06

Table 7.3. Mean percentage of functions at hill resorts of different size classes on total workers (1971)

<i>Size class</i>	<i>No. of resorts</i>	<i>Primary</i>	<i>Manufacturing</i>	<i>Construction</i>	<i>Commerce</i>	<i>Transport</i>	<i>Services</i>
6,000 (Upper)	3	1.49	8.02	1.68	15.05	6.1	67.65
4,500-6,000 (Above medium)	3	1.48	9.06	3.27	16.59	9.3	60.49
3,000-4,500 (Medium)	1	0.30	3.79	0.42	5.56	1.59	88.28
1,500-3,000 (Below medium)	5	28.19	10.95	7.12	18.22	5.6	85.62
1,500 (Lower)	15	45.30	5.69	4.41	10.42	5.05	43.25

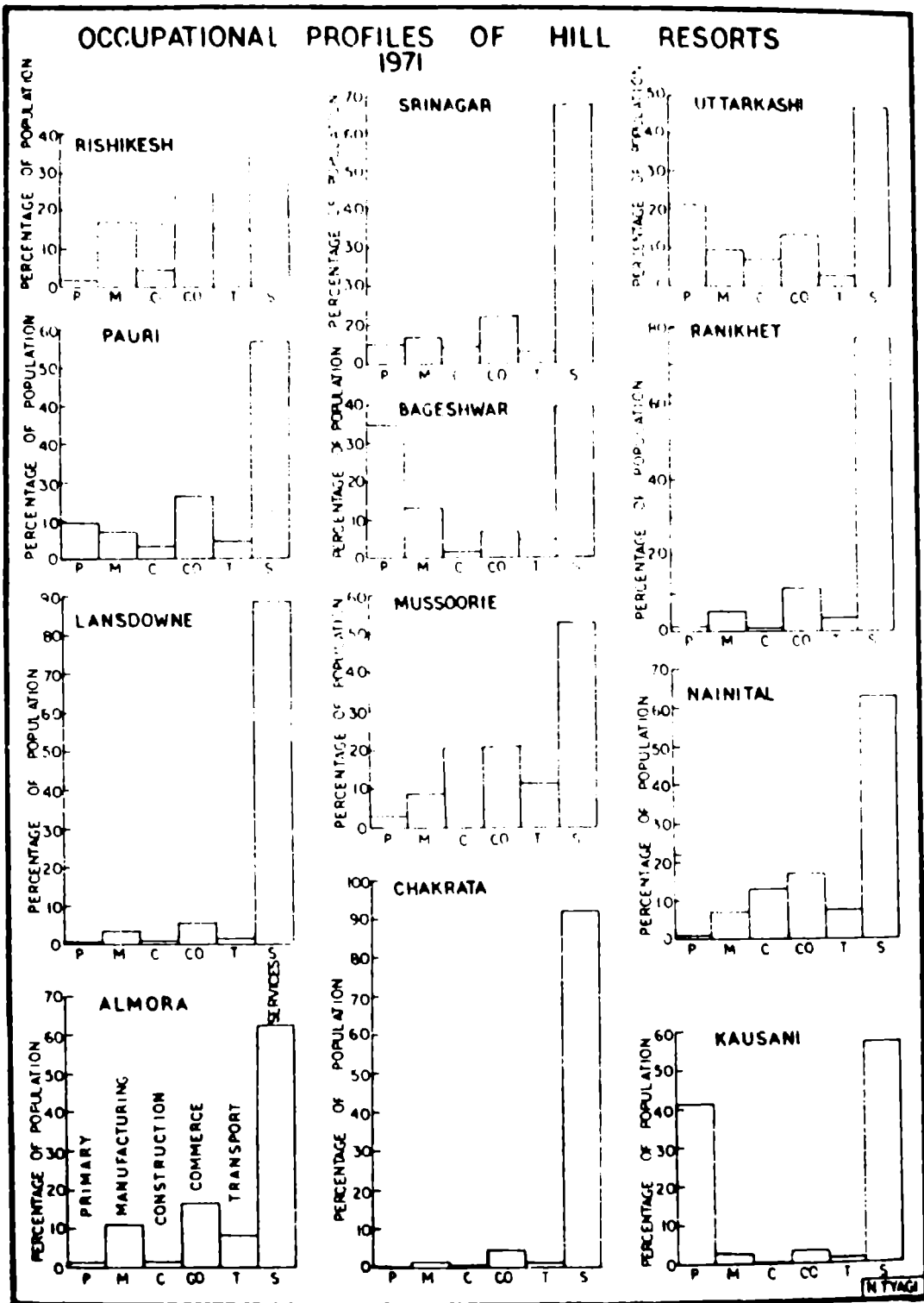


Fig. 31. Occupational profiles of hill resorts (1971).

deviation from the mean are calculated. Likewise, four specialization categories are distinguished for each function, i.e., (1) resorts mean + SD1, (2) mean + SD2, (3) mean + SD3, and (4) above mean + SD3, which may respectively be referred as specialized, much specialized, highly specialized and very highly specialized resorts (Table 7.4).

Table 7.4. Mean and SD values of F.S.I. for hill resorts

<i>Values</i>	<i>Primary func- tions</i>	<i>Manu- fact- uring</i>	<i>Cons- truc- tion</i>	<i>Comme- rce & trade</i>	<i>Trans- port</i>	<i>Servi- ces</i>
Mean	89.11	5.8	4.8	9.99	4.47	44.43
SD	92.66	33.83	4.4	5.86	3.42	20.91
Mean + SD1 (Specialized)	181.77	9.55	9.2	15.85	7.89	65.34
Mean + SD2 (Much specialized)	274.43	13.31	13.6	21.71	11.31	186.25
Mean + SD3 (Highly specialized)	367.09	17.05	18.0	27.57	14.73	107.16
Above mean + SD3 (Very highly specialized)	459.75	20.88	22.4	33.43	18.15	128.07

To express the classes of hierarchy of specialization of different functions or quantitative rank of resorts, a diagram showing F.S.I. on ordinate and F.C.I. on the obccissa is prepared in Fig. 32. Mean values and SDs of F.S.I. are also plotted by horizontal lines. Breaking F.C.I. arbitrarily in F.C.I., five classes of hierarchical order of hill resorts are recognized for each function. They are in different orders as following:

(1) Resorts of first order: F.C.I. 0-1. (2) Resorts of second order: F.C.I. 1-3. (3) Resorts of third order: F.C.I. 3-6. (4) Resorts of fourth order: F.C.I. 6-10. (5) Resorts of fifth order: F.C.I. above 10. For the classification purpose census data of 1971, pertaining to the occupational structures of all the resorts have been used and seven functional categories are framed, i.e., (1) Resorts specialized in primary functions, (2) Resorts specialized in manufacturing, (3) Resorts specialized in construction, (4) Resorts specialized in commerce and trade, (5) Resorts specialized in transport, (6) Resorts specialized in services, and (7) Diversified resorts (having specialization in more than one function).

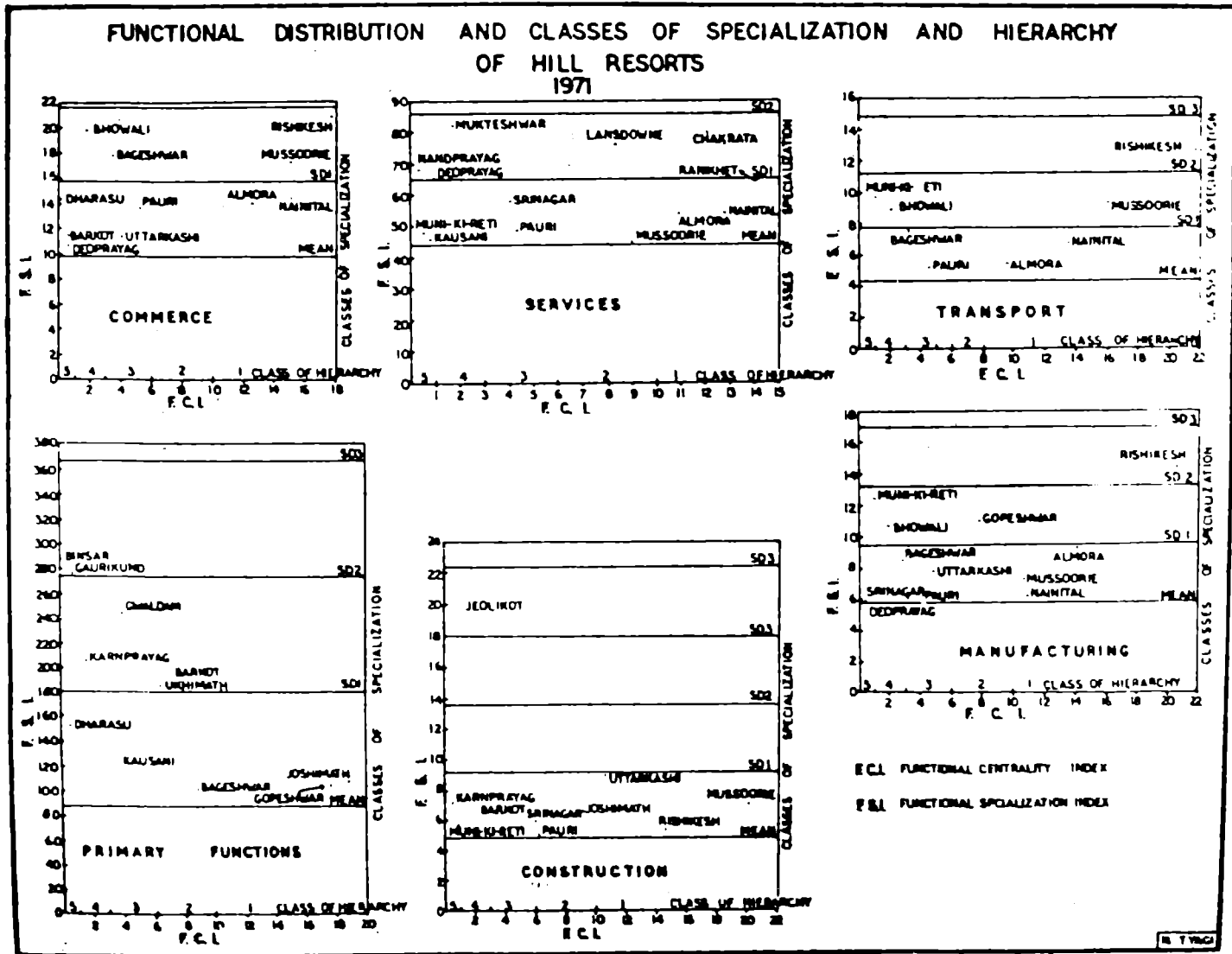


Fig. 32. Functional distribution, classes of specialization and hierarchy of hill resorts (1971).

1) Resorts Specialized in Primary Function

Out of 27 hill resorts of U.P. Himalaya, 40.74 per cent resorts stand above the regional average (89.11) in primary functions. Among them, five resorts--Dharasu, Kausani, Joshimath, Gopeshwar and Bageshwar are specialized, four resorts--Gwaldam, Kamprayag, Barkot and Ukhimath are much specialized and two resorts--Binsar and Gaurikund are highly specialized in primary function, consisting of the values of mean + SD1, SD2 and SD3, respectively (Fig. 33). Binsar and Gaurikund are the most specialized resorts in primary activities as they have F.S.I. index 288 and 275.19 respectively. Binsar has a number of orchards and tea gardens in the surrounding area while Gaurikund is a small resort of only 89 residents (1971), engaging most of the persons in primary activities. Among much specialized centres, Gwaldam occupies a significant place with 243.33 F.S.I.

Joshimath and Gopeshwar are the first order resorts of primary functions. Bageshwar, Barkot and Ukhimath are the resorts of second order, Gwaldam and Kausani, the resorts of third order, Kamprayag, the resort of fourth order, Gauri Kund, Dharasu and Binsar, the resorts of fifth order in the function. As far as F.C.I. is concerned, Joshimath occupies the first order and F.S.I. Binsar ranks first.

A study of Fig. 33 showing the resorts specialized in primary function reveal certain significant facts. Primary functions are highly concentrated in the middle part of the U.P. Himalaya, as 36 per cent resorts are located here. These are the resorts where the economy is based on agriculture. Except this, some resorts are distributed in the south-eastern and north-western part of the region. Two resorts are located in south-western part of the region (Fig. 33).

2) Resorts Specialized in Manufacturing

Twelve resorts (44.4 per cent) stand above the regional average (5.8) in manufacturing activities. Out of them eight resorts are specialized, three much specialized, and one highly specialized. Almora, Bageshwar, Uttarkashi, Mussoorie, Nainital, Pauri, Srinagar and Deoprayag are specialized, Muni-ki-Reti, Gopeshwar and Bhowali are much specialized and Rishikesh highly specialized resorts in manufacturing with mean + SD1, SD2 and SD3 values respectively. Rishikesh is much specialized in manufacturing due to presence of large scale industries, i.e., Antibiotic project, while other resorts having their locations at high altitudes are studied specially with cottage industries.

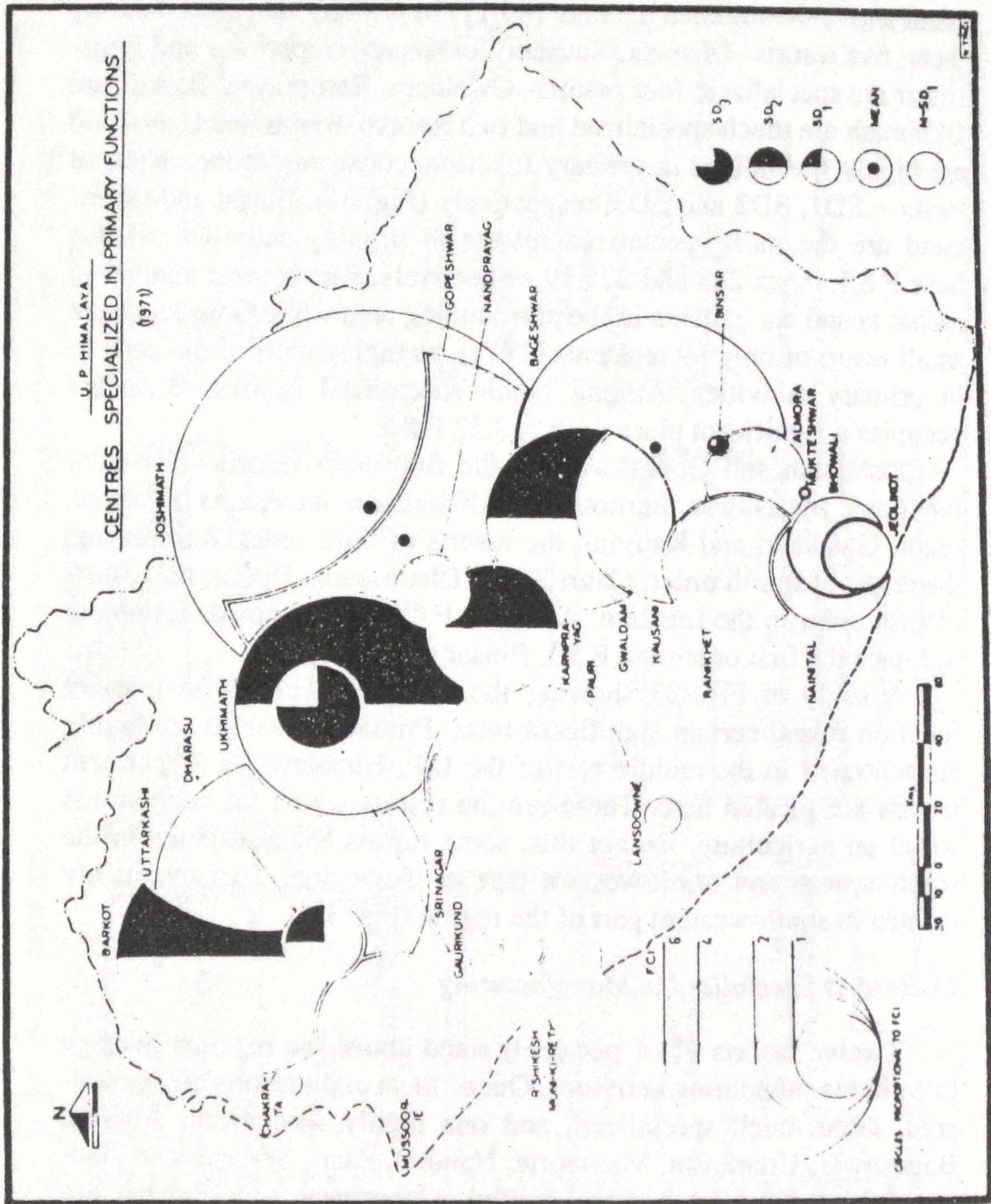


Fig. 33. Centres specialized in primary function (1971).

Wooden sticks, woollen clothes, toys, bamboo articles, fruit canning, anadems of different sizes of multi-coloured and multi-sizes beads etc are locally produced at household level at resorts.

Rishikesh invites a large number of tourists also has maximum workers engaged in manufacturing. Muni-ki-Reti, just nearby Rishikesh, occupies the same locational advantage and characteristics. Gopeshwar, due to district headquarters and Bhowali, being a sanatorium centre, engage a considerable amount of workers in manufacturing (34.40 and 9.35 per cent respectively).

Rishikesh, Almora, Nainital and Mussoorie are the first order resorts, comprising of F.C.I. more than 10. Rishikesh occupying F.C.I. 20.62 is most significant resort because it also ranks first in respect to F.S.I. 14.37. Gopeshwar is the resort of second order, Uttarkashi, Pauri and Srinagar are the resorts of third order, Bageshwar and Bhowali are the resorts of fourth order, Muni-ki-Reti and Deoprayag are the resorts of fifth order as regards the values of F.C.I.

This fact is revealed distinctly by Fig. 34 showing the resorts specialized in manufacturing in U.P. Himalaya. It is clear from this figure that manufacturing is concentrated in the south-western and south-eastern parts of the region. Rishikesh, the greatest and largest resort comprising of this function, is also located in south-western part of the region which is also the terminus of railways and a gate town between the plain and the hills. Muni-ki-Reti, Mussoorie, Deoprayag, Uttarkashi and Pauri are the other resorts located in south-western part of the region. Bhowali, Almora, Nainital and Bageshwar are the resorts located in south-eastern part. Three resorts are located in northern part of the region in scattered manner (Fig. 34).

3) Resorts Specialized in Construction

Ten resorts stand above the regional average (4.8) in construction activities. Among these resorts none have crossed the limit of SD1, except Jeolikot, which due to its strategic location between Kathgodam, Nainital and Bhowali, engages 14.49 per cent workers in this function (1971) and holds the rank of very high specialization with 19.67 F.S.I. All other resorts specialized in construction have grouping near the mean index, consisting the values of mean + SD1. Uttarkashi, Karnprayag, Barkot, Mussoorie, Joshimath, Srinagar, Muni-ki-Reti, Rishikesh and Pauri are the resorts having specialization in this function Uttarkashi holds supermost position among nine resorts of this category, due to larger number of buildings that have come up

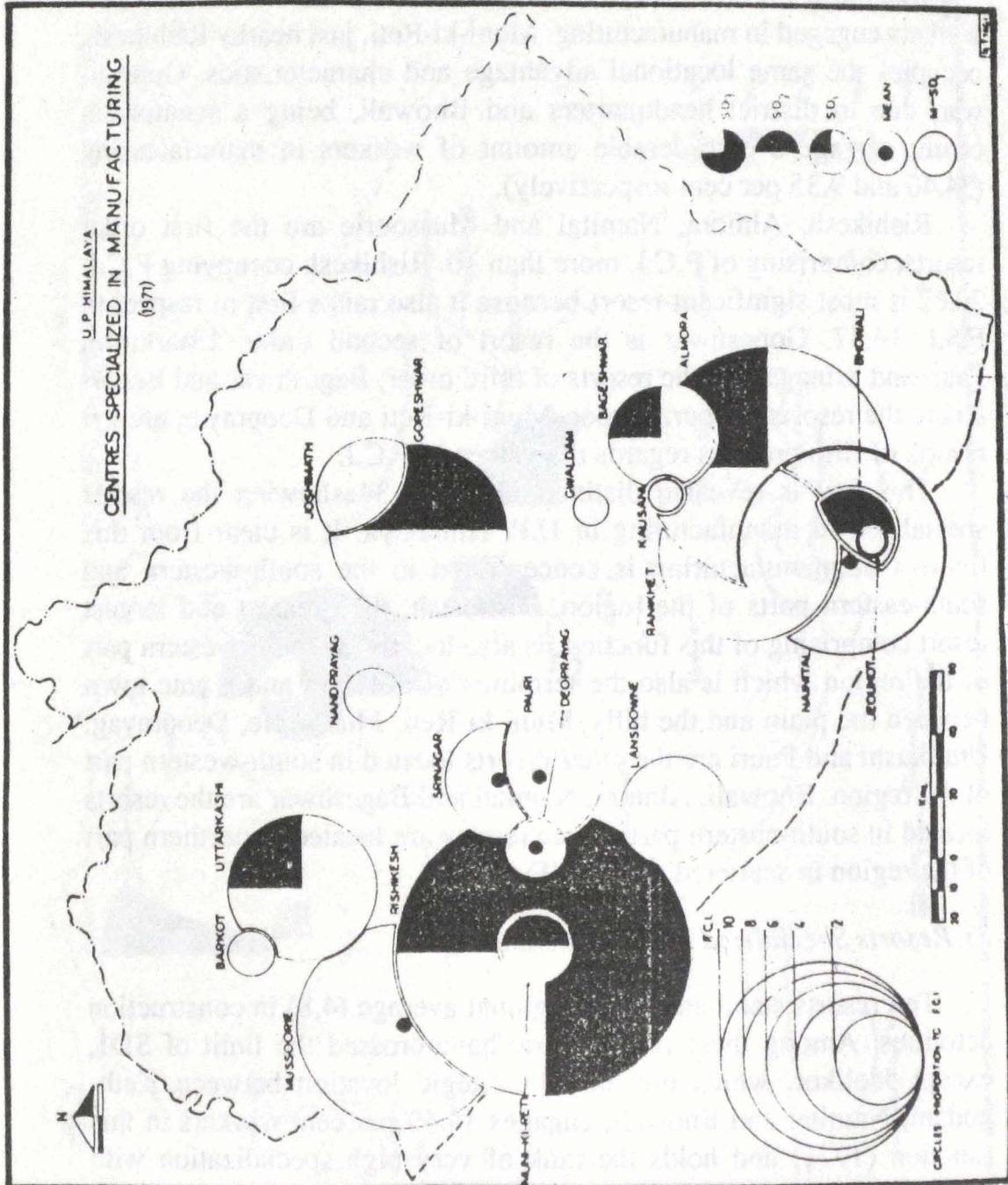


Fig. 34. Centres specialized in manufacturing (1971).

especially after 1951, when it was made a headquarter of the same district.

Mussoorie, Rishikesh and Uttarkashi are the first order resorts in construction as their F.C.I. is more than 10. Joshimath and Pauri are the resorts of second order, Srinagar resort of third order, Barkot and Jeolikot resorts of fourth order and Muni-ki-Reti and Karnprayag are the resorts of fifth order. Mussoorie is the first order resort in respect to F.S.I., whereas Jeolikot is the resort of first rank as regards to F.S.I.

A study of Fig. 35 clearly explains the fact that most of the resorts, specialized in construction and located in the western part of the region are larger in number in comparison to south-eastern resorts. Other resorts are distributed in the middle and northern parts of the region.

4) Resorts Specialized in Trade and Commerce

Twelve resorts (44.44 per cent) stand above the regional average (9.99) in trade and commerce. Among twelve resorts, eight come in the perview of specialized resorts while four resorts under much specialized resort as:

Mean + SD1 resorts = Nainital, Dharasu, Almora, Pauri,
Uttarkashi, Barkot, Deoprayag and
Srinagar.

Mean + SD2 resorts = Rishikesh, Bhowali, Bageshwar and
Mussoorie.

Rishikesh, being located as a gate resort, occupies the locational advantages and engages a considerable number of workers in commerce.

Rishikesh, Nainital, Mussoorie and Almora having F.C.I. more than 10 are the resorts of first order in commerce while there is no centre of second order. Pauri, Uttarkashi, Bageshwar and Srinagar are the resorts of third order, Bhowali and Barkot resorts of fourth order and Deoprayag and Dharasu are the resorts of fifth order. Rishikesh is the first order resort comprising first rank and order in respect of F.S.I. and F.C.I.

The distribution of the resorts specialized in commerce is shown in Fig. 36. It is evident from the map that resorts specialized in commercial activities are highly concentrated in the southern part of the region. But, a general outlook of the map makes us divide the region, according to commercial activities of resorts, into two groups,

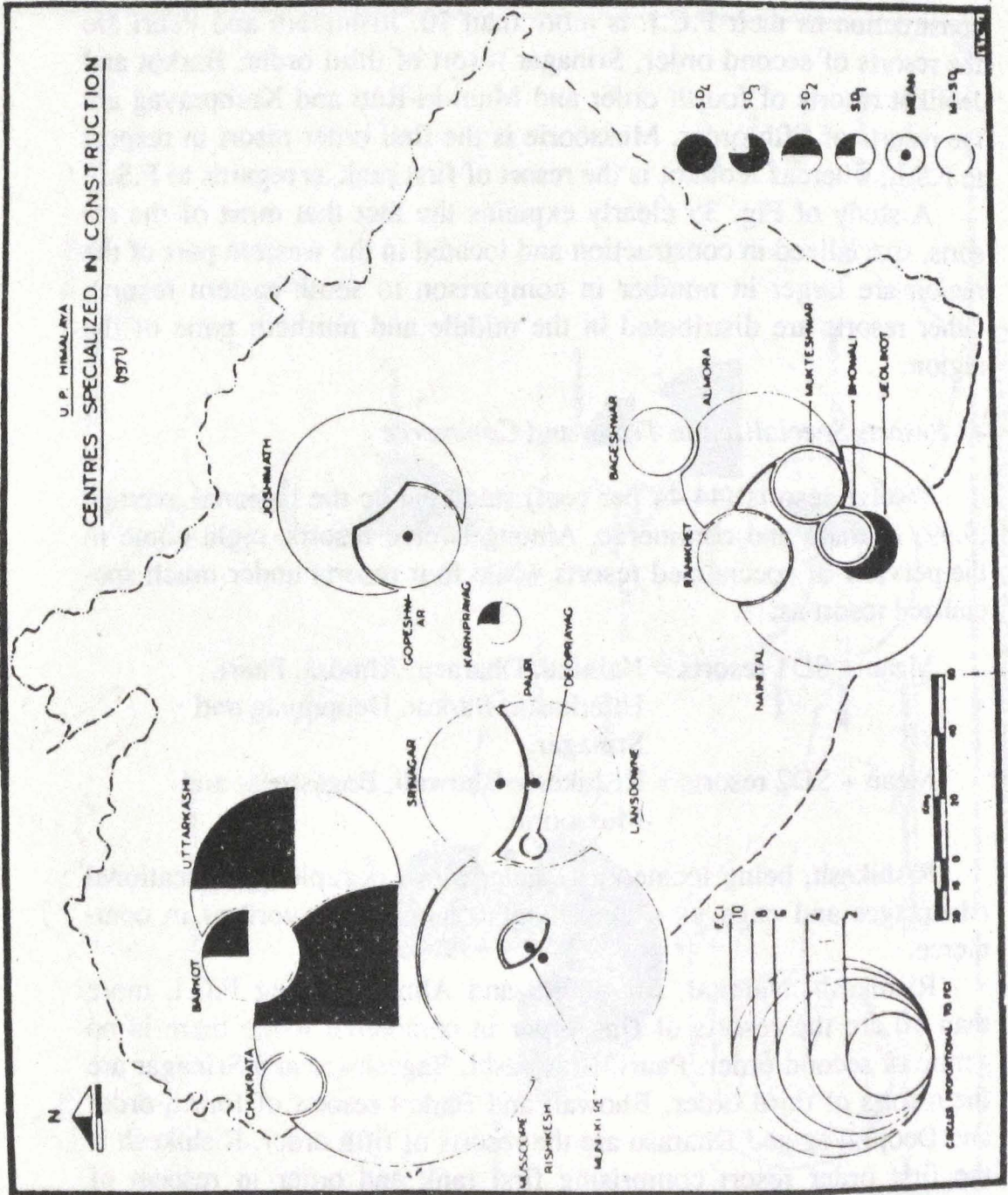


Fig. 35. Centres specialized in construction (1971).

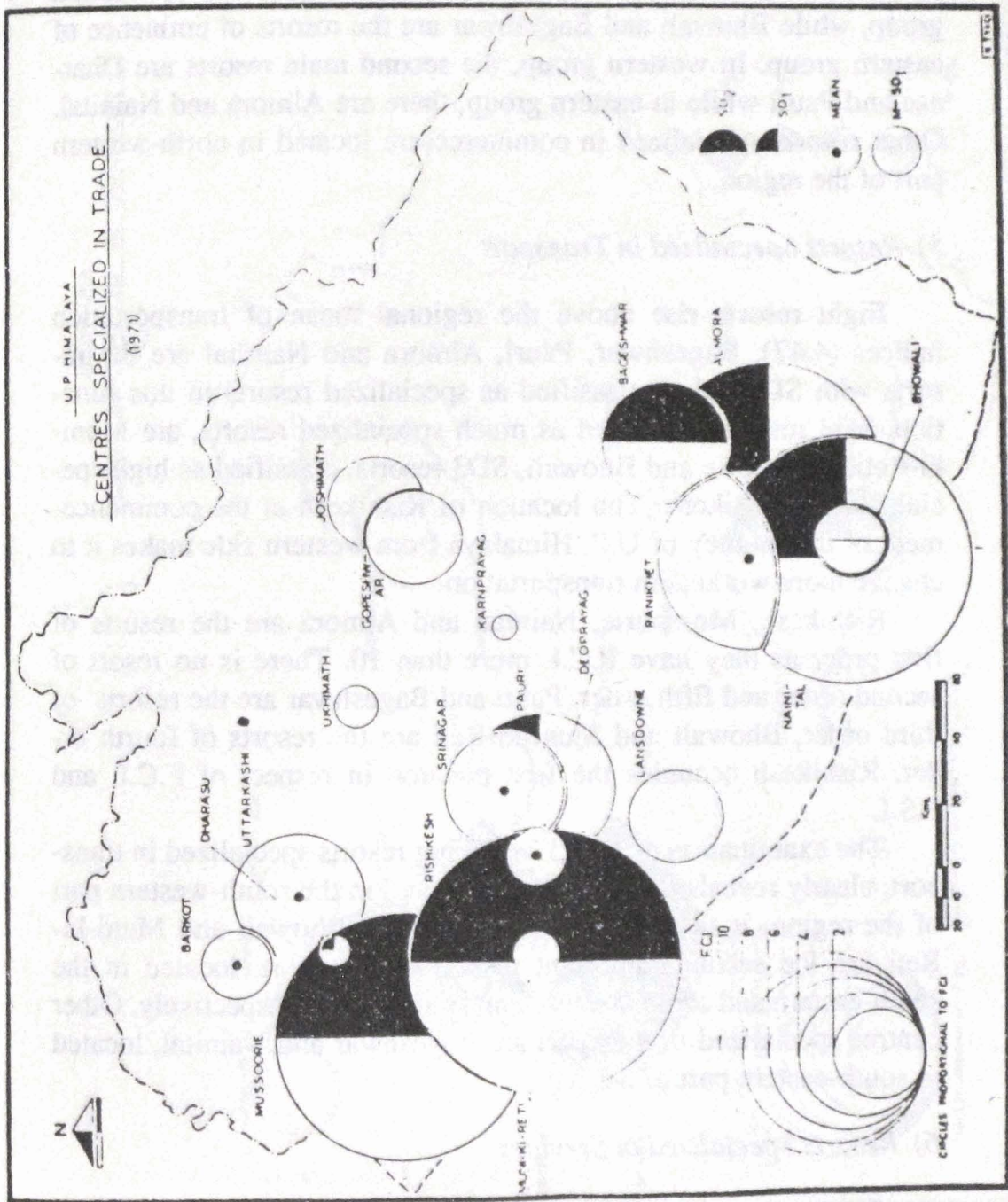


Fig. 36. Centres specialized in trade (1971).

i.e., western group and eastern group. There are ten resorts in western group and five in eastern group. Only four resorts are located in northern and middle part of the region. Rishikesh and Mussoorie are the main commercial resorts as well as focus and hub of western group, while Bhowali and Bageshwar are the resorts of eminence of eastern group. In western group, the second main resorts are Dharasu and Pauri while in eastern group, there are Almora and Nainital. Other resorts specialized in commerce are located in north-western part of the region.

5) Resorts Specialized in Transport

Eight resorts rise above the regional mean of transportation indices (4.47). Bageshwar, Pauri, Almora and Nainital are the resorts with SD1 value, classified as specialized resorts in this function. SD2 resorts, classified as much specialized resorts, are Muni-ki-Reti, Mussoorie and Bhowali, SD3 resorts, classified as high specialized, is Rishikesh. The location of Rishikesh at the commencement of the journey of U.P. Himalaya from western side makes it to engage more workers in transportation.

Rishikesh, Mussoorie, Nainital and Almora are the resorts of first order as they have F.C.I. more than 10. There is no resort of second order and fifth order. Pauri and Bageshwar are the resorts of third order, Bhowali and Muni-ki-Reti are the resorts of fourth order. Rishikesh occupies the first position in respect of F.C.I. and F.S.I.

The examination of Fig. 37 showing resorts specialized in transport, clearly reveals that Rishikesh, located in the south-western part of the region, is the largest transport resort. Bhowali and Muni-ki-Reti are the second important resorts of transport, located in the south-eastern and south-western part of the region respectively. Other centres specialized in transport are Bageshwar and Nainital, located in south-eastern part of the region.

6) Resorts Specialized in Services

Thirteen resorts or 48.14 per cent lie above the functional mean (44.43). Among them, seven are specialized in services with mean + SD1, while remaining six are much specialized with SD2. Specialized resorts are Srinagar, Nainital, Almora, Muni-ki-Reti, Pauri and Kausani and much specialized resorts in services are Mukteshwar, Chakrata, Lansdowne, Nandprayag, Deoprayag and Ranikhet. Muktesh-

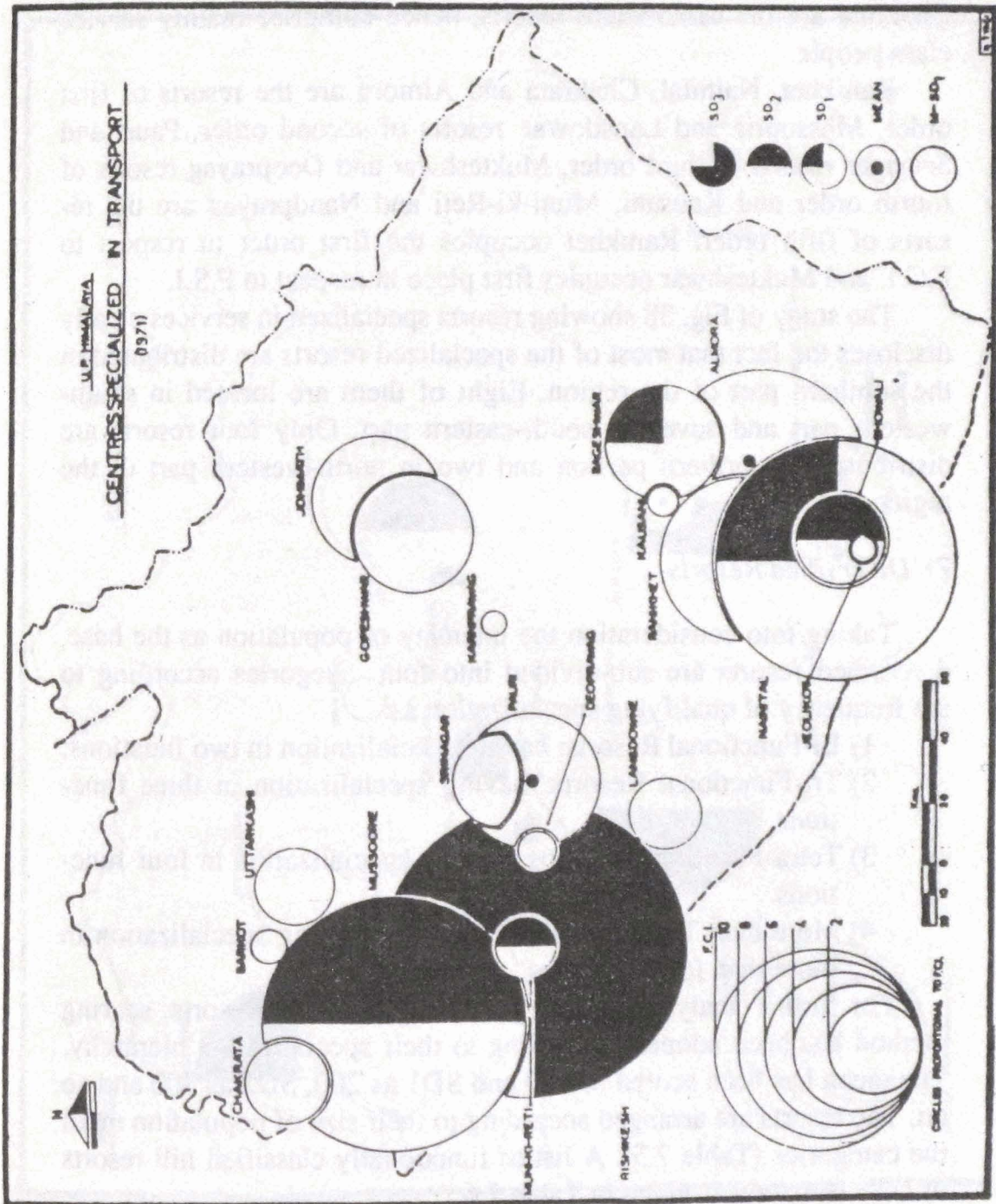


Fig. 37. Centres specialized in transport (1971).

war has the offices like Indian Veterinary Research Institute (I.V.R.I.), Central Potato Research Station, Meteorological Station etc and hence has the larger share of workers engaged in services. Lansdowne and Chakrata are the cantonment resorts, hence comprise mainly service class people.

Ranikhet, Nainital, Chakrata and Almora are the resorts of first order, Mussoorie and Lansdowne resorts of second order, Pauri and Srinagar resorts of third order, Mukteshwar and Deoprayag resorts of fourth order and Kausani, Muni-ki-Reti and Nandprayag are the resorts of fifth order. Ranikhet occupies the first order in respect to F.C.I. and Mukteshwar occupies first place in respect to F.S.I.

The study of Fig. 38 showing resorts specialized in services clearly discloses the fact that most of the specialized resorts are distributed in the southern part of the region. Eight of them are located in south-western part and seven in south-eastern part. Only four resorts are distributed in northern portion and two in north-western part of the region.

7) *Diversified Resorts*

Taking into consideration the intensity of population as the base, diversified resorts are sub-divided into four categories according to the frequency of qualifying specialization as:

- 1) Bi-Functional Resorts: having specialization in two functions.
- 2) Tri-Functional Resorts: having specialization in three functions.
- 3) Tetra-Functional Resorts: having specialization in four functions.
- 4) More than Tetra-Functional Resorts: having specialization in more than four functions.

For further analysis regarding the ranking of the resorts, scoring method has been adopted according to their specialization hierarchy. The mean has been scored as 100 and SD1 as 200, SD2 as 300 and so on. The resorts are arranged according to their size of population in all the categories (Table 7.5). A list of functionally classified hill resorts of U.P. Himalaya is given in Table 7.6.

Table 7.5 very clearly reveals that five resorts are bi-functional, three tri-functional, seven tetra-functional and two more than tetra-functional (also see Table 7.6). Among bi-functional resorts, Karnprayag ranks first while Bhowali, Rishikesh and Mussoorie are first among tri, tetra and more than tetra-functional resorts respectively. Among

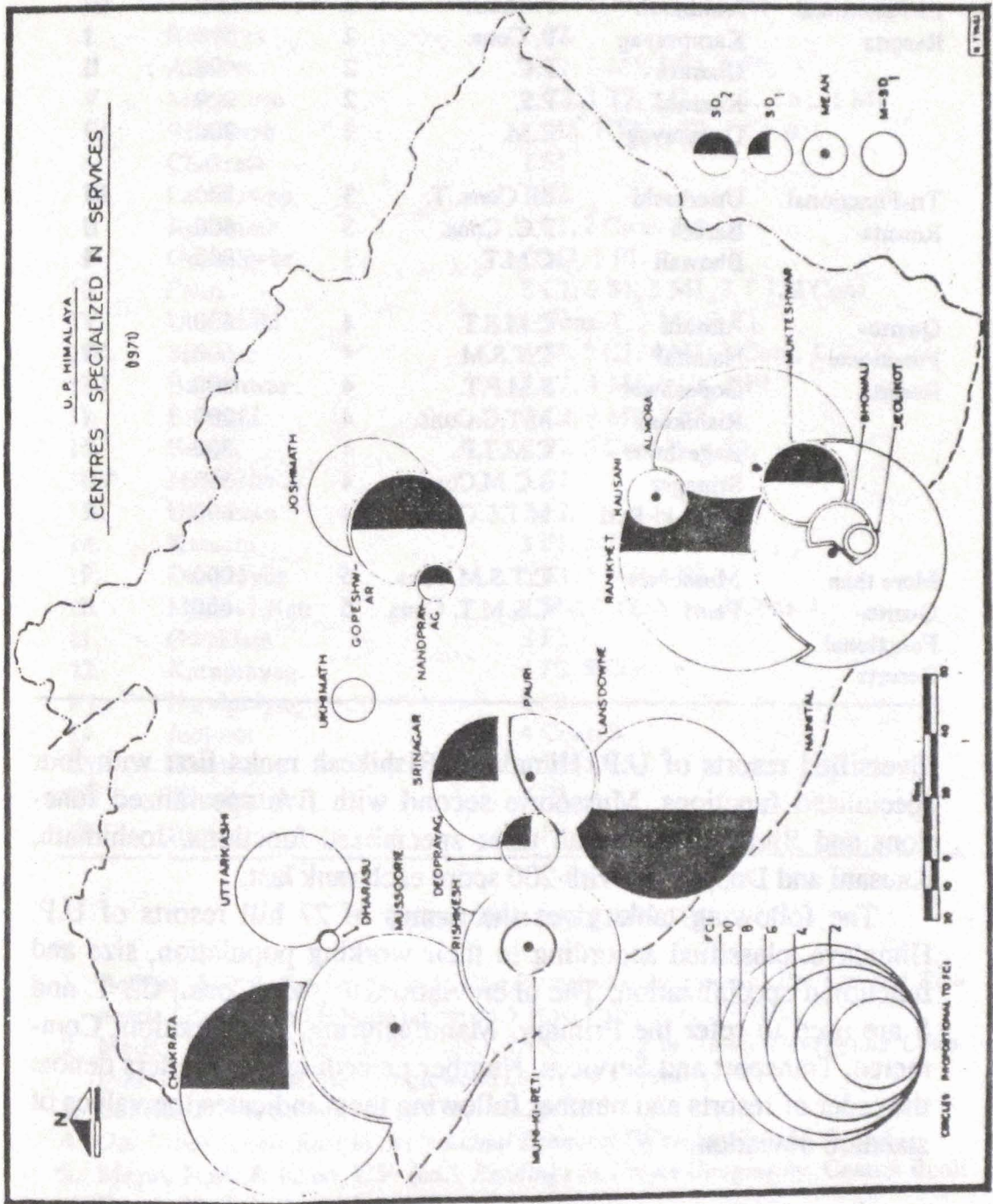


Fig. 38. Centres specialized in services (1971).

Table 7.5. Diversified resorts of U.P. Himalaya

<i>Category</i>	<i>Resorts</i>	<i>Specialization</i>	<i>Sum</i>	<i>Scores</i>	<i>Rank</i>
Bi-Functional Resorts	Joshimath	P. Cons.	2	200	IV
	Karnprayag	P. Cons.	2	500	I
	Dharasu	P.C.	2	400	II
	Kausani	P.S.	2	200	V
	Deoprayag	C.M.	2	200	VI
Tri-Functional Resorts	Uttarkashi	M. Cons. T.	3	500	III
	Barkot	P.C. Cons.	3	600	II
	Bhowali	C.M.T.	3	900	I
Quarto- Functional Resorts	Almora	C.M.S.T.	4	600	V
	Nainital	C.T.S.M.	4	600	VI
	Gopeshwar	S.M.P.T.	4	800	IV
	Rishikesh	M.T.C.Cons.	4	1200	I
	Bageshwar	C.M.T.P.	4	800	II
	Srinagar	S.C.M.Cons.	4	500	VII
	Muni-ki-Reti	M.T.S.Cons.	4	800	III
More than Quarto- Functional Resorts	Mussoorie	C.T.S.M.Cons.	5	1000	I
	Pauri	C.S.M.T. Cons.	5	600	II

diversified resorts of U.P. Himalaya, Rishikesh ranks first with four specialized functions, Mussoorie second with five specialized functions and Bhowali third with three specialized functions. Joshimath, Kausani and Deoprayag with 200 score each rank last.

The following table gives the names of 27 hill resorts of U.P. Himalaya, classified according to their working population, size and functional specialization. The abbreviations P., M., Cons., C., T. and S are used to refer the Primary, Manufacturing, Construction, Commerce, Transport and Services. Number preceding these letters denote the order of resorts and number following them indicates the values of standard deviation.

Table 7.6. Functional classified hill resorts

Sl. No.	Resorts	Order and Rank
1.	Nainital	1 C1, 1 T1, 1 S1, 1 M1.
2.	Ranikhet	1 S2.
3.	Almora	1 C1, 1 M1, 1 S1, 1 T1.
4.	Mussoorie	1 C2, 1 T2, 1 Cons. 1, 2 S1, 1 M1.
5.	Rishikesh	1 M3, 1 T3, 1 C2, 1 Cons. 1.
6.	Chakrata	1 S1.
7.	Lansdowne	1 S2.
8.	Joshimath	1 P1, 2 Cons. 1.
9.	Gopeshwar	2 M2, 1 P1.
10.	Pauri	3 C1, 3 S1, 3 M1, 3 T 1, 2 Cons.
11.	Uttarkashi	1 Cons. 1, 3 M1, 3 T1.
12.	Srinagar	3 S1, 3 C1, 4 M1, 3 Cons. 1.
13.	Bageshwar	3 C2, 4 M1, 3 C1, 2 P1.
14.	Bhowali	4 C2, 4 M2, 5 T3.
15.	Barkot	2 P2. 5 Cons. 1, 4 C1.
16.	Mukteshwar	3 S2.
17.	Ukhimath	2 P2.
18.	Kausani	3 P1, 5 S1, 4 C2.
19.	Deoprayag	5 C1, 5 M1, 4 S2.
20.	Muni-ki-Reti	4 M2, 4 T2, 5 S1, 5 Cons. 1.
21.	Gwaldam	2 P2.
22.	Karnprayag	4 P2, 5 Cons. 1.
23.	Nandprayag	5 S2.
24.	Jeolikot	4 Cons. 3.
25.	Dharasu	4 P1, 5 C1.
26.	Gaurikund	4 P3.
27.	Binsar	5 P3.

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Chapter 8

Hill Resorts as Tourist Centres

The Himalaya has been a barrier to the movement for its own people due to difficult geographic terrain, inaccessibility and strategic vulnerability. For centuries, it has been an 'abode of gods' and wonderland only to mountaineers, soldiers and saints. With onslaughts and invasions one after the other by the neighbouring countries, new roads and passages were opened recently.¹

U.P. Himalaya, equipped with prominent shrines, tourist spots of climate and scenic beauty and a wide range of variagated flora and fauna created an immense attraction to pilgrims, tourists and mountaineers. In this region pilgrimage and tourism both have been entwined.

Most of the areas of the Higher Himalayas were restricted by law till 1975 even for Indians. They were required to take permission from U.P. tourism department. The Indian Institution of Pilgrimage--an all embracing phenomenon--is as old as their scriptures. A key formula to Hinduism is introspection or the examination of one's own thoughts and feelings. To search this, it has been considered necessary for persons to be subjected to all types of physical hardships. Himalayan region is considered an 'abode of gods' by them. They trekked to these pilgrim resorts, sans transport, sans-accommodation, sans-comfort, often barefooted, bare-bodied and empty stomach in the hope of divine light. The sacred *Shastras* of Hindu religion enjoin that no *yatra* (travel) is complete unless *yatra* to supreme shrine of Shri Badrinath is performed.

Now a days improved transportation has made it easier to reach there. Fortunately, buses and cars run along good roads to the shrines, or stop very close to them, making trekking distances to the mini-

mum. The government has also provided facilities regarding accommodation (both private and public) and other needs.

The visit to four holy shrines of U.P. Himalaya (Badrinath, Kedarnath, Gangotri and Yamunotri) serve double purpose--a *yatra*, coupled with a sight-seeing trip. Thus, *yatra* pattern has been changed.

The British resorts are generally situated along the Lesser Himalaya, which is free from tropical diseases and much lower temperature. In the beginning, these resorts were developed as summer resorts for the English people and Indian elite. They now constitute a perfect recreation belt in the Lesser Himalayan region, experiencing boom cycle in summer and autumn with definite 'tourist peak' and 'tourist depressions' (vide tables of seasonal distribution of all the complexes).

The Higher Himalaya has wonderful alpine pastures, flower valleys, varied fauna, gorges and valleys, wildlife, snow-fields, beside folk lores and primitive culture. The region has been equipped with a variety of natural views and sacred shrines. Some recreational facilities have also been provided now-a-days to attract the tourists of all tastes and interests. Some guidelines may be adopted from Table 8.1 about the action programmes, taken in view for the tourism development.²

Table 8.1. Classification of recreational activities into conceptually linked categories of Uttarakhand Himalaya

<i>Categories</i>	<i>Activities</i>
1. Appreciate symbolic	Sight-seeing, hiking, trekking back-packing, exploring, photography and other natural environment activities etc.
2. Extractive symbolic	Fishing and hunting etc.
3. Social learning	Nature study, visiting historic and archaeological sites, trail, hikes, visiting religious sites.
4. Active expressive	Games, jogging, water sports, bird watching, skiing, horse riding, forest re-orienting etc.
5. Passive free play	Driving for pleasure, picnicking etc.

In all resorts of U.P. Himalaya, the number of tourists has increased (Fig. 42) due to their excellent natural beauty. The hill resorts of U.P. Himalaya have been grouped into four complexes from the

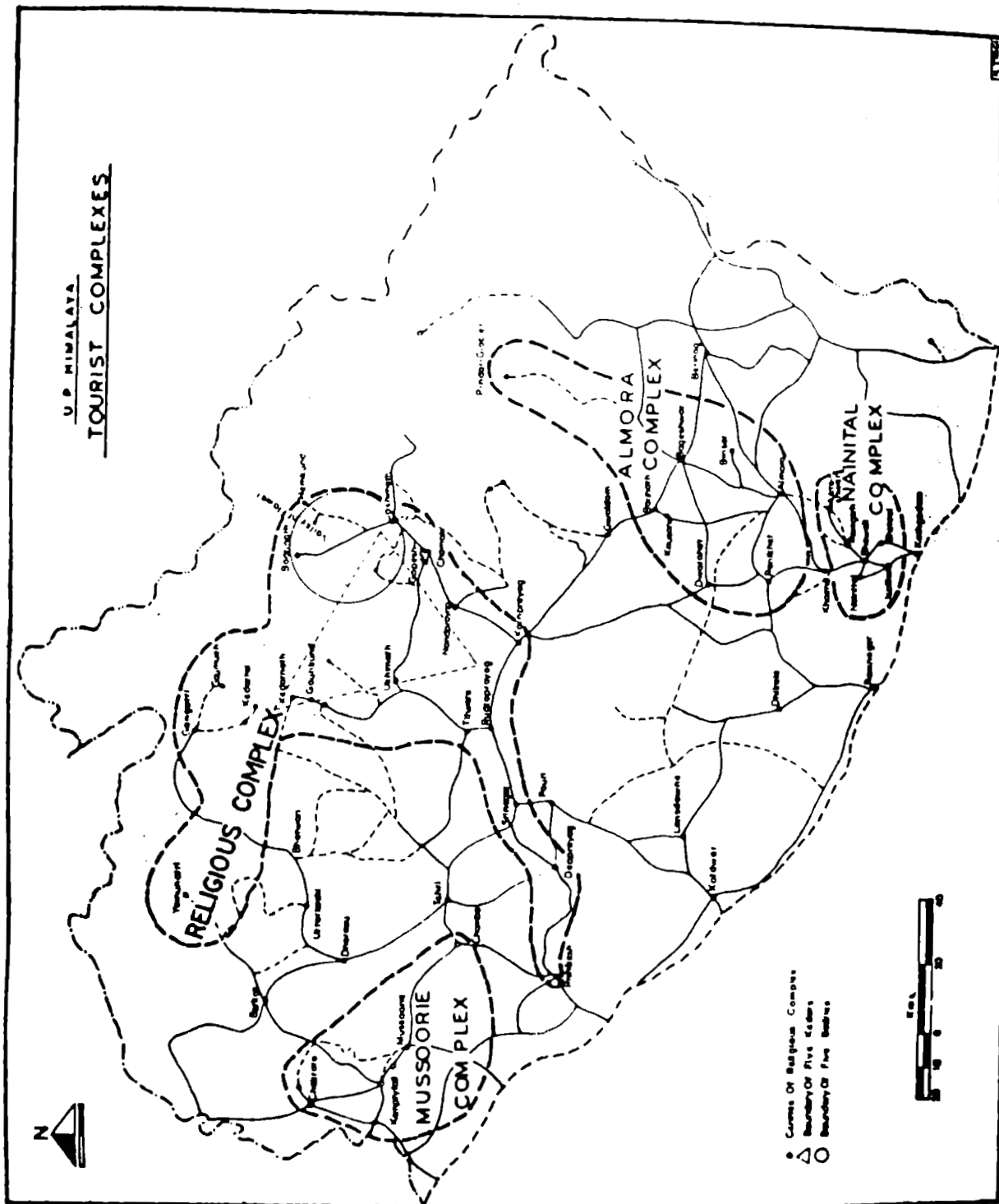


Fig. 39. Tourist complexes of U.P. Himalaya.

tourist view point (Fig. 39) as follows:

- 1) Nainital complex,
- 2) Almora complex,
- 3) Mussoorie complex, and
- 4) Pilgrim complex.

In Kumaon Himalaya tourist activities are mainly concentrated in and around Nainital and Almora (Fig. 40) and in Garhwal Himalaya around Mussoorie. Thus, they constitute the Nainital complex, the Almora complex and the Mussoorie complex respectively. Some resorts in the eastern Garhwal (Pauri and Lansdowne) cannot be included in any of the above mentioned categories but have been put into Pilgrim complex as they are enroute to Badrinath from Kotdwara. Rest of the resorts come in the category of Pilgrim complex (Fig. 39).

NAINITAL COMPLEX

The gamut of the resorts of Nainital, Bhowali, Bhimtal, Naukuchiya Tal, Sat Tal, Ramgarh, Mukteshwar and Jeolikot constitutes the Nainital complex. This complex is approachable only by motor roads, having no connection with rail and airways. The nearest railhead is Kathgodam and airport Pantnagar 35 and 71 kms respectively from Nainital in the south.

Nainital

Nainital (m.s.l. 1,938 metres) is 35 kms away from Kathgodam. It has a very fine road, motorable throughout the year. As tourists approach this heavenly abode, they are convinced by the very first sight that Nainital is rather different from other hill resorts in many respects. The lake Naini with its placid water and 'flats' is really a gift of nature. The skipping of yachts on the smooth and calm water of the lake thrills the hearts of the visitors. No other resort in U.P. Himalaya provides so many amenities to the tourists as Nainital.

Nainital is an ideal resort for all types of holiday makers. Tiny villas and old bungalows dot the mountain sides and sailing boats move with breeze on the lake. As the sun sinks behind the mountains, myriad reflections of twinkling lights transform Nainital into a fairyland by night. The reflections of the row of lights dancing in the water weave many mysterious fantasy. There is a chain of hotels, restaurants, clubs with well-equipped modern amenities.

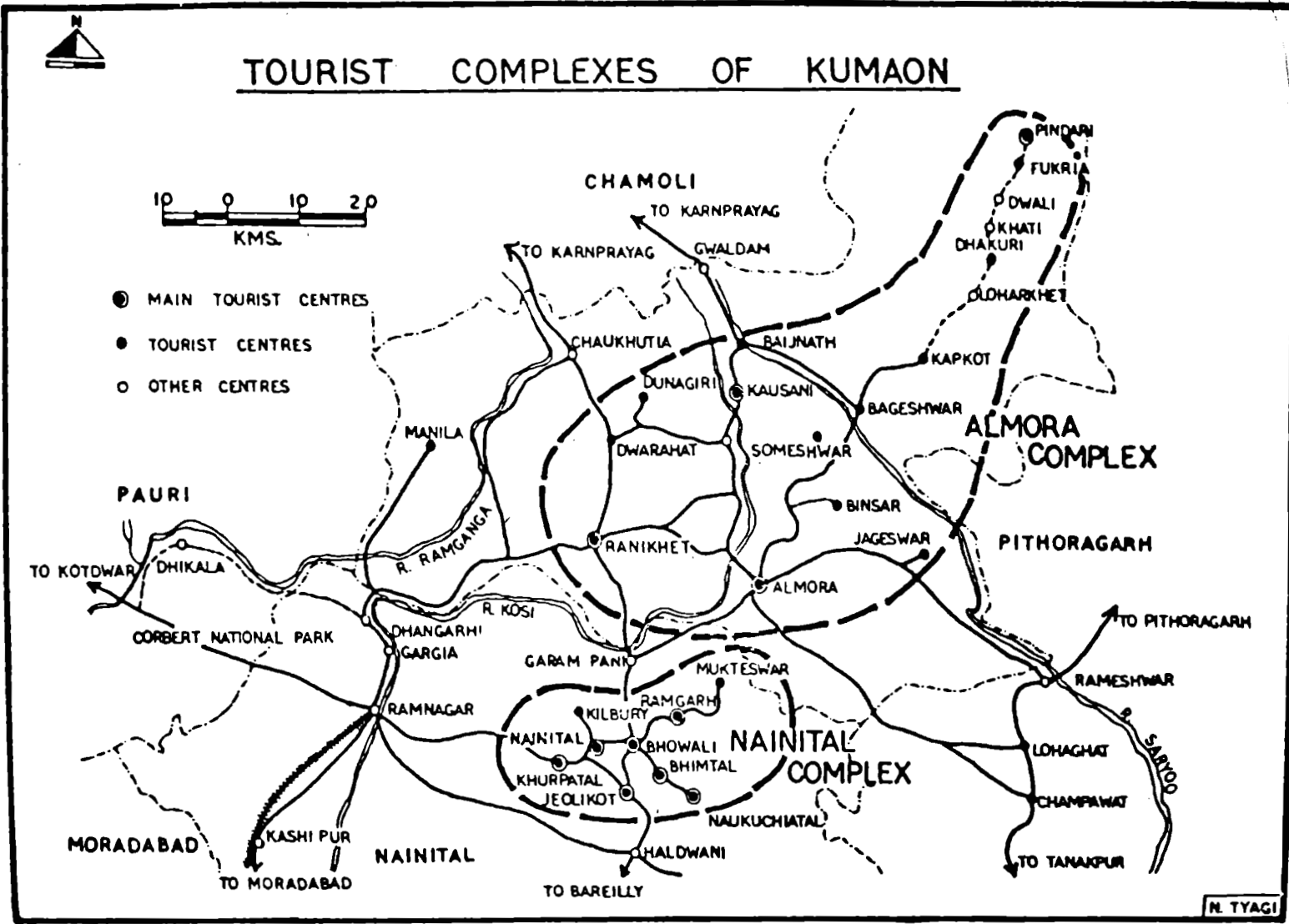


Fig. 40. Tourist complexes of Kumaon.

The greatest attraction of Nainital is the 'lake' and 'flat'. Naini Lake is surrounded by seven hills known as Ayarpatta or Dorothy's seat (2,344 m), Deopatta (2,435 m), Handi Bandi (2,180 m), Cheena or Naina (2,612 m), Alma (2,432 m), Laria Kanta (2,481 m) and Sherka-Danda (2,399 m). There are a number of picnic and beauty spots on the top of these hills around the lake commanding the panoramic views of the greater Himalayas. Naina peak, Laria Kanta, Snow view, Dorothy's seat, Land's end, Hanumangarhi, State Observatory, Kilbury, Khurpa Tal (Fig. 41), are not very far off. For the convenience of the visitors and 'hikers' some rustic shelters and log cabins are provided at various picnic spots. There are several places of tourists' interest in and around Nainital. Neighbouring tourist spots may be visited by undertaking excursions from Nainital (Fig. 41). Worth mentioning beauty picnic spots of Nainital are as follows:

1) The Lake

The crescent-shaped lake, main attraction of the resort, provides the facilities of boating, yatching, rowing, swimming and fishing. Riding early in the morning and in the evening along the sides of the lake is an enjoyable recreation. During the tourist season, people are generally seen going riding around the lake for various picnic spots. Boating is also a popular way of recreation here. The charm of the boating is further enhanced during the autumn season when the boat races are specially organized. A lover of solitude can surely find his solace in those quiet walks shaded by the willows and chinars bordering the lake. The fishing is allowed with the permission of Executive Officer, Municipal Board, Nainital.

2) The Flat

The 'flat', situated at the upper end of the lake, is a semi-circular ground serving as a natural amphi-theatre of the resort. It is the centre of various social and cultural activities. The Gymkhana Club, and District Sports Stadium at the 'flat' consistantly arrange matches of cricket, hockey, football etc. To the south of 'flat', there is a band stand, which is a popular spot during the season when the band plays for entertainment of the people.

3) Naina (Cheena) Peak

Naina (Cheena) peak (2,612 metres), 6 kms away from Nainital is the most favoured picnic spot of the resort offering a fabulous view of the Himalaya. The peaks visible from this spot are Gangotri groups,

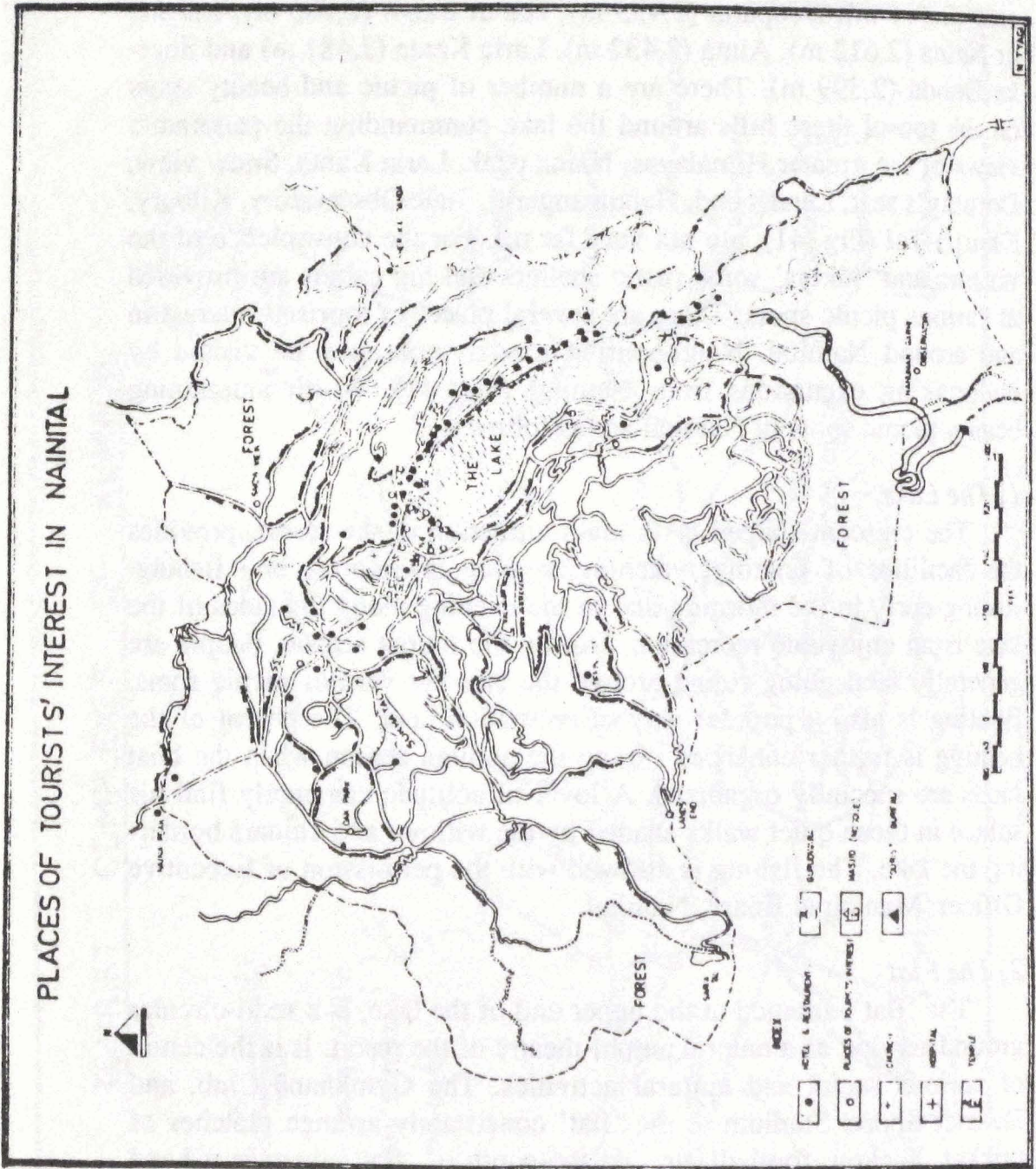


Fig. 41. Places of tourists' interest in Nainital.

Kedarnath mass, Neelkanth, Trishul, Nanda Devi, Nandakot, Panchaula and the peaks of Api and Namjang in Nepal. There is also an excellent view of lake from here. There is also a four rooms log cabin and restaurant at this peak.

4) Laria Kanta

Laria Kanta (2,481 metres) is the second highest peak of Nainital. It commands an enchanting view of the lake region.

5) Snow View

Snow view, 2.4 kms away from Nainital, is situated at a height of 2,270 m. It is the most easily accessible spot, situated on Sher-ka-Danda hills. A powerful telescope is fixed here which enables one to view the Himalayan ranges.

6) Dorothy's Seat (Ayarpatta)

The memorial from a mourning husband to his wife Dorothy, killed in air crash, gave the name to this locality. It is 4.3 kms away from Nainital at an elevation of 2,344 metres. Before the tomb was built for the English lady, the peak was known as Ayarpatta hill. The view from here shows the Bhabar and Terai, arranged like a map at one's feet and on fine days the view encompasses Bareilly to the south-east and Moradabad to the south-west.

7) Land's End

Land's end is located at a distance of 4 kms from Nainital at an elevation of 2,118 metres. A magnificent view of Khurpa Tal and terraced fields on the hill side is available from here. Nearby are Muslim and Christian cemeteries.

8) Hanumangarhi and State Observatory

Hanumangarhi and State Observatory are situated 3 kms and 4.4 kms away from Nainital respectively. It is a popular place for the worship of Hanuman and an aesthetic spot well known for its sunset view. State Observatory is devoted to astronomical studies and optical trekking of artificial earth satellites.

9) Kilbury

Kilbury, 10 kms from Nainital, is situated at a height of 2,194 metres. It is a wooded spot ideal for quiet and peaceful holidays. Occasionally wild animals are also seen here.

10) Khurpa Tal

Khurpa Tal, 10 kms from Nainital, is situated at an elevation of 1,635 metres. It is a fishing paradise for enthusiasts. It is the spot where conifer belt merges and gives way to the sal trees. Fishing permission has to be taken from Deputy Commissioner, Nainital.

11) Clubs and Others

Besides these tourist spots, there are a number of well equipped clubs, parks and cinema houses for those who are interested in gay and social life. The Boat House Club, at the corner of the lake, particularly provides many interesting indoor entertainment facilities. The New Club on the 'flats' is another centre of great attraction. It also provides the facilities for outdoor games.

The Nainital Club--the ancient Victorian type building was once very popular among the foreigners. The Nainital Yatch Club is one of the best sailing clubs of India. Besides, there is a Rotary Club and a club for members of the Theosophical Society near the flats.

The rink hall, near Capital cinema, is another attraction for skaters and spectators alike. Occasionally, the hall is used for other performances, such as Mushaira, Kavi Sammelan etc. At the back of the building, there is also a small park for children. Nainital Mountaineering Club provides mountaineering facilities to the mountaineers here.

The golf course (Raj Bhavan Golf Course) of Nainital is reputed to be one of the best in India.

Excursions from Nainital

Bhowali

Eleven kms to the east of Nainital on motor road, Bhowali is an ideal spot for those in search of fragrant pines, for a day's outing, week-end or even the whole summer. Enclosed by a pine forest, the crisp, salubrious air makes it an ideal spot for the finest T.B. Sanatorium in the State. Thus, it is a health resort with its excellent climate and hill fruit mart.

Bhimtal

Bhimtal, 23 kms away from Nainital is a delightful lake resort, offering boating is its chief attraction. This lake is larger than Nainital lake and fishing and boating are the main activities. An island in the centre of the lake is an excellent spot for the picnickers. Fishing permission is to be taken from the Fisheries Inspector, Bhimtal.

Naukuchiya Tal

Naukuchiya Tal is located at a distance of 27 kms from Nainital. It is a picturesque spot with nine corners and a good fishing spot and a heaven for migratory birds.

Sat Tal

The Sat Tal, 21 kms from Nainital, is a group of lakes, which is comprised of seven small lakes of various sizes. These lakes are very close to one another at an elevation of 1,371 metres. It is a captivating picturesque spot where nature reigns supreme and is the venue of the famous Kohinoor Camp in summer. These lakes are approachable by a motorable road from Bhimtal.

Mukteshwar

The most charming resort Mukteshwar is located at 53 kms away from Nainital at an elevation of 2,286 metres where the Gagar range merges into Lohuket range. From the early summer to late autumn, it presents a splendid panoramic view of the snow-clad Himalaya. It is the seat of Veterinary Research Institute established in 1898.

Ramgarh

Ramgarh (1,789 metres) is located 26 kms from Nainital. It is a picturesque hamlet in the heart of apple orchards region. There are eight apple orchards growing apricot and peaches besides apples. It commands a glorious view of the Himalaya.

Jeolikot

Jeolikot is located 18 kms away from Nainital at an elevation of 1,789 metres. It is a health resort and a bee-keeping centre of Uttar Pradesh Government. It has an attraction for the butterfly catchers and those interested in apiculture.

Tourists Trend in Nainital

Table 8.2 shows the tourists trend in Nainital from 1983 to 1988. It is clear from this table that the number of tourists coming has increased during the period of 1983-88 from 4.71 lakhs to 5.51 lakhs with much fluctuation. The highest percentage of increase (17.19) was experienced in 1988. During the whole period the percentage of tourists increased by 17.19. The lowest percentage of increase (7.85) was recorded in the year 1986. Tourist trend in Nainital from 1972-1979 is shown in the Fig. 42.

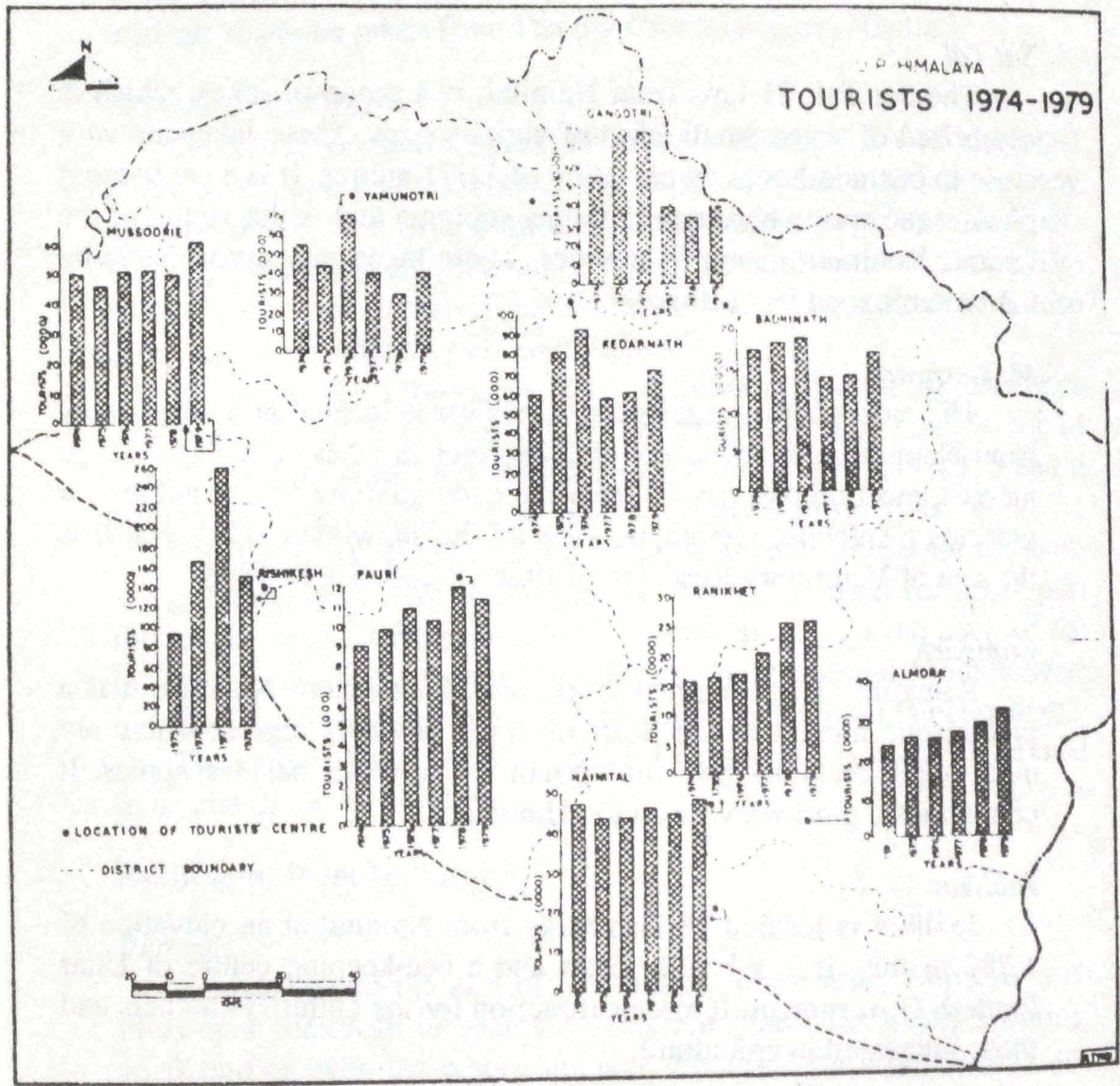


Fig. 42. Tourists in U.P. Himalaya (1974-1979).

Table 8.2. Tourists trend in Nainital (1983-1988)

<i>Year</i>	<i>No. of tourists (in lakhs)</i>	<i>Percentage increase based on 1983</i>
1983	4.71	--
1984	5.18	+9.97
1985	5.11	+8.49
1986	5.08	+7.85
1987	5.13	+8.91
1988	5.51	+17.19

Tourists Cycle in Nainital

Summer resorts generally have specific cycle of tourists. There are two cycles in Nainital, i.e., summer cycle (May to July) and autumn cycle (September to October). Table 8.3 shows the seasonal distribution and per day average of tourists in different months at Nainital.

It is clear from Table 8.3 that the period of May, June and September, October constitute the peak period when 25 per cent and 18

Table 8.3. Seasonal distribution of tourists in Nainital

<i>Month</i>	<i>No. of tourists</i>	<i>Percentage</i>	<i>Per day average of tourists</i>
Jan.	18,670	3.82	602
Feb.	21,312	4.36	761
Mar.	36,828	7.55	1,188
Apr.	40,547	8.31	1,351
May	65,555	10.03	2,050
Jun.	67,201	13.77	2,240
Jul.	43,233	8.86	1,394
Aug.	41,640	8.55	1,343
Sep.	35,076	7.19	1,169
Oct.	48,791	10.00	1,573
Nov.	30,338	6.22	1,011
Dec.	36,510	7.48	1,177

per cent tourists respectively arrive here. Thus, nearly 45 per cent tourists of the year come in these four months. The period of December, January and February constitute the depression period when only 15 per cent tourists arrive here. In the months of January 3.82,

February 4.36 and in December 7.48 per cent tourists come in Nainital. The tourists are distributed in two cycles, autumn cycle is associated with autumn festivals. This cycle is composed of elites, recreationists and such tourists who would not like to visit Nainital in summer season due to high cost of holidays and peak season problems.

Considering the average number of visitors in a day, the month of June ranks highest when 2,240 tourists arrive in a day. Month of May ranks second with 2,050 average visitors per day.

Catchment Area of Tourists in Nainital

Although Nainital tourists belong to the all parts of country, yet 75 per cent tourists come from western Uttar Pradesh, Haryana, Rajasthan, Delhi, Punjab and Madhya Pradesh.

Tourists' Stay Period

Now-a-days short term recreation is more popular. Therefore, the tourists' stay at resort has gone down from 21.25 days to 11.6 day till 1969. In 1970, it was only 8.6 days³ and in 1980, it further went down to 5.2 days, and this has further gone down to 3 days in 1985.

Accommodation Facilities in Nainital

The term accommodation is a comprehensive term including all the facilities used for 'sojourn' of traveller, such as hotels, motels, camping sites, paying guest accommodation, private residential accommodation, dormitories etc. Though hotel (including motel) accommodation is the single most important form of accommodation other forms of accommodation often described as supplementary accommodation, are no less important in terms of total capacity.⁴

Accommodation is the most essential facility that needs to be provided for the promotion of tourism. Accommodation facilities available in Nainital in 1979 is shown in the Table 8.4.

Table 8.4 reveals the fact that the total capacity of Nainital is to accommodate only 2,247 tourists. Among the various types of accommodations in Nainital, hotels occupy 88.2 per cent capacity of accommodating the tourists (Fig. 41).

Table 8.4. Accommodation facilities in Nainital (1988)

<i>Sl. No.</i>	<i>Accommodation</i>	<i>Total beds</i>	<i>Percentage of total</i>
1.	Hotels	1,982	88.20
2.	Govt. accommodation	40	1.79
3.	Dharamshalas	25	1.12
4.	Others	200	8.9
Total		2,247	100.00

Shopping Facilities

There are three shopping centres in Nainital, viz., Talli Tal, Malli Tal and the Mall (Fig. 41). Malli Tal is the biggest and busiest shopping centre of Nainital. All sophisticated and luxurious shops are located along the Mall road.

ALMORA COMPLEX

This complex consists of Almora, Ranikhet, Kausani and Bageshwar with Pindari glacier. These are well connected by roads to surrounding regions. Almora is situated at a distance of 90 kms from Kathgodam and 67 kms from Nainital while Ranikhet is situated at a distance of 84 kms from Kathgodam, 59 kms from Nainital and 50 kms from Almora. Kausani is 145 kms from Kathgodam via Almora and 163 kms via Ranikhet and 53 kms from Almora and 79 kms from Ranikhet. Bageshwar is located at a distance of 90 kms from Almora by motor road. As shown in the Fig. 43, there are several places of tourists' interest around these main centres, which may be visited by staying at these resorts and undertaking excursions.

Almora

Almora, perched on a saddle shaped ridge at an elevation of 1,646 metres, is a trekkers resort from where one can venture on exhilarating treks, past soaring pines and glades of ferns and wild-flowered to the dramatic spectacle of snow and stark mountains. Almora combines a rapturous view of the snow-clad peaks and lovely woods with a superb and invigorating climate. The natural beauty of Almora is greatly enhanced by the hills and snow-clad Himalayan peaks which surround it. These four hill ranges are Banari Devi, Kesar Devi, Shyahi Devi and Katarmal covered with thick, calm and unravaged forests

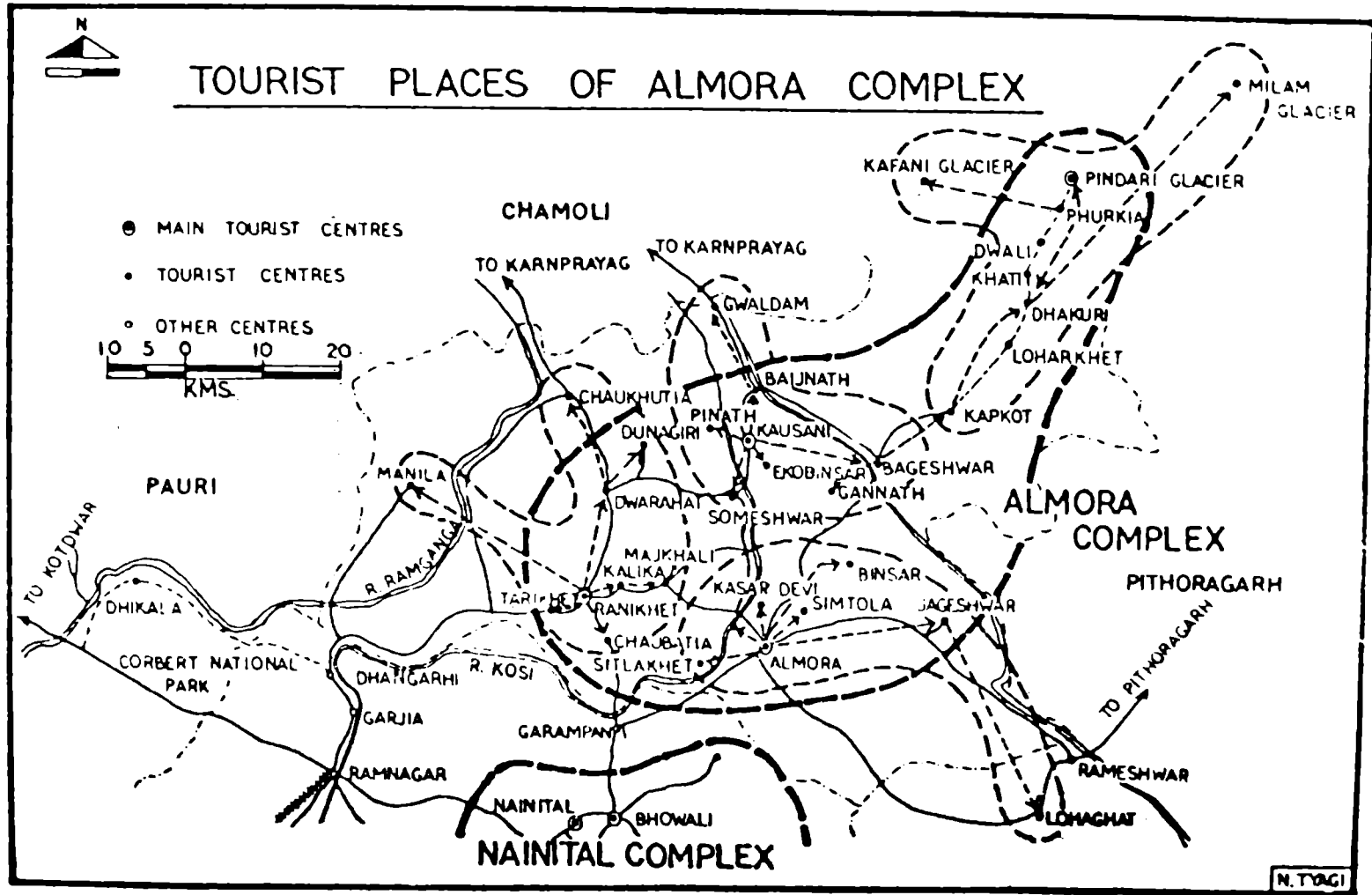


Fig. 43. Tourist places in Almora complex.

with colourful valley while towering above are immense gigantic glaciers and glistening peaks. The tourist places in Almora are Bright-end-Corner, Kalimath, Simtola, Kesar Devi, Chital temple and Mohan Joshi park.

1) Bright-end-Corner

Named after Brighton Beach of England, it is 2 kms away from bus stand. It is famous for the glorious views of sunrise and sunset. This part of Almora is specially enchanting both at sunrise and sunset fully justifying its name.

2) Kalimath

Just within hiking distance from Almora (4.6 kms), Kalimath presents a vision of beauty. It unfolds a picture postcard with Almora on one side and the snowy peaks on the other.

3) Simtola

Simtola is located 3 kms away from Almora. Along this trail, the ridges are carpeted with orchards and forests of pine. It is an ideal spot with a beautiful landscape.

4) Kesar Devi

It is situated at a distance of about 8 kms beyond Kalimath on a bridle path. The temple of Kesar Devi is located at the top of the hill.

5) Chital Temple

It is hard to find a place in Almora without a temple or a view of the glorious peaks. It is noted for its temple of Lord Golla. Some of the Himalayan peaks are also visible from here.

6) Mohan Joshi Park

A small park and V-shaped artificial lake are the main attractions of this park.

Excursions from Almora

The excursions around Almora are conducted to Katarmal, Jageshwar, Binsar, Gannath and Sitlakhhet.

Katarmal

Katarmal, 18 kms by motor road and 4 kms on footpath from Almora, is famous for its 800 years old Sun temple, at an elevation of 1,554 metres. Little over beyond Katarmal is Birkut forest wherefrom

a magnificent view of Almora can be had in a pleasant manner.

Jageshwar

Jageshwar is the celebrated temple, one in twelve Jyotir Lingas, 34 kms away from Almora. It is situated in a beautiful narrow valley, surrounded by a dense forest of magnificent deodar trees. Other important temples of Jageshwar are Lakulisha and Nataraj temples built in 8th century and Durga temple built in 9th century. These temples are fine specimen of sculpture. Most of the statues of artistic values now have been preserved in a small museum nearby.

Binsar

Binsar, 30 kms from Almora, through picturesque forests, is situated at an elevation of 2,412 metres. It is a celebrated spot of scenic beauty nestling in Kumaon hills.

Gannath

Gannath is situated at a height of 2,116 metres and 4.7 kms away from Almora. There are several caves in natural landscapes and an ancient temple dedicated to Lord Siva. A fair is held annually on the day of Kartika Purnima during the months of November and December.

Ranikhet

Ranikhet, as a hill resort, is idealic in its charm and draws holiday visitors all the year round. With its salubrious climate, balmy breezes and encircling snow-capped Himalayan peaks glistening in the sun. Ranikhet weaves an instant spell on the visitors. As the sun washes away the morning mist, a panoramic view of nearby 200 kms of central Himalaya, extending from western Nepal to the snowy heights of Badrinath and Tehri Garhwal further west, is unfolded.

Around Ranikhet, there are forests of pine, oak, cedar and cypress and apple orchards. It is situated almost in the centre of Kumaon and unspoilt retreat for those seeking a quiet summer holiday. Ranikhet does not witness the paradox of a 'maddening' rush of visitors with the onset of summer and the corresponding departure with the summer's end but draws visitors all the year round. Tourist places around Ranikhet are orchards of Chaubatia, Baludam, Upat and Kalika, Majkhali, Drug Factory and Tarikhet.

Chaubatia

Literally, meaning common meeting point of four paths (Chau = four and Bat = path), Chaubatia located at a distance of 10 kms, is a garden spot (government fruit gardens) with a Government Fruit Research Centre complete with a fruit sales depot and cafeteria. City bus services are available for Chaubatia from Ranikhet.

Baludam

It is a small artificial lake, at a distance of 3 kms from Chaubatia by a bridle path. It is the main source of the resort's water supply and famous for its fishing opportunities.

Upat and Kalika

With one of the best mountain golf courses (9 holes) in the country, Upat is a boon to the enthusiasts. With the added attraction of private orchards, it is 6 kms away by bus. Just one km from Upat is Kalika with its famous temple of Goddess Kali. It also has a good forest nursery. A beautiful view of snow-clad mountain peaks is visible on the side of the golf link at Upat.

Majkhali

On Ranikhet-Almora road, 13 kms away, is a spot of celestial beauty. Here is an awe-inspiring view of majesty of snowy peaks. The U.P. Government Agricultural Farm is also situated here.

Co-operative Drug Factory

Three kms down the road to Ramnagar, there is a unique drug factory which is engaged in the research work and production of Ayurvedic drugs from local medicinal herbs. The factory deals with the drugs from the research stage down to production.

Tarikhet

Tarikhet is 8 kms from Ranikhet on the motor road to Ramnagar. Mahatma Gandhi had sojourned here for sometime and a *kuti* commemorates his visit to the spot. Now Gandhi Kuti and Prem Vidyalaya are chief elements of attractions. There is also a good rest house built in beautiful surroundings.

Excursions from Ranikhet

Dwarahat, Dunagiri, Shitlakheth, Khairna, Manila may be seen from Ranikhet by taking excursions. From these places one can also easily visit the famous Corbett National Park.

Dwarahat

One of the many places of remote antiquity and of historical importance in the Kumaon hills is Dwarahat, at a distance of 38 kms from Ranikhet on Karnprayag road. It had once been the principal seat of the Katyuri kings who, it is stated, ruled the country from the mountain heights to the plains.⁵ Dwarahat has a cluster of age-old temples divided into eight distinct groups.

Dunagiri

Dunagiri, 52 kms from Ranikhet, is a place of religious importance. It is famous for its temple of Goddess Durga, which has inscriptions dating back to 1,181 A.D.

Shitlakheth

Ranking among the celebrated spots of scenic beauty, Shitlakheth is located at a distance of 26 kms by a motor road from Ranikhet. It is famous for the superb views of Himalaya and ideal for a peaceful holiday.

Other centres are Manila, Khairna and Bhikiasen to be seen from Ranikhet.

Kausani

Kausani, a celebrated spot of scenic beauty, standing at 1,890 metres height from m.s.l., is nature's own reserve. Nature has bestowed its bounty to make it a spot of par excellence. It has its own peculiarity in its unspoiled natural beauty and fascinating wide vistas of snow-laden Himalayan peaks, a silent invitation which offers a unique temptation to the on-lookers. It has healthy climate and a very calm and comfortable environment. Here, the sunrise and sunset views are just heavenly. Indeed, Kausani is a veritable heaven of beauty to which an excursion must be made while visiting Kumaon hills.

Excursions from Kausani

There are many attractive tourist places around Kausani, viz, Baijnath, Bageshwar, Gwaldam and Pindari glacier.

Baijanth

Baijnath is located 71 kms from Almora and just 19 kms from Kausani on the bank of river Gomti at a height of 1,125 metres. In Baijnath, there are ancient temples dedicated not only to Siva, Ganesh and Parvati but also to Chandika, Kuber, Surya, Brahma and the

Mahishasurmardini, which portrays the slaying of the bull headed demon by the Goddess Kali. Priceless statues and sculptures belonging to different periods are preserved here in the Baijnath Museum under the supervision of the Department of Archaeology.

Bageshwar

Filled with religious aural and peace of the soul and mind after the visit to Baijnath, the visitor inevitably becomes a pilgrim and his steps lead him to the confluence of the sacred Gomti and Sarju at a height of 975 metres, 20 kms away from Bageshwar. Bageshwar is famous for its 15 shrines and ancient temple of Baijnath. Every year in the month of January, the Uttargayani fair is celebrated on the occasion of Makar Sankranti in which one can enjoy a panoramic view of cultural life and folk dances of whole of this hill region.

Gwaldam

Gwaldam is situated at a distance of 14 kms from Baijnath with its salubrious climate. It is a little heaven nestling in the woods. There are several orchards of apple.

Pindari Glacier

Pindari Glacier is the most easily accessible glacier among Himalayan glaciers. Passing through some of the most dramatic scenery in the Himalaya, the road leads up to under the very shadow of the snow-covered giants. Reaching the upper levels, the trees fall off, the pines cease and the road enters an enchanted garden of fern, wild flower and rhododendron.

Atkinson's paradise, Pindari glacier is situated at a distance of 115 kms north of Kausani. At present one has to cover 56 kms from Kapkot onward by trekking but a scheme to construct a metalled road up to Dhakuri, covering a distance of 25 kms has been planned. It will then be easier to visit Pindari and with this, the number of tourists visiting Kausani and Pindari will increase rapidly.

The glacier, over 3.22 kms in length and 457 metres wide backed by mighty mountains, looms upon the traveller with a gorgon gaze, leaving an indelible impression of grandeur. Situated on the Nanda Devi and Nandakot peaks it extends from 3,656 metres to 4,205 metres from m.s.l. on an open undulating piece of ground. A grand path, over the glacier at a height of 5,393 metres leads to the Trail's pass. The glacier is 5 kms from Phurkia and march involves a climb of 762 metres.

Tourists Trend in Almora

Table 8.5 shows the tourists trend of the Almora complex. It is clear from this table that there has been an increase in the number of tourists with fluctuating rates except in 1985 in Almora and in 1986 in Ranikhet. The highest percentage increase in Almora (9.98 per cent) is noticed in the year 1984, while in Ranikhet (28.67 per cent) in 1978 and in Kausani (35.71 per cent) in 1988. During the period from 1983 to 1988, the percentage of tourists has increased--46.28 per cent in Almora, 33.60 per cent in Ranikhet and 90 per cent in Kausani. Figure 42 shows increase in the number of tourists from 1977-79.

Table 8.5. Tourists trend in Almora complex (1983-88)

Years	<i>Almora</i>		<i>Ranikhet</i>		<i>Kausani</i>	
	No. of tourists in lakhs	Yearly increase in per cent	No. of tourists in lakhs	Yearly increase in per cent	No. of tourists in lakhs	Yearly increase in per cent
1983	3.50	--	2.47	--	.20	--
1984	3.81	+9.98	2.63	+6.48	.22	+10
1985	3.71	-1.35	2.82	+7.22	.25	+13.64
1986	3.86	-0.59	2.65	-6.03	.25	0
1987	3.90	+9.8	3.41	+28.67	.25	+12
1988	5.12	7.41	3.30	-3.23	.38	+35.71

Tourists' Stay Period

Table 8.6 shows the period of stay of tourists in Kausani. Some tourists stay at Kausani only for one night, and most of the tourists visit Kausani on conducted tours from Nainital. Tourists of all age groups visit Kausani for pleasure and site seeing.

Table 8.6. Tourists' stay period at Kausani

	<i>One day</i>	<i>Two or three days</i>	<i>Four days and above</i>	<i>Total</i>
No. of tourists	4666	945	471	6,082
Percentage	76.72	15.54	7.74	100.00

Source: Town and Country Planning, U.P., Bareilly.

Table 8.7. Seasonal distribution of tourists in Almora complex (1979)

<i>Resort</i>	<i>Months</i>											
	<i>Jan.</i>	<i>Feb.</i>	<i>Mar.</i>	<i>Apr.</i>	<i>May</i>	<i>Jun.</i>	<i>Jul.</i>	<i>Aug.</i>	<i>Sept.</i>	<i>Oct.</i>	<i>Nov.</i>	<i>Dec.</i>
<i>Almora</i>												
a) No. of tourists	25291	21806	22478	24599	32695	42744	29407	28686	24290	28921	24611	24442
b) Percentage	7.66	6.60	6.81	7.45	9.91	12.95	8.91	8.69	7.36	8.76	7.45	7.41
c) Per day percentage	815	778	725	819	1054	1424	948	925	809	932	820	788
<i>Ranikhet</i>												
a) No. of tourists	9142	16241	16320	17698	33881	32702	21118	21348	22807	24199	18808	21188
b) Percentage	3.57	6.35	6.38	6.92	13.25	12.79	8.26	8.42	8.92	9.46	7.35	8.28
c) Per day percentage	294	580	526	589	1092	1090	681	695	760	780	626	683
<i>Kausani</i>												
a) No. of tourists	78	48	183	491	637	1046	151	124	331	1850	939	204
b) Percentage	1.28	0.77	3.0	8.08	10.47	17.21	2.48	2.04	5.44	30.43	15.45	3.35
c) Per day percentage	3	2	6	16	21	35	5	4	11	60	31	7

Source: Tourist Bureaus of Almora and Ranikhet.

Tourists Cycle in Almora Complex

Table 8.7 shows the seasonal distribution of the tourists in Almora, Ranikhet and Kausani. Likewise other resorts, these resorts also experience the 'peak' and 'depression' period of tourists. The tourists season of Almora is April to June and September to October and of Ranikhet March to June and September to November, but in Kausani, it is in April to June and October to November.

This table discloses the fact clearly that in Almora 30 per cent tourists come in summer season (April to June) and 16 per cent in autumn (September to October). Thus, nearly 46 per cent tourists come in these five months. The highest per day average (1,424) occurs in the month of June in Almora.

In Ranikhet, 40 per cent tourists arrive in summer season (March to June) and 25 per cent in autumn (September to November). The highest per day average of tourists is in the months of May (1,092) and June (1,090) in Ranikhet.

In Kausani, 35 per cent tourists arrive in the months of April, May and June and 45 per cent in October and November. The highest per day average of tourists is 60 in the month of October.

Catchment Area of Tourists

Table 8.8 shows the catchment areas of tourists of Kausani.

Table 8.8. Catchment area of tourists at Kausani

<i>Name of State</i>	<i>U.P.</i>	<i>West Bengal</i>	<i>Maha-rashtra</i>	<i>Delhi</i>	<i>Rajas- than</i>	<i>Guja- rat</i>	<i>Other States</i>	<i>Fore- ign</i>	<i>Total</i>
No. of tourists	1797	3000	455	332	64	172	218	44	6082
Percen- tage	29.54	49.32	7.49	5.45	1.05	2.83	3.59	0.73	100.00

Source: Town and Country Planning, U.P., Bareilly.

Accommodation Facilities in Almora Complex

Table 8.9 shows the accommodation facilities available in Almora, Ranikhet and Kausani in 1982. This table reveals that the accommodation facilities in Almora complex are inadequate. Total beds available in Almora, Ranikhet and Kausani are 912. The highest

Table 8.9. Accommodation facilities (beds) in Almora complex (1982)

<i>Resorts</i>	<i>Hotels</i>	<i>Govt. accommodation</i>	<i>Dharam-shalas</i>	<i>Others</i>	<i>Total</i>
Almora	224	35	25	5	334
Percentage	67.06	10.47	7.48	14.97	100
Ranikhet	265	35	60	150	510
Percentage	51.96	6.86	11.76	29.41	100
Kausani	28	14	26	--	68
Percentage	41.17	20.58	38.23	--	100

per day average of tourists in 1979 has been 1,424 in Almora, 1,092 in Ranikhet, and 60 in Kausani. At all these resorts, hotels accommodate most of the tourists, i.e., 67.06 per cent in Almora, 51.96 per cent in Ranikhet and 41.17 per cent in Kausani.

Shopping Facilities

In Almora, there are two shopping centres, i.e., Lala Bazar and Chowk Bazar. They provide shopping facilities for the tourists. Hilly goods and wooden articles are available in these markets. There is only one market named Sadar Bazar in Ranikhet. The standard of the markets is poor in comparison to Nainital and Mussoorie complexes.

MUSSOORIE COMPLEX

The Mussoorie complex consists of Mussoorie, Chakrata and Dehradun. Mussoorie is located at a distance of 35 kms from Dehradun and is also connected with Dehradun by regular bus service. Dehradun is a railhead and is connected with Bombay, Calcutta, Amritsar, Delhi, Lucknow and Varanasi by direct trains. Nearest airport is Sarsawa (Saharanpur). Vayudoot flights land at Dehradun now. Saharanpur is 107 kms, while Hardwar is 103 kms from Mussoorie. Mussoorie is the gateway to Yamunotri and Gangotri shrines. Chakrata is 81 kms from Mussoorie and 94 kms from Dehradun. Chakrata to Simla via Tiuni is 214 kms and Saharanpur via Herbertpur is 214 kms.

Mussoorie

Mussoorie (2,005 metres), with cool and exhilarating summer and snow-covered winter inviting tourists all the year round⁶, is a fascinating hill resort and conveniently connected by metalled roads to all the

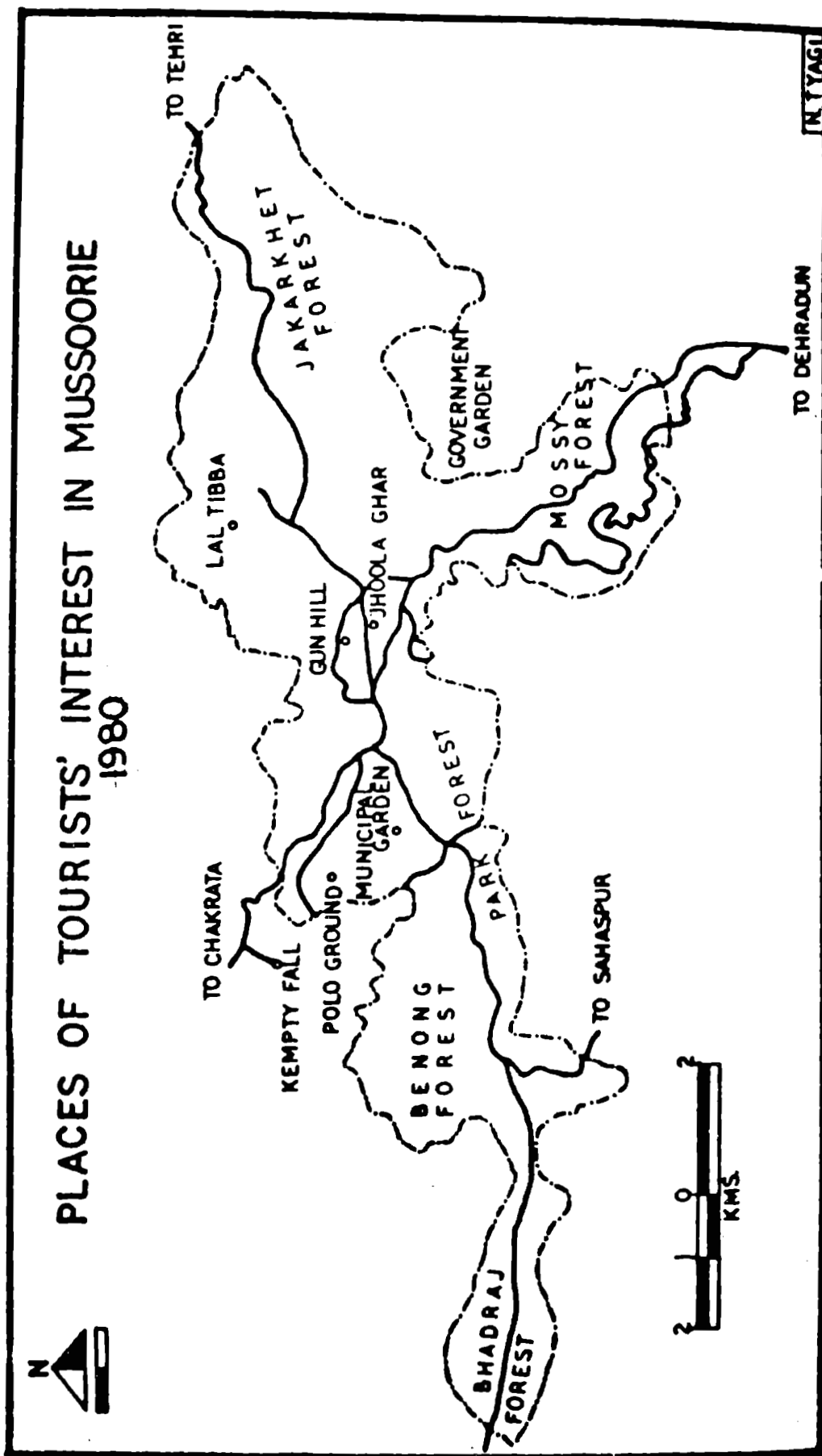


Fig. 44. Places of tourists' interest in Mussoorie.

major centres of tourists interest of this complex. It is situated between high mountains to the north and the plains in the south. Its green hills and varied flora and fauna make it a colourful and picturesque hill resort, commanding a wonderful view of extensive Himalayan snow ranges to the north-east and glittering view of the Doon valley, Roorkee, Saharanpur, Hardwar to the south. On a clear day, one can see the river Ganga and the Yamuna trailing their ways from the hills into the plains.

Mussoorie, one of the most popular hill resorts of northern India, is altogether a different type of resort and famous for its scenic beauty and gay social life. It provides amusement and every facility for home and foreign tourists. Mussoorie with no administrative headquarters, no religious leanings and with no industrial complex, is essentially a holiday summer resort where visitors partake of urbanized sophistication and virgin delights of nature.

Tourist places in and around Mussoorie (Fig. 44) are Mall, Gun Hill, Kempty fall, Municipal garden, Lal Tibba, Camel's back, Kathgodam Tibba, Mossey falls, many clubs and autumn festival.

1) The Mall

The 'Mall' is the main attraction for the tourists. In summer time, the Mall is packed with holiday-makers. Most of the tourist services are concentrated here, viz, fashionable shops, cinemas, skating rinks, restaurants and many luxurious and western style hotels.

2) Gun Hill

Gun Hill can be approached by one km long bridle path, which forks off from Mall road near Hakman's Hotel. It enjoys ropeway ride to the second highest peak of Mussoorie. The ropeway distance is only 400 metres. During pre-Independence period, a gun mounted on this top used to be fired to herald midday for enabling people to adjust their watches, hence this name. Gun hill offers beautiful panoramic view of the Himalayan ranges, viz, Bandar Punch, Sri Kanta, Gangotri group etc and birds' eye view of Mussoorie town and Doon valley.

3) Kempty Fall

Kempty fall is located at a distance of 15 kms from Mussoorie on Chakrata road through splendid mountain scenery to the beautiful Kempty fall. The water gushes out of the mountains and divides into five distinct falls. It has the distinction of being the biggest and prettiest water fall, located in beautiful valley and surrounded by high

mountains. It is a favourite haunt of picnickers.

4) *Lal Tibba*

It is 6 kms from Mussoorie by road and 5 kms by bridle path. The snow views from this spot are exhilarating. A telescope is installed here.

5) *Camel's Back*

Camel's back road starts from Kulri Bazar near rink hall and ends at Library Bazar, having a total distance of 3 kms. The main charm of this road is horse riding and walking. Sunset view of the Himalaya is superb here. Camel's rock having life-like resemblance can be seen from the spot near Mussoorie Public School.

6) *Kathgodam Hill*

It is 5 kms from Mussoorie and the highest point of Mussoorie near Lal Tibba and affords a fabulous Himalayan panorama. Badrinath, Kedarnath, Bandar Punch, Sri Kanth and Nanda Devi are the peaks which can be seen from here. Ponies can go up to the top.

7) *Clubs and Recreation*

Mussoorie, though a health resort in U.P., is a national holiday centre with tourists from all over India and abroad. To satisfy the visitors Mussoorie has got a lot of places of interest and cultural activities. In Mussoorie, there are three clubs--Rotary Club, Mussoorie Co-operative Club and Lion's Club situated in Kwality, below Hakman's Hotel and Tavern Hotel respectively. Six cinema houses and three skating rinks, viz, The Rink (Kurli Bazar), Jaysons Roller (The Mall), Skating Rink (below Hakman's Hotel) are located there.

8) *Autumn Festival*

This festival was started in 1950 by Mussoorians to attract more and more tourists. The festival of Mussoorie is in fact the festival of Garhwal itself. Government is also helping to boost the efforts of autumn festival which includes procession, fireworks, variety show, Kavi Sammelan, Mushaira, folk dances, music conferences and other such attractive items. Besides these spots, Muncipal garden, Mossey fall and several play grounds i.e., polo, tennis, billiards, skating etc are also there to attract tourists in large numbers.

Excursions from Mussoorie

Yamuna Bridge

It is about 27 kms from Mussoorie on Kalsi-Barkot road (main trunk road) and an ideal spot for trout fishing. Permission for fishing may be obtained from Divisional Forest Officer, Mussoorie.

Nag Tibba

Nag Tibba is about 42 kms from Mussoorie and is situated between Mussoorie and Tehri. It is the highest top around, covered by thick forests.

Dhanolti

Dhanolti is located 24 kms from Mussoorie on Tehri road, through a mountain ridge and fruit belt area to reach the pretty picnic spot, which nestles in thick green deodar forests. It is an excellent trek route, as it offers constant viewing of the incomparable Himalaya. It is an ideal spot for quiet week-end. There is a Forest Rest House for which permit can be obtained from D.F.O., Mussoorie.

Surkanda Devi

The famous temple of Surkanda Devi is 32 kms from Mussoorie on the Mussoorie-Chamba fruit belt. Visitors can go up to Kaddu Khal by bus or by car from where the temple is about 1 km to be covered on foot. The temple is situated at an altitude of 3,048 metres above m.s.l. and offers a panoramic view of the Himalaya.

Chamba

Chamba is located 29 kms from Dhanolti and 55 kms from Mussoorie, through a fruit belt where apple, apricot and other Himalayan fruits are grown. Chamba lies at the point where the road coming from Mussoorie meets the main road coming from Rishikesh, which goes on to Gangotri. It has large potentialities for development as a resort.

Chakrata

Chakrata, well connected by the regular bus service to surrounding region, is situated at a distance of 92 kms from Dehradun and 61 kms from Mussoorie. It is the most picturesque place, thickly dotted with conifers, rhododendrons, oak and other high altitudinal trees. The

existing resort is situated on Chakrata and Kailna hills, having a salubrious climate. The panoramic view of the Himalaya and surrounding areas is most picturesque. It is frequented by more ardent lovers of nature. The places of tourist interest around Chakrata are Deoban, Tiger fall, Lakhamandal, Kalsi and Dak Pathar. Foreign tourists visiting Chakrata have to take permission from the Commandant of 22 Force.

1) *Lakhamandal*: Lakhamandal, situated at a distance of 57 kms from Chakrata via Chaurani and Barantha, is the spot where a shellac house was built by the Kauravas to burn alive the Pandavas. A motorable road is being built from Chakrata to this place.

2) *Kalsi*: Kalsi is 42 kms from Chakrata, where an edict pertaining to Ashok is preserved by the Archaeological Department. In addition, there is a dairy and poultry farm.

3) *Dak Pathar*: Dak Pathar is 6 kms from Kalsi on way to Dehradun. Under the Yamuna Hydrel Scheme, Dak Pathar has emerged as a tourist spot in the region. The lush green parks, colourful flower beds and riversides having a splendid backdrop of the mountains present a picturesque site.

Dehradun

Dehradun (701 metres above m.s.l.) is situated in the verdant and fertile Doon valley, surrounded on the east by Ganga and on the west by Yamuna. The places of scenic beauty and picnic spots such as Sahastradhara, Robbers' Cave, Malsi, Deer Park, Khalanga Fort etc may be visited from Dehradun.

1) *Sahastradhara*: The sulphur springs of Sahastradhara are about 15 kms from Dehradun, connected by city bus service. They are the main attraction for tourists at Dehradun. In an area charged with sulphur fumes, streams of cold sulphur water gush out of mountain cavities in a spectacular way. It is a popular spot with picnickers and the trickling water from the nearby caves enhance the scenery.

2) *Tapkeshwar Temple*: The Siva shrine at Tapkeshwar is about 5 kms from the heart of the town and half a kilometre is to be covered on foot. A fair is held here every year on Shiv Ratri day.

3) *Robbers' Cave*: It is a good picnic spot almost 8 kms from Dehradun. Local bus service is available up to Anarwala village from where one km is to be covered on foot. It is ideal for picnics except during the rains.

4) *Laxman Sidh*: It is situated at a distance of 12 kms from Dehradun on Dehradun-Rishikesh road. Vehicles can go right up to the temple.

The place is dedicated to a saint known as Laxman Sidh. People specially visit on sundays to offer their homage. It is a good place for picnic also.

5) *Tapovan*: This place is located at a distance of 6 kms. City bus service is available up to 4 kms on Raipur route, the distance of 2 kms is to be covered on foot. Vehicles can go up to the Ashram.

6) *Kalanga Monument*: This monument was erected in memory of Gorkha General Balbhadra Thapa, who inflicted a crushing defeat on Major General Gillespie of the East India Company in 1814. It is about 5 kms from Dhradun.

Tourists Trend in Mussoorie

Table 8.10 shows the tourists trend of Mussoorie from 1979-88. It is clear from this table that the number of tourists is continuously increasing. During the period from 1983 to 1988 the percentage of tourists coming has increased up to 48.24 per cent in total. The highest increased percentage remained 10.85 per cent in 1986 (Fig. 42).

Table 8.10. Incoming tourists in Mussoorie (1979-88)

Year	Tourists (in lakhs)	Yearly increase in percentage
1979	6.17	--
1983	8.27	+34.03
1984	8.72	+5.44
1985	9.49	+8.83
1986	10.52	+10.85
1987	11.35	+7.88
1988	12.26	+8.02

Tourists' Stay Period

Table 8.11 shows the stay period of tourists at Mussoorie. It is noted by the personal survey that 68.8 per cent tourists stay for one

Table 8.11. Period of tourists' stay at Mussoorie

Tourists	One day	Two days	Three days	Above four days
Every 1000	688	202	72	38
Percentage	68.8	20.2	7.2	3.8

Source: Tourist Registration registers of some main hotels at Mussoorie.

day and 20.2 per cent for two days, 7.2 per cent for three days and 3.8 per cent tourist stay for more than three days in Mussoorie.

Tourists Cycle

Table 8.12 shows the seasonal distribution of tourists at Mussoorie in 1979. It is apparent from the table that highest percentage of tourists coming is in the month of June, i.e., 17.20. The percentage is also high in the months of May (12.72) and October (11.26). The percentage is less in the months of January (3.97), February (4.38) and December (4.79).

The resort has two cycles of tourists controlled by the climatic conditions, i.e., Summer (May to July) and Autumn (September to October). In 1979, 39.56% tourists came in summer and 18.81% in autumn. Thus, 58.37% tourists came only in these five months. The

Table 8.12. Seasonal distribution of tourists at Mussoorie (1979)

<i>Month</i>	<i>No. of tourists</i>	<i>Percentage of tourists</i>	<i>Per day visitors</i>	<i>Month</i>	<i>No. of tourists</i>	<i>Percentage of tourists</i>	<i>Per day visitors</i>
Jan.	25,528	3.97	791	Jul.	59,480	9.64	1,918
Feb.	27,066	4.38	966	Aug.	45,039	7.30	1,452
Mar.	43,535	7.05	1,404	Sept.	46,578	7.55	1,552
Apr.	46,700	7.57	1,556	Oct.	69,477	11.26	2,241
May	78,488	12.72	2,531	Nov.	40,179	6.51	1,339
Jun.	1,06,123	17.20	3,537	Dec.	29,549	4.79	953

autumn festival attracts only more sophisticated tourists. In the months of December, January and February, the cold temperature (less than 2°C) and in August and September heavy rainfall lessens the number of tourists.

As far as per day number of visiting tourists at Mussoorie is concerned, the month of June ranks first as the number goes up to 3,537 and January ranks last with 791 visitors. Thus, Mussoorie experiences two extreme tourist periods, i.e., 'peak' period in June and 'depression' period in January.

Catchment Area of Tourists in Mussoorie

The catchment area of Mussoorie differs with month of the year.

1) Tourists of May-June

It is the 'peak' period of Mussoorie in respect to tourists. Most of the tourists of this period belong to Delhi (66%). It is directly connected by road to Delhi, hence nearly 70% tourists come by their own vehicles. Other tourists of these months belong to Uttar Pradesh, Haryana, Bihar, Punjab, Rajasthan and Southern India.

2) Tourists of September-October

Most of the tourists of this period belong to West Bengal (45%), due to the vacation of Durga Puja. Rest of the tourists belong to Gujarat and Maharashtra (20%) and other states (35%).

3) Tourists of Other Months

In other months tourists do not belong to any particular area. In the month of March people come for the admission of their children from all over the country.

Accommodation Facilities in Mussoorie

The total capacity of Mussoorie is to accommodate 3,370 tourists. There are provisions of 61 hotels, 6 dharamshalas and 3 government rest houses. Table 8.13 shows the accommodation facilities available at Mussoorie.

Table 8.13. Accommodation facilities (beds) at Mussoorie (1980)

<i>S. No.</i>	<i>Category of accommodation</i>	<i>Total beds</i>	<i>Percentage</i>
1.	Hotels	2,680	79.53
2.	Government accommodation	40	7.19
3.	Dharamshalas	450	13.35
4.	Private accommodation	200	5.93
Total		3,370	100.00

It is clear from Table 8.13 that nearly 80 per cent accommodation facility is provided by hotels. In the month of June in 1979 there came 3,537 tourists daily on an average. Thus, 167 tourists could not get accommodation of any category at Mussoorie.

Shopping Facilities

In Mussoorie, there are three shopping centres, i.e., Kulri, Library and Landour Bazar. All types of goods, pertaining to the demands of

tourists are available in these markets.

PILGRIM COMPLEX

In this complex resorts are distributed in a scattered way, giving a distorted shape of complex. The study starts from Rishikesh and goes to Yamunotri, Gangotri, Kedarnath and Badrinath including the studies of enroute resorts (Fig. 39). Most of the pilgrims move in a circulating manner, Gangotri, Yamunotri, Kedarnath and lastly Badrinath.⁷

Rishikesh

According to an adage, Raibhaya Rishi did hard penance, so the God appeared by the name of 'Hrishikesh' and the place was named as Rishikesh. Rishikesh is situated on the right bank of river Ganga and surrounded on three sides by Himalayan ranges. Rishikesh is well connected by road and rail with all the important cities of India. Delhi is 229 kms away from Rishikesh. Regular bus service link Rishikesh to Yamunotri (Hanuman Chatti), Gangotri (Lanka) and Kedarnath (Gauri Kund) and Badrinath. The nearest airport is Sarsawa (Saharanpur) 106 kms from Rishikesh.

Rishikesh has additional significance being the base for commencing journey to Himalayan shrines of Yamunotri, Gangotri, Kedarnath and Badrinath. The yoga centre of Rishikesh has enhanced the significance of the place. Home and foreign tourists visit this place from all over the world to have lessons in yoga and meditation. The tourist places in this area are Laxman Jhoola, Kanva Rishi Ashram, Neelkanth Mahadev, Pushkar temple, Bharat temple, Rishikund, Raghunath temple, Shatrughan temple, Antibiotic project and many ashrams.

1) Laxman Jhoola

It is located at a distance of 3 kms from Rishikesh. It is said that at this place Laxman performed '*Tapa*'. The Laxman temple was built in his memory. There was a hanging jute-rope bridge (without pillar) till 1889. This has been rebuilt now with iron ropes.

2) Neelkanth Mahadev

This temple is situated at a height of 1,675 metres from m.s.l. and is about 12 kms from Laxman Jhoola, while going up to Neelkanth Mahadev, one can have a wide-angled view of Himalayan peaks and plains below.

3) Kanva Rishi Ashram

This ashram is 6 kms from Kotdwara at the bank of river Malini. It is said that at this place Rishi Kanva lived and Shakuntala spent her few years here. A regular bus service from Kotdwara is available for this place. A tourist hut is constructed here. Malan sanctuary is being developed here.

4) Temples

Rishikesh has a number of temples which are worth visiting. Among them Pushkar, Bharat, Rishi Kund, Raghunath and Shatrughan temples are worshipped and worthy of visit. These temples are located in the vicinity of 2 to 5 kms from the city centre.

5) Ashrams

Rishikesh is the centre of ashrams. Swami Shivanand's Ashram (founded in 1936) is the headquarter of the Divine Life Society. The ashram has a temple, meditation centre, lecture hall, a hospital and living apartments. Swargashram was built by Swami Atma Prakash Kali Kamli Wale. Other important ashrams are Parmarth Niketan, Kailash Ashram, Yoga Sadhan Ashram, and Academy of Meditation (Maharshi Mahesh Yogi Ashram) etc.

Yamunotri

Yamunotri is 226 kms from Rishikesh. The temple of Yamunotri is dedicated to Goddess Yamuna. Places of tourist interest in Yamunotri are Divya Shila and hot water springs. The trek to Yamunotri starts from Hanuman Chatti.

1) Hot Water Springs

Close to the temple of Yamunaji, there are few hot water springs where the water gushes out of the mountain cavities at the boiling point forming into pools. Among these Surya Kund is the most important pool.

2) Divya Shila

Near the Surya Kund there is a rock called Divya Shila which is worshipped first before puja is offered to Yamunaji.

Barkot

As the meandering road passes through an area, rich in forests of pines, cypresses, deodars and rhododendrons, it climbs at a height of

2,286 metres at Rari-ka-Danda and then descends to 1,828 m at Barkot, which is 182 kms from Rishikesh. The area is rich in resin.

To the lovers of nature, Barkot offers every charm of forest, mountain and valley. A magnificent view of the eternal snows of Bandar Punch peak can be had from here. On the adjoining hills seasonal fruits such as apple, apricot, pear, walnut etc are grown and the best season for them is June to mid-September. There are many old temples in Barkot. Forest Rest House, Tourist Rest House and traveller lodges are available for accommodation.

Gangotri

Gangotri is situated 249 kms from Rishikesh. The important place of Gangotri is the temple of Ganga, on the right bank of Bhagirathi whilst on the left bank there are few ashrams and dharamshalas. The temple is situated near the sacred stone where great Raja Bhagirath used to worship and where the heaven-born Goddess first descended on the earth. The tiny village Gangotri is full of giant deodars and conifers. Around Gangotri there are many places of tourist interest, viz, Gauri Kund, Dev Ghat and Gomukh.

1) Gauri Kund

Here at Gauri Kund, the water of Ganga falls from the hair coils of Lord Shiva into the Kund. After twirling and whirling, she finally finds her way out of the kund and flows her way through sculptured gorges.

2) Dev Ghat

Just across the Kedar Ganga a small stream which meets the river Bhagirathi at Gangotri, lie the brilliant snow peaks known as Dev Ghat. This group of peaks consists of the Ganga Mandir, the Shivalings, the Brahma and the Shankracharya. A small clear stream, named Dev Ganga flows from Dev Ghat.

3) Gomukh

The trek of 19 kms from Gangotri to Gomukh starts with an easy climb along a route which is full of unexpected delight. Nine kms from Gangotri is beautiful Chirbasa, garbed in all its greenery. This is an excellent spot for camping and from here one can catch a glimpse of Gomukh. Before arriving at Gomukh, one passes through a little place called Bhojbasu, where there is a forest of Bhojpatra trees, the bark of which was used as writing paper in ancient times. The Ganga

rushes out of the Gomukh snout.

Lanka

Lanka is 235 kms away from Rishikesh. It is little halting place on way to Gangotri. Here, one is charmed by the singing water of the Bhagirathi, as it flows along a plateau like valley.

Uttarkashi

Uttarkashi is 152 kms from Rishikesh, along the scenic and fertile banks of the Ganga. Places of tourist interest in Uttarkashi are the temple of Vishwanath, Shakti temple, Kulti Devi temple and Parshuram, Kali and that of Ekadash Rudra which was built by a former Maharaja of Jaipur. Nehru Institute of Mountaineering is also located here where, young girls and boys receive training in mountaineering and trekking.

1) Makar Sankranti Fair

A fair is held at Makar Sankranti which continues for seven days. Early in the morning on the day of Makar Sankranti devotees take a dip in the waters of Ganga and perform puja. From the surrounding villages the Gods and Goddesses are carried in procession and men, women and children throng the resort, its temples and the banks of the Ganga. The men and women merrily sing and dance together with musical instruments.

About one mile from Uttarkashi, there is a place known as Ujali. This is a colony of Sadhus and Sanyasis. Some of whom are reputed scholars.

Kedarnath

Kedarnath shrine situated at an altitude of 3,581 metres stands facing the Mandakini valley. It is one of the twelve most sacred places, dedicated to Lord Shiva. From Gauri Kund starts the trekking route of 14 kms to Kedarnath. Kedarnath is 183 kms from Gangotri via Ghansali and Tilwara and 178 kms via Srinagar.

1) The Temple of Kedarnath

The temple of Kedarnath stands on a platform of loose and unconsolidated glacial material (for details see Chapter 3). A few kms north is a vast snowy expanse, what Hindus call 'Swargarohan' (path to heaven).

2) *Religious Kunds*

At Kedarnath, there are several kunds which are known for their religious significance. Hans Kund, Udak Kund and Ret Kund, are the most important.

3) *Bhaironath Temple*

This small temple is about 1/2 km from Sri Kedarnath and is dedicated to Bhaironathji, who is ceremoniously worshipped at the opening and closing of Shri Kedarnath. The belief goes on that, when the temple of Shri Kedarnath closes, Bhaironathji protects this land from evil.

4) *Shankaracharya's Samadhi*

The samadhi of Adiguru Shankaracharya is located at the north of the temple. A memorial to Adiguru is under construction.

There are two beautiful lakes near Kedarnath, i.e., Basuki Tal and Gandhi Sarovar⁹ which enhance the attraction of the place.

5) *Excursions*

The temples dedicated to Lord Shiva are scattered around Kedarnath and consist of Panch Kedars (Fig. 10). They are Tungnath, Rudranath, Madhya Maheshwar and Kalpeshwar including Kedarnath. Tungnath is the loftiest shrine in the Garhwal Himalaya.¹⁰ There are also five sacred kunds located nearby to five Kedars, viz Brahma Kund, Vishnu Kund, Rudra Kund, Saraswati Kund and Gauri Kund.

Gauri Kund

Gauri Kund, 210 kms from Rishikesh, is situated at the height of 1,981 metres. Here is an old temple dedicated to Goddess Gauri. Near the temple there are two water tanks, one is cold and other is hot.

Rudraprayag

Rudraprayag, situated at the confluence of Mandakini and Alaknanda, is 34 kms from Srinagar and 141 kms from Rishikesh. It is the bifurcation point to Kedarnath and Badrinath. The temples of Jagdamba Devi (Goddess Durga), ancient temple of Rudranathji and confluence point are the main attractions for the tourists.

Srinagar

Srinagar, 107 kms from Rishikesh, is situated in the vast valley of river Alaknanda. The valley is surrounded by lovely hills. On the bank of the river Alaknanda there is an ancient temple of Kamleshwar, dedicated to Lord Shiva. Other temples of Srinagar are Kalayaneswar temple, Laxminarayan temple, Satya Narayana temple, Kilkilleshwar temple, Rajrajeshwari temple and Gorakhnath temple. Excursions for the following places can be made from Srinagar.

1) *Ashtavakra Mahadeo*

It is 8 kms by bus route and 1 km on foot. Beautiful high hill belts and the town Pauri are visible from here. A wide view of nature can be enjoyed from this spot. A 'lingam' is dedicated to Lord Shiva.

2) *Deval Garh*

It is 17 kms from Srinagar by bus and 10 kms by trekking. There are a number of old temples and one can have a nice view of the snow peaks and a vast valley.

Deoprayag

Deoprayag, 70 kms from Rishikesh on the confluence of rivers Bhagirathi and Alaknanda, is the first prayag out of the five prayagas (Fig. 10) enroute to Badrinath. It is a delightful and fascinating sight to watch the river Bhagirathi and river Alaknanda. *Pinds* are offered in the confluence. It has the temple of Shri Rudranathji (Lord Rama) and of Lord Shiva.

Badrinath

Badrinath in higher Himalaya, placed on top shrine hierarchy of the Himalayan pilgrimage, attracts over 2,00,000 visitors annually. It is 298 kms from Rishikesh, 226 kms via Kotdwara and 173 kms from Kedarnath, and is situated at a height of 3,122 metres. Badrinath is situated at the confluence of river Alaknanda and Rishi Ganga. Badrinath-bound pilgrims pass through the famous prayagas (Fig. 10) viz, Deoprayag, Rudraprayag, Karnprayag, Nandprayag and Vishnuprayag, along the sacred river Alaknanda.

1) *Badrinath Temple*

The temple of Shri Badrinathji has a gay, ornamental facade and

nestles in the lap of Narayan Parvat. Other places of tourist interest in Badrinath are following.

2) *Tapta Kund*

Tapta Kund, a hot water spring, is close to the temple of Badrinath. A *darshan* of Shri Badrinath is always preceded by a holy dip in the kund. Hot water springs come out from beneath the Garur Shila.

3) *Narad Kund*

It is the place, from where the idol of the Lord Badrinathji was recovered by Adiguru Shankaracharya. This kund is situated just few yards from the hot water kund.

4) *Panch Shilas*

There are five blocks of stone around Tapta Kund which have mythological importance. These Shilas are Narad, Narsingh, Barah, Garur and Markandey. The conical shaped Narad Shila, stands between the Tapta Kund and the Narad Kund. The Narsingh Shila is situated in the waters of Alaknanda, just below the Narad Shila. Boar-shaped Barah Shila is in the river Alaknanda near the Narad Kund. Garur Shila near the Tapta Kund. The Markandey Shila is scarcely visible in the flowing waters of Alaknanda.

5) *Brahma Kapal*

Shradh ceremony is performed at Brahma Kapal. It is a flat platform, situated a few yards north of the temple on the bank of Alaknanda. It is believed that after offering *Pinds* here, they are permanently enshrined in heaven and no more *Pinds* are to be offered elsewhere.

6) *Panch Dhara*

Panch Dhara, i.e., Prahlad, Kurma, Urvasi, Bhrigu and Indra, are very famous dharas of Badrinath. Prahlad Dhara is lukewarm while the water of Kurma Dhara is extremely cold. Urvashi Dhara, right arm of the Rishi Ganga, flows from the Neelkanth ranges. Bhrigu Dhara, situated at a distance of about 1 km from Badrinath, flows past a number of caves. Indra Dhara, the most beautiful dhara, flows at a distance of 1.5 km north of Badrinath.

7) *Shesha Netra*

There are two small lakes, filled with lotus, in the lap of Nar Parvat. Between these lakes, there is a large block of stone making

one eye of the Shesh Nag. The eye is very natural, even appears to have been carved by man.

8) Urvashi Temple

There is a temple dedicated to nymph Urvashi, on the outskirts of the Bamni village. A celestial nymph is seated on the left thigh of Narain, who holds a Shankha, a Chakra, a Gada and a Padma in his hands.

9) Charanpaduka

It is about 2 kms from Badrinath by foot. It is a delightful journey through emerald green meadows, carpeted with wild flowers in the summer. Here is a boulder bearing the footprints of Lord Vishnu. The area is full of caves and boulders.

10) Nilkanth Peak

At the back of the temple, a side valley opens to the majestic, conical-shaped Nilkanth peak. It is a shining pyramid of white crystals which are ever ready to change their colour and reflect the first red glow of dawn into the valley and at sunset glitter like a golden temple. It is believed that it is a mountainous form of Badri Vishal.

11) Mata Murti

A small temple, in the Alaknanda valley, opposite the Mana village, is dedicated to Mata Murti. Once a year, on the day of Vawana Dwadashi, the Narain (Badrinath) pays a visit to Mata Murti, when she is worshipped by the Rawal (chief priest) of Badrinathji and the villagers in a festival of prayer, 'havan' and 'bhog'.

12) Mana Village

Mana, 3 kms north of Badrinath, is the last Indian village before the Tibetan border. The villagers of Mana are closely related with the activities of Shri Badrinath temple and the annual worship of Mata Murti.

13) Bhim Pul

There is a bridge over the 'Saraswati', made of a huge slab stone, on the outskirts of Mana village, known as Bhim Pul. The view from the bridge is a spectacular and gives an awe-inspiring sight. At present, there are no organized tours to this bridge.

14) Vyas Gupha

Mana village is full of caves. It is said that Ved Vyas, dictated his famous epic, Mahabharata, in one of these caves, which is under a huge slab of stone. The caves, associated with the ancient sages and yogis, are Ganesh Gupha, Bhim Gupha and Muchkunda Gupha.

15) Vasudhara Fall

Vasudhara fall (122 metres) is indeed a captivating sight, with a backdrop of snow-peaked mountains and glaciers and set in an area of rocky heights. It is located at a distance of 8 kms from Badrinath. As the torrents of water come tumbling down, they are caught by the winds and diffused as fine showers and soft puffs. The wind blows from different directions, so the showers spray here, there and everywhere.

16) Laxmi Van

From Dev Darshani onwards, the land is barren and until one is pleasantly surprised by a dense forest of Bhojpatra trees with their pale green leaves, set in the midst of rocky heights at a place known as Laxmi Van. These trees grow at the height of above 3,350 metres.

17) Chakratirth

Nar and Narayan Parvat meet and make a lovely circular valley at Chakratirth. It is 21 kms from Shri Badrinath. The Swargarohan peak is visible here.

18) Satopanth Lake

Satopanth lake, 25 kms from Badrinath with its crystal clear green waters, is situated at a height of 4,402 metres. It is a triangular-shaped lake. It is said that on the days of Ekadashi, Lord Vishnu takes a holy bath in this lake.

19) Panch Badris

In Badrika Kshetra, Lord Badrinathji is worshipped at five different places under five different names--Vishal Badri, Yogdhyan Badri, Bhawishya Badri, Bridha Badri and Adi Badri (Fig. 10).

Joshimath

Joshimath is a rapidly developing hill resort. It has the ancient temples of Shri Narsingh, Vasudeo and Durga. It is the winter seat of Shri Badrinath temple. Adiguru Shankaracharya attained enlighten-

ment here. Shri Jyotir-Math-Mahadeo, Shri Bhakt Vatsal temple, with very ancient mulberry tree under which Adiguru Shankaracharya had the Jyoti Darshan, are the other places of tourist interest. Several peaks of Greater Himalaya including Nanda Devi, Nilkanth etc are visible from certain points of Joshimath. It is the base of expedition to Trishul, Kamet, Dunagiri, Nanda Devi, Neelkanth etc and trek route to the Kauri pass complex. A few kms from the resort, are the slopes of Auli and Garson and attempts are being made to establish these as regular ski-resorts.

Valley of Flowers

Govind Ghat, the motorhead for the way to Valley of Flowers (3,352-3,668 metres), is 270 kms from Rishikesh and 20 kms from Joshimath. From here, the trekking route of 19 kms to Valley of Flowers starts. The valley was discovered in 1931 by Frank Smyth. The valley is full of wild flowers, which ironically have a very short span of life.

Hemkund

Hemkund, 20 kms from Govind Ghat (motorhead), is located at a height of 4,329 metres. It is a great pilgrimage place for Sikhs. Hemkund is surrounded by seven snow-covered peaks and their reflections in the bluish green water is a picture to behold.

Nandprayag

Nandprayag, 22 kms from Karnprayag and 194 kms from Rishikesh, is a picturesque and photogenic hamlet set in scenic surroundings at the confluence of Alaknanda and Mandakini rivers.

Karnprayag

Karnprayag, 173 kms from Rishikesh, is the confluence point of Alaknanda and Pindar river. It is the bifurcation point of Ranikhet, Almora, Nainital and Gwaldam. Here are the ancient temples of Umashankar and Karn.

Gopeshwar

The new headquarter of Chamoli district, Gopeshwar is located 10 kms from Chamoli by road and 2 kms by bridle path. It has a

pleasing climate. The main attraction is the massive Shiva temple. There are several broken idols around this temple.

Ukhimath

Ukhimath is the winter seat of Kedarnath. There are many temples dedicated to Usha, Shiva, Parvati, Anirudha and Mandhata. During the winter months, the Rawal and Pujaris of Shri Kedarnath move here and worship Lord Shiva.

Pauri

Pauri, 29 kms from Srinagar and 108 kms from Kotdwara at an altitude of 1,772 metres offers a panoramic view of the Himalaya. Offering peace and solitude, Pauri is an ideal spot for relaxation. Places of tourist interest around Pauri are Kandoli Gap and Nag Tibba.

Tourists' Trend in Pauri

Table 8.14 shows the tourists' trend of Pauri from 1970 to 1981. It is evident from this table that the number of tourists are continuously increasing except in 1973, 1977 and 1979 (Fig. 42). During the period 1970-81, the percentage of incoming tourists has increased by 267.32 per cent in total. The highest increased percentage remained 56.39 per cent in the year 1981.

Table 8.14. Incoming tourists in Pauri (1970-1981)

<i>Years</i>	<i>Tourists</i>	<i>Yearly increase in percentage</i>
1970	6855	--
1971	7899	15.22
1972	8358	5.81
1973	8152	-2.4
1974	9049	11.00
1975	9888	9.27
1976	10978	11.02
1977	10307	-6.11
1978	12020	16.61
1979	11400	-5.15
1980	16100	41.22
1981	25180	56.39

Table 8.15. Seasonal distribution of tourists at Pauri (1980)

<i>Months</i>	<i>No. of tourists</i>	<i>Percentage of tourists</i>	<i>Per day visiting</i>
Jan.	330	1.31	10
Feb.	350	1.39	12
Mar.	400	1.59	13
Apr.	400	1.59	12
May	600	2.38	20
Jun.	4000	15.89	129
Jul.	5500	21.85	183
Aug.	8000	31.77	258
Sep.	2000	7.95	66
Oct.	1000	3.97	32
Nov.	2000	7.95	66
Dec.	500	1.99	16

Tourists Cycle in Pauri

Table 8.15 shows the seasonal distribution of tourists at Pauri in 1980. This table clearly reveals that highest percentage of incoming tourists is in the months of June, July, August, September and November. The percentage is less in the months of January and February. The highest per day visiting of tourists is in the month of August, i.e. 258.

Accommodation

Pauri has 81 beds in various hotels and 28 beds in government buildings as rest house, circuit house and dak-bungalows etc. Thus, there is a facility to accommodate only 109 tourists at one time. Some private efforts are also made to accommodate tourists by the residents of the place.

Lansdowne

Lansdowne, 42 kms from Kotdwara, is a cantonment developed by Britishers. It is known for its salubrious climate and rich forests. It offers the panoramic snow views of the Himalaya.

Tourists Trend in the Pilgrim Complex

Table 8.16 shows the trend of tourists at main hill resorts of the Pilgrim complex. It is clear from this table that the number of tourists is increasing with some exceptions.

Table 8.16. Tourists trend in the pilgrim complex (1979-1988)

Resorts	1979	1983	1984	1985	1986	1987	1988
<i>Rishikesh</i>							
1. No. of tourists (in lakhs)	15.06	22.01	21.48	23.74	18.89	20.78	29.56
2. Percentage increase	--	+46.15	-2.40	+10.52	-20.42	+10.00	42.25
<i>Badrinath</i>							
1. No. of tourists (in lakhs)	1.77	2.27	2.25	2.52	2.49	2.72	3.77
2. Percentage increase	--	+28.24	-0.88	+12	-1.19	9.24	38.60
<i>Kedarnath</i>							
1. No. of tourists (in lakhs)	0.72	0.82	1.13	1.00	0.84	0.88	1.37
2. Percentage increase	--	+13.88	+37.82	-11.50	-16	4.76	55.68

Table 8.16 continued

Resorts	1979	1983	1984	1985	1986	1987	1988
<i>Gangoiri</i>							
1. No. of tourists (in lakhs)	0.41	1.30	0.92	1.31	0.83	0.86	0.99
2. Percentage increase	--	+ 217.07	-29.23	0.42	-36.64	3.61	15.12
<i>Yamunotri</i>							
1. No. of tourists (in lakhs)	0.42	0.82	1.18	0.79	0.93	0.64	0.85
2. Percentage increase	--	+82.22	+43.90	-33.05	+17.72	-31.18	32.81

During the period 1983-88, the tourists percentage has increased up to 34.30 in Rishikesh. In Badrinath, it showed an increase of 68.07 per cent, while in Kedarnath 67.07 per cent, in Gangotri -23.84 per cent and in Yamunotri 3.65 per cent. Fig. 42 shows increase in the number of tourists from 1973-79.

Table 8.17 shows that the percentage of females in the resorts is higher (56%) in comparison to male (44%), because females are rather more religious minded and free from family burdens. The lowest per cent (5.51) is in the age group of 0-15. The middle age group (30-45) is mainly the age group of sight-seers. Adventurous and lovers of scenic beauty share 12 per cent. The highest percentage 73.74 belongs to the persons of age group of more than 45 years.

Table 8.17. Detail of tourists at Badrinath (average of a week in 1981)

<i>Tourists Visited</i>	<i>Male</i>	<i>Female</i>	<i>Age group</i>			
			<i>0-15</i>	<i>15-30</i>	<i>30-45</i>	<i>Above 45</i>
617	273	344	32	55	75	455
Percentage	44.2	55.8	5.51	8.9	12.15	73.74

Source: Author's personal survey.

Tourists Cycle in the Pilgrim Complex

In these four shrines (Badrinath, Kedarnath, Gangotri and Yamunotri) pilgrims go when the temple is opened only for a period of six months.

The opening days of Badrinath are normally during the last week of April or first week of May. The closing day is celebrated on Vijay Dashmi. Normally, the closing day falls in the second week of November.

In Kedarnath, the opening day falls during the last week of April or the first week of May, three or four days before the opening of Badrinath. The temple is closed after Deepawali.

Yamunotri and Gangotri temples are opened on the day of Akshaya Tritiya, which normally falls in the last week of April or first week of May and closed on the day of Deepawali.

Table 8.18 shows the seasonal distribution of tourists at Rishikesh.

This table shows that the season at Rishikesh is good for tourists throughout the year, but the highest percentage (13.95) of visitors is in the month of June. Lowest percentage of tourists is in the month of

January. The average of per day tourists is also higher (7,004 tourists) in the month of June.

Month-wise distribution of tourists at Badrinath is given in Table 8.19.

Table 8.18. Seasonal distribution of tourists in Rishikesh (1978)

<i>Month</i>	<i>No. of tourists</i>	<i>Percentage</i>	<i>Per day average</i>
Jan	69,321	4.6	2,236
Feb.	1,05,480	7.0	3,767
Mar.	1,30,389	8.65	4,206
Apr.	1,44,759	9.61	4,825
May	1,78,400	11.84	5,724
Jun.	2,10,129	13.95	7,004
Jul.	1,54,365	10.24	4,979
Aug.	1,65,408	10.98	5,335
Sep.	1,67,928	11.14	5,597
Oct.	1,13,544	7.53	3,662
Nov.	71,507	4.74	2,306
Dec.	--	--	--

Table 8.19. Seasonal distribution of tourists in Badrinath

<i>Month</i>	<i>No. of tourists</i>	<i>Percentage</i>	<i>Per day average</i>
May	43,964	24.74	1,465
Jun.	60,897	34.27	1,964
Jul.	16,923	9.35	564
Aug.	17,778	10.00	573
Sep.	23,758	13.37	791
Oct.	14,340	8.07	462

Table 8.19 shows that there are only six months to see the temple. The peak months are May and June when nearly 60 per cent of the total tourists arrive there. The highest daily average tourists coming is 1,964 per day.

Accommodation Facilities in the Pilgrim Complex

Accommodation facilities are shown in the Appendix Tables 7 to 9. These facilities are provided by both the government and private owners along the halting place of *Yatra* route and on religious resorts.

The Appendix Table 7 clearly reveals that highest capacity to

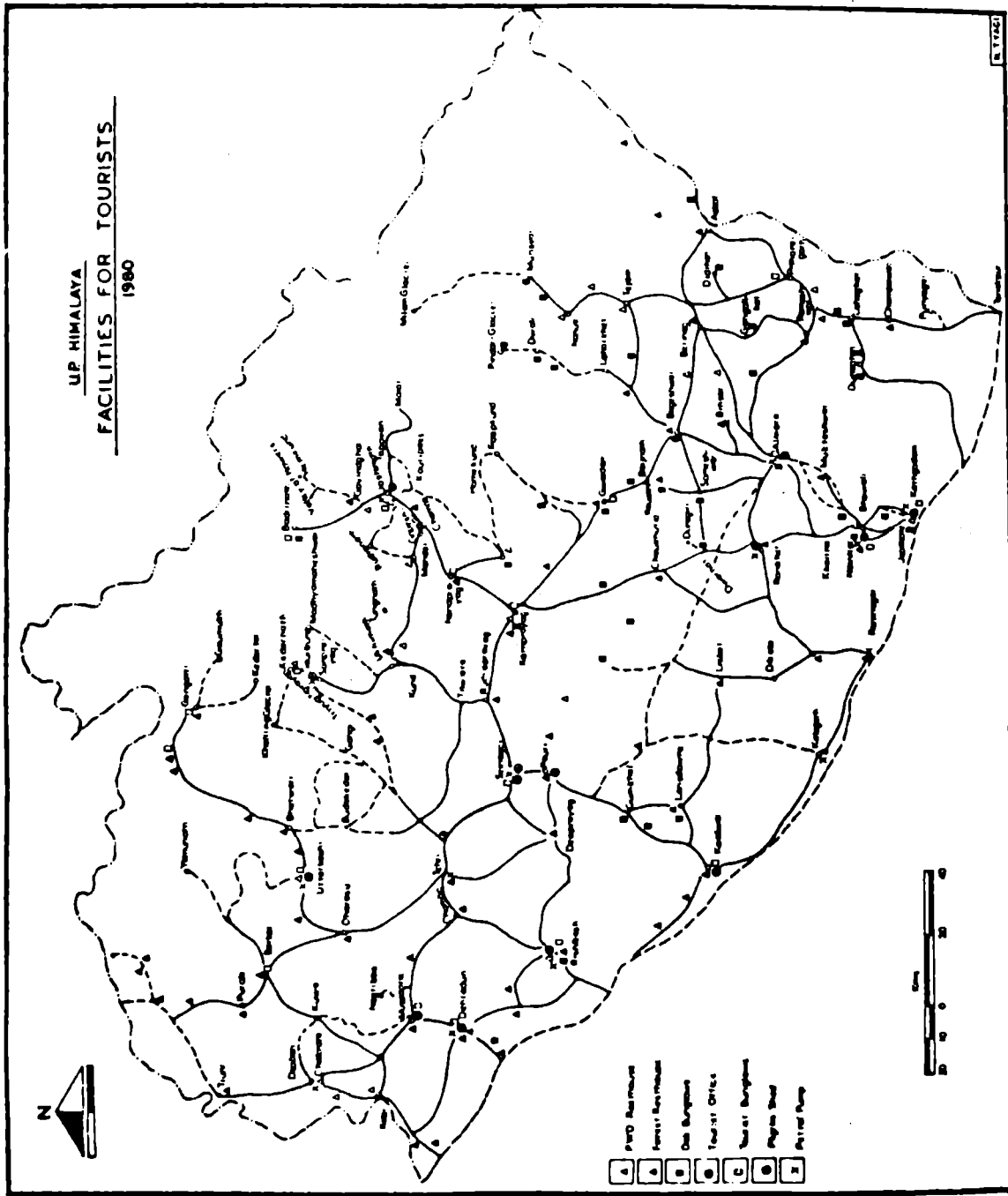


Fig. 45. Facilities for tourists in U.P. Himalaya (1980).

accommodate the tourists is in Muni-ki-Reti. Badrinath has the capacity to accommodate only 2,037 pilgrims.

The Department of Tourism since its inception has set up 34 accommodation units (Appendix Table 9), with the total of 1,524 beds for the hills of Uttar Pradesh. Of the 34 units in the hills, 27 have been provided in Garhwal region on the *Yatra* route of holy shrines of Kedar, Badri, Gangotri and Yamunotri, including Ghangaria on route, world renowned Valley of Flowers and Hem Kund. The accommodation units in the hills of U.P. are managed by Kumaon and Garhwal Development Cooperations. The accommodations provided by the government available in the region are shown in the Fig. 45.

In the Pilgrim complex, the accommodation facilities are not able to cope with the influx of the tourists. Even their availability is doubtful without prior reservation.

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7. Singh, T.V. and Kaur, Jagdish (ed.), *op. cit.*, p. 202.
8. According to Hindu legend this is the path-Mahapantha, the Pandvas went on their last journey for self-immolation, *Kalyan-Tirthank*, (ed.), Poddar H., Geeta Press, Gorakhpur, 1956, p. 615.
9. Later this lake was known as Chorabarital. When Mahatma Gandhi's ashes were immersed here on June 4, 1948, the lake was re-named as Gandhi Sarovar.
10. Singh, T.V., *op. cit.*, p. 94.
11. It is a fable mountain made up of seven steps of snow. Pandvas, after visiting Badrinath, ascended to heaven by climbing this stair way.

Chapter 9

Civic Amenities and Public Utility Services

Growth of tourism in the resorts of U.P. Himalaya has influenced the economy and social structure of the community of the resorts in many ways. The concentration of tourism activities in the resorts has led to economic prosperity and rise in the standard of living of the resorts' dwellers by providing them employment opportunities in transport, business, trade and services. Provision of the general civic amenities and public utility services such as twenty-four hours running water, sewerage and drainage disposal, electricity, educational and medical facilities, means of transportation and communication, establishments of a number of cultural and social institutions have made the resort life better, comfortable and more attractive. Hence, in this chapter an attempt has been made to analyse some of the amenities and public utility services available at the resorts (Fig. 46) of U.P. Himalaya.

WATER SUPPLY

Water supply facility is available in 27 (81 per cent) hill resorts of U.P. Himalaya. Here the water supply is made by pumping the water to higher altitudes and where the water source is available at a considerable height, it is collected and supplied to resorts by gravitation. Thus, there are two systems of water supply.

- 1) The pumping water supply system; and
- 2) The gravitational system of water supply.

The water supply is made at most of the resorts by gravitational system since good old days but, pumping water supply system has

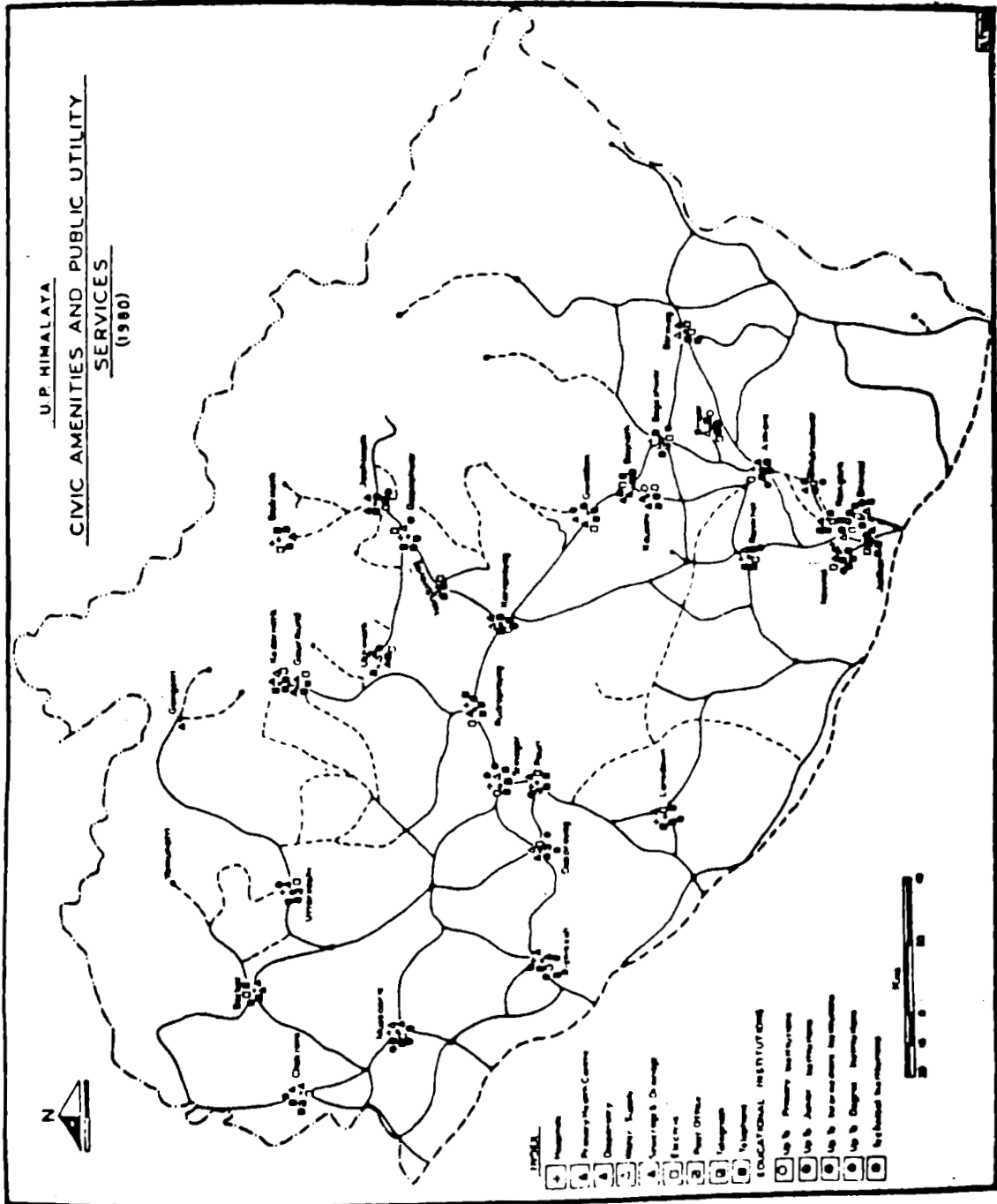


Fig. 46. Civic amenities and public utility services (1980).

been introduced recently in some resorts. In resorts where water supply scheme is introduced recently the water is supplied partly by pumping and partly by gravity. On the whole, 55 per cent resorts have the facility of pumping water supply system and rest (47%) of gravitational system. The gravitational system of water supply is not a proper way of supply as the availability of the water must be at higher altitude than the site of the resort and must be of perennial nature. The water supply system of some resorts is discussed here.

Mussoorie

Mussoorie has been the first resort in introducing water supply system as early as 1894. Up to 1907, water supply was provided partly by gravitation from Chalmar Khad and Khatlapani streams and partly by pumping from the Mackinnon spring, below the Library which has 630 feet head. At that time these pumps were operated by diesel. This reservoir has the capacity of 85,000 gallons. The water was distributed up to Hakman's hotel and in the Happy valley.

In October 1902, Mr. Aikmon, then Sanitary Engineer, presented a preliminary report and estimate for improving the Mussoorie and Landour water supply, coupled with a scheme for lighting both places by electricity. The negotiation with Raja of Tehri for use of Kempty fall fell through and Mr. Bore chose as the substitute, the Bhatta falls on the southern face of Mussoorie ridge, which had the advantage of being situated both in British territory and also nearer the railhead Dehradun. Commenced in January 1906, the scheme was practically ready for work by May 1909.

About two miles below the Mall and the south of Mussoorie, near Bhatta village, two mountain streams meet. Just below this confluence, the necessary headworks are constructed, which control the flow of water from these streams into steel pipes through which water flows to generating station. The later is situated at Galgoli, one mile below the headworks. The generating sets of 100 KWs each, several springs situated in the Murrey Estate have been impounded for supply of water, which is led through pipes to a reservoir by the pumping station. The later is situated about 2.4 kms below the old Brewery and contains two or three throw pump-rope driven by two motors. The water is lifted at the rate of 180 gallons in a minute, 1,700 feet to the top most point of Mussoorie, Vincent's Hill, where two reservoirs of 5,000 gallons capacity each are constructed.

The scheme, in many ways, is unique. The lift of 1,800 feet is certainly the highest lift in Asia and one of the highest in the world.¹ In 1908, the reservoir estimate for the completion of the scheme had risen to Rs. 9,72,000 for Mussoorie alone. The distribution head of Mussoorie water supply is 450 feet.

In 1942, a reservoir with the capacity of 20,00,000 gallons was constructed on Gun Hill. In 1962, a further reservoir of the capacity of 15 lakh gallons was constructed on Gun Hill. A centrifugal pump was set up in Murrey pump which has the capacity of 19,38,000 gallons per day. Zinsy pump was established in 1971, while in 1972 Koti pump was established to supply water in Landour. Now the total capacity of Gun Hill reservoir is 37 lakh gallons. The water in most parts of Mussoorie is distributed from Gun Hill.

Nainital

The water supply in Nainital was introduced in 1898,² four years after Mussoorie. The water obtained from various springs was pumped up to reservoir on the hill side by means of steam power which was changed to electricity in 1923. Recently, a new pumping plant for water supply at Nainital has been installed to supply 15 gallons water per head daily. There is also a provision for filtering and chlorinating the lake water when the supply from springs become insufficient to meet the demand.

At present 6 centrifugal pumps are installed at the lake side for raw water from which the water at the rate of 80,000 gallons per day can be obtained. From springs 2,00,000 to 10,00,000 gallons per day of water is being obtained. To make the raw water potable, a two-bed Municipal filter has been installed at the main pump house having the capacity of 8,00,000 gallons per day. To distribute the purified water to various places of the resort, the water is being pumped through four zones. In the main pump house there are five pumps for higher zone, four pumps for inter zone and two pumps for lower zone, besides that one pump for gravity zone has also been planted.

1) Higher Zone

In this zone, water is pumped by the two separate pipelines in two different tanks. Tennochy (capacity 54,000 gallons, head 1,180 ft) and Upper Ayarpatta (capacity 31,000 gallons, head 1,180 ft). The water is distributed to the upper hill area with the elevation up to 1,150 ft of the resort. Principal schools, government houses are being fed through this zone.

2) *Inter Zone*

In this zone, water is pumped through three separate pipelines in two different tanks Inter Cheena (capacity 1,20,000 gallons, head 465 ft) and Inter Ayarpatta (capacity 48,000 gallons, head 465 ft). The water is being supplied to the middle area of the resort up to 400 ft head.

3) *Lower Zone*

In this zone, water is pumped by two rising mains, in the Pilgrim tank (capacity 1,06,000 gallons, head 280 ft) and water is distributed in Malli Tal Bazar, Mall road and hospital building up to the Eastern Command area.

4) *Gravity Zone*

In this zone, water is distributed from Malli Tal waterworks to the lower areas of Talli Tal by two pipelines of 6 inches by gravity. The balancing reservoir, which is connected to this zone, is situated behind the Bus Stand, which has the capacity of 24,000 gallons.

The reorganization of existing water supply systems has recently been taken up by the U.P. Jal Nigam, keeping in view the development of the resort.

Almora

The piped water supply was introduced in Almora for the first time in the year 1930 and was reorganized in 1974-75. The total expenditure on this scheme was Rs. 53 lakhs. The main source of water supply is the Kosi river. In addition to this, few springs like Siah Devi, Shail and Baldhoti also supply water to this resort. This scheme was completed in 1976 and water supply of Almora is now much improved. The proper water supply cannot be done without the help of electricity. Victor Mohan Joshi reservoir with capacity of 4,800 kilolitres has no such facility. The pipeline is built up to Adams pumphouse.

The entire resort (Municipal limits) is covered with piped water supply. The Kumaon Jal Sansthan, Nainital is maintaining the water supply system and realising the water taxes.

Ranikhet

In Ranikhet, the water supply is derived from springs, on the east side of Chaubatia. The water is first pumped and stored in a tank near the summit of Chaubatia, from where it is distributed throughout the

station by gravity. At present, the water supply of Ranikhet is done by M.E.S. and Cantonment Board. M.E.S. supplies water from Mint spring and Cantonment Board from ex-spring. The total water supply for civil population is 90,472 gallons per day. The two pumping sets are on Kalugadera and Nag Pani.

Kausani

There is a problem of drinking water in Kausani. The water from streams and falls is utilised for drinking purposes. The Local Self-Government has a rural water supply scheme for potable water at Kausani. In this scheme, it is proposed to make a provision of water supply of 70 litres per head for the population of 2,750 (estimate for the year 2001) in Kausani. In this scheme, water will be pumped in two stages from river Kosi and will be stored for distribution to the various parts of the resort. The pipelines have already been laid.

Gopeshwar

The water supply in Gopeshwar was fulfilled by local streams up to 1960. Since 1960-61, a scheme for water supply for Chamoli and Gopeshwar has been in operation. Water is brought from Sagar Gadera, which is situated 3 kms in the north-west side of Gopeshwar.

Chakrata

There is a good piped water supply from springs in the Deoban hills, which is extended to the whole of the cantonment of Chakrata. Water supply is done by M.E.S. Cantonment Board.

SEWERAGE AND DRAINAGE DISPOSAL

Only 15 per cent resorts have the sewerage and drainage disposal facilities. In most of the resorts night soil is collected and burnt, while at some resorts it is used for compost. Drainage disposal is by gravitational force. Rishikesh, Muni-ki-Reti, Nainital and Gopeshwar are the resorts where proper sewerage and drainage disposal scheme has been introduced. In Badrinath sewerage scheme is under construction. Sewerage system of some resorts is as follows:

Nainital

The sewerage system in Nainital was undertaken in 1942. Under this scheme about 66% area of resort is getting benefited. In the remaining 34% area of the resort, people have their private tanks which have commode system.

The disposal of the sewerage is done into the sewerage line, through the existing tin pail depots.* The disposal of the resort sewerage is done by the main sewer line, laid through Malli Tal Bazar via Mall Road to the Rusi Goon, which is about 3 kms away from Nainital. U.P. Jal Nigam is preparing a project to reorganize the existing sewerage system keeping in view the rapidly increasing population. The citizens are desirous of most modern facilities of sanitation. The number of sewerage connections in Nainital are 481 and number of sewerage seats are 3,625.

Before the year 1880, there was practically no drainage system in Nainital. The catastrophe of massive landslide of that year brought home to the authorities, the urgent need of the improved drainage system. Accordingly, six main ravines were lined with masonry and revetted. The work was done by the government and its upkeep was then entrusted to the Municipal Board. Further, drainage scheme continued to be carried out including the original Sher-ka-Danda scheme in the eighties and early nineties.

In 1898, heavy rains destroyed the Langdale and Endcliffe drains, which had just been rebuilt by the Municipal Board. Up to 1907, the upkeep of the roads and protective works remained in the hands of Municipal Board. The scheme of roads and protective works were then taken over by the government engineers. The Municipal Board remained, however, still responsible for road and drains in the bazar.

The position was modified on the recommendation made by the Burn Committee in 1921. The six drainage systems of east and west, Sher-ka-Danda, Chéena, Baranala, Ayarpatta and Lake Basin, were taken out of the hands of the Municipality. Government had in practice always given assistance, whenever serious damage was caused by heavy rainfall.

Almora

There is no sewerage system in Almora. Night soil is collected in depots (points), which 'Safai Karamcharis' bring from houses in hand buckets. In depots, it is collected in drums and loaded in tractors to trenching ground. It is the responsibility of Municipality to collect the night soil from the latrines of individual houses, cleaned by sweepers engaged by this Board. There are 8 collection points for disposal. Night soil with garbage is used for composting.

* These pail depots are Malli Tal, Sukha Tal, Deopatta, Maldon, Ayarpatta, Veleric, Rajpura, Ramsay, Kailash-view and Rathbambis.

At present, there is no programme for conversion of dry latrines into water seat sanitary latrines, but no permission has been given for construction of dry latrines to house owners since 1978. Individuals are constructing themselves water seat sanitary latrines according to the plan sanctioned by the Board.

Ranikhet

In Ranikhet, there is no proper scheme for drainage. It is done by gravity. The disposal of sewerage is undertaken by the Cantonment Committee. It is collected in patent carts and destroyed in patent incinerators. The fuel used being pine needles.

Gopeshwar

Sewerage scheme in Gopeshwar was commenced in 1972. In the beginning, sewerage line was constructed near hospital and later on, in the other parts of the resort.

Other resorts have no proper system of sewerage and drainage disposal.

ELECTRICITY

The electricity has been introduced recently in all the resorts of U.P. Himalaya except Gangotri and Yamunotri.

Nainital

In Nainital, the construction of or a hydroelectric station was taken up in 1919. The work was completed and a regular supply of electricity was available since September 1922. The capital outlay was rupees twenty-two lakhs. Total load on the lines was 8,519 KWs.

Almora

Almora has the facility of electricity with 3,047 (53.9 per cent) domestic connections, 56 (.98 per cent) industrial connections, 1,553 (27.2 per cent) commercial connections and 996 (17.3 per cent) street lights. Thus, there are 5,652 connections in total.

Ranikhet

Ranikhet has been electrified since 1962. It is governed by both M.E.S. and Hydel Department. The total connections were 967 in 1981.

Other Resorts

Electric facility is available up to Badrinath and Kedarnath. In 1960, the electricity reached Gopeshwar, when it was incorporated with Chamoli town area.

On the Yamunotri route, Barkot is the last resort (40 connections in 1981) where electricity is provided. Bhowali, Ukhimath and Chakrata were electrified after 1957. Srinagar had 1,229 connections in 1981--750 (61.2 per cent) domestic connections, 1 (.08 per cent) industrial connection, 12 (9.7 per cent) commercial connections, 346 (28.1 per cent) street light connections and 120 (.96 per cent) other connections. Deoprayag and Rudraprayag have also been electrified with 522 and 500 electric connections with street lights. Kausani was electrified recently and now-a-days there are 49 electric connections in total. Badrinath has 1,092 connections, Rishikesh has 4,852 connection (data of 1981).

COMMUNICATION

Post offices, Telegraph offices and Telephone facilities are available at present in all resorts of U.P. Himalaya. Only Mussoorie has the television tower. Nainital, Mussoorie, Almora and Ranikhet are the resorts where head post offices, sub-post offices and facilities of telephones and telegraphs are available. Nainital has two main post offices, one at Malli Tal and other at Talli Tal, with a number of sub-post offices. Mussoorie, Almora and Ranikhet are also equipped with head and sub-post offices with telegraph offices.

In Kausani, telegraph facility is available in post office. There is no telephone connection. Badrinath, Kedarnath also have post offices, telegraph offices and telephone facilities. Other resorts with such facilities are Gopeshwar, Ukhimath, Lansdowne, Chakrata, Srinagar, Deoprayag, Joshimath, Kamprayag, Pauri, Rudraprayag, Uttarkashi, Bageshwar, Bhimtal and Bhowali.

EDUCATIONAL INSTITUTIONS

There is a lack of educational facilities in the resorts of U.P. Himalaya. Table 9.1 shows the number of educational institutions of different types with their standards.

Table 9.1. Educational Institutions in some resorts of U.P. Himalaya (1981)

Resorts	Schools		Colleges		Univer- sity	Tech- nical
	Primary	High	Inter- mediate	Degree		
Mussoorie	28	14	5	1	--	1 ^a
Nainital	33	9	7	1	1 ^b	3
Almora	14	3	8	1	--	--
Ranikhet	7	5	3	1	--	--
Ukhimath	2	--	1	--	--	--
Lansdowne	2	2	2	10	--	3
Srinagar	5	4	2	1	1 ^c	1
Chakrata	2	2	1	--	--	--
Rudraprayag	2	4	2	--	--	--
Other resorts	18	15	8	5	--	--
Rishikesh	21	11	3	1	--	1

^aLal Bahadur Shastri Academy of Administration; ^bKumaon University; ^cGarhwal University.

Nainital

There are several good standard schools in Nainital. During the British period, it received a great government patronage and several missionary establishments flourished. After independence, though deprived of government patronage, these institutions continued to play their important role. At present, there are 5 public schools, two boys' intermediate colleges, one girls' government inter college, polytechnic and ITI, colleges and several junior and primary schools. The first boys' school, named Diocesan Boys' School, was established in 1869 by Bishop Milman of Calcutta. In 1873, the school was transferred to Sherwood.

St. Joseph College is a School for Roman Catholic Diocese of Allahabad. The All Saints Diocesan Girls' School was established at the same time as Diocesan Boys' School. St. Mary's Convent was founded in 1878 by Reverend Mother Salesia. It is now situated at Ramnee Park. The Willeslay Girls' School of Ayarpatta is an American institution. Polytechnic school was opened in 1907.

Nainital is also the seat of Kumaon University. D.B.S. Degree College was opened in 1957 in Ayarpatta ward. The educational facilities are shown in Fig. 21. It is clear from this figure that primary and middle schools are located in the lower zone and institutions of higher education in the upper zone.

Mussoorie

The climate of Mussoorie is most suitable for children. Several English medium schools are located here. In 1834, Mr. Mackinnon opened the first school in Mussoorie. The Mussoorie School was established by Diocesan Board of Education in 1867. It was affiliated to Calcutta University and imparted education up to B.A. standard. The Roman Catholic School, and St. George's College were founded by Bishop Charli in 1853. The Rev. H. Sells conducted a preparatory school for young boys as also Rev. J. Parson and Mr. H. Wood. Cainville House School and Diocesan School for girls' were established in 1865. The Woodstock School is a preparatory school for girls. In addition, there is Mr. Birch School and Convent School (at Waverly) established in 1845. Other missionay colleges are St. Mary's Convent, Happy Valley School, Modern School, Allen Memorial and Wineburg. There were five basic schools for girls and 12 public schools for boys in 1979.

In 1959, Lal Bahadur Shastri Academy of Administration was established here. In 1963, Municipal Post Graduate College was opened. There are 3 intermediate colleges in Mussoorie.

Almora

The first mission school, established in Almora was Ramsay College, opened in 1871, now known as Ramsay Inter College. The other colleges of Almora are G.G.I.C., Norman Girls' School, G.I.C. Almora College, Arya Kanya Inter College, Adams Inter College and a Degree College.

Ranikhet

The education from primary to degree classes is available in Ranikhet. There are five primary schools with 968 students, governed by Cantonment Board and two primary schools with 610 students governed by private parties. There are two junior high schools, with 387 students managed privately, and one Degree College.

Gopeshwar

There was no school in Gopeshwar before 1889. The students had to go for primary education to Nagnath and Pokhari, which were situated 16 kms to the west of Gopeshwar. In 1891, a primary school was opened between Chamoli and Gopeshwar on the right bank of Alaknanda in Alakapur. Up to 1935, students had to go to Nagnath and Pokhari for the junior high school education. In 1935, a private

junior school was opened by Shri Gita Swami. In 1949, it became intermediate college. There is also a Degree College in Gopeshwar.

Ukhimath

There are three schools in Ukhimath, two primary schools, one for girls and other for boys, and an Intermediate College having co-education.

Lansdowne

There are five schools and colleges in Lansdowne. Central Higher Secondary School, G.G.I.C., G.I.C., Cantt. Higher Secondary School and a Degree College. G.G.I.C. was established in 1929 as a primary school was upgraded in 1937 as a Junior High School and in 1961 it became Intermediate College. G.I.C. was opened in 1900 and in 1940 it became Intermediate College. Total students of this college are 943. Cantt. Board Higher Secondary School was opened in 1933 and up to 1944 it was well developed. Central Higher Secondary School was opened in 1950. A Degree College affiliated to Garhwal University was opened in 1973 in Jahrikhal, which is 3 kms from Lansdowne.

Srinagar

In Srinagar, there are five primary schools, one middle school and two intermediate colleges, one for girls' and other for boys'. Srinagar is the seat of Garhwal University which was established in 1973. There are three technical institutions in Srinagar, viz, Polytechnic, I.T.I. and G.I. and T.I. Srinagar is also the seat of the Institute of Himalayan Studies and Regional Development.

Rudraprayag

Educational facility in Rudraprayag is available up to intermediate standard. There are two intermediate colleges (one for girls and other for boys) and two primary schools.

Deoprayag

There are five schools and colleges in Deoprayag--two primary schools, two intermediate colleges (for boys' and girls') and a Sanskrit Mahavidyalaya.

Joshimath

Joshimath has eight primary schools, two intermediate colleges and a Sanskrit Postgraduate College.

MEDICAL FACILITY

Medical facilities are available almost in all (87 per cent) the resorts of U.P. Himalaya. T.B. sanatoria and T.B. clinics are also located at some of these hill resorts due to their healthy climate. Total beds available in the hospitals of hill resorts of the U.P. Himalaya are 2,026. Out of which 64.5% beds are available for men, 29.32% for women and 6.16% for children (Appendix Table 10). There are seven P.H.C. (Bhimtal, Bageshwar, Joshimath, Karnprayag, Ukhimath, Berinag and Chakrata) and five T.B. clinics and sanatoria (Almora, Bhowali, Chamoli, Rishikesh and Pauri) in U.P. Himalaya. In cantonment resorts military hospitals are separately located. Among the resorts, only three have Leprosy hospitals (Almora, Srinagar and Barkot). Highest percentage (17.37) of beds are available in Bhowali due to T.B. sanatorium, while in Almora 12.48% and in Mussoorie 10.10% beds are available. In Pauri, Gopeshwar and Ranikhet the available beds are 7.75%, 6.46% and 6.16% respectively. The detailed study of medical facilities available in some resorts is as follows:

Nainital

The Ramsay Hospital, now known as Govind Ballabh Pant Hospital, was completed in the year 1892. It was erected as a memorial to Sir Henry Ramsay, who was Commissioner of Kumaon for a long period. At present, there are 220 beds in this hospital. All outdoor and indoor facilities are available in the hospital. The Crosthwaite Hospital, now called as Pt. Badri Dutt Pandey Hospital, was opened in 1896 at Belleve Estate by Sir Antony Mac-Donnell. The hospital is maintained by Municipal Board.

Mussoorie

Mussoorie's first hospital St. Mary's Cottage Hospital, for the treatment of poor Europeans, was started by Major Alpine in 1902. There are twelve hospitals in Mussoorie. It has the capacity of 11.3% of the total beds of resorts of U.P. Himalaya.

Almora

Leprosy hospital of Almora was opened in 1836 by Ramsay. Now it has seven hospitals (Appendix Table 10), and there are 12.48% beds of the total beds of resorts. All outdoor and indoor facilities are available in the hospitals.

Ranikhet

There are three hospitals in Ranikhet, viz, Civil Hospital, Military Hospital and Sitapur Eye Hospital. The beds available in these hospitals are 225 (11.10%). Excluding these hospitals, there are several private clinics, where bed facility and X-rays plants are available.

Kausani

At present there is one allopathic dispensary and a Maternity Child Welfare Centre in Kausani. Only 4 beds are available in allopathic dispensary, which is visited by 59 patients daily on an average. Out of these, 45 patients are outdoor and 14 are indoor.

Badrinath

In Badrinath, there is one hospital and one dispensary, where 18 beds are available. X-ray and minor operation facilities are available in the hospital. A dispensary is also working with the help of Badrinath Mandir Committee.

Kedarnath

In Kedarnath, there is one hospital with no beds. Only outdoor facilities are available. Oxygen is also provided in the hospital.

Gauri Kund

There is one dispensary in Gauri Kund having 4 beds, two for men and two for women. Oxygen is also available.

Gopeshwar-Chamoli

There was only one hospital in Chamoli. But from 1970, there are two district hospitals, one in Chamoli and other in Gopeshwar. There is also a T.B. clinic in Chamoli and a Eye Hospital situated in the southern part of Gopeshwar, at a distance of one km. Operations, X-rays and all other district hospital facilities are available in these hospitals. The hospital facilities are available at Bhowali, Jeolikot, Bhimtal, Bageshwar, Joshimath, Karnprayag, Ukhimath, Gwaldam, Gauri Kund, Rishikesh, Chakrata, Pauri, Srinagar, Rudraprayag, Lansdowne, Berinag, Deoprayag, Uttarkashi, Barkot and also in Gangotri. The number of hospitals in these resorts and their beds are given in Appendix Table 10.

TRANSPORTATION

Transport, which makes travel possible is an integral part of tourism, involving movement of very large number of people and demanding heavy investment and complicated organisation.³ The automobile plays a very important role in the transportation of visitors.⁴ Improved transport facilities and increased use of motor cars has increased the number of tourists to participate in recreational activities. Tourism is merely an aspect of recreation but it has been dependent upon transport to a great and ever-increasing extent, transport is an essential prerequisite for tourism.

Transport and tourism have vice versa impact on their development. Improved transport facilities have stimulated tourism, the expansion of tourism has stimulated improvement in transport.⁵ The quality of the transport network is the key factor determining the accessibility of individual resorts and tourist areas.⁶

Rugged topography has always been against the development of transport. Road building upto the steep ranges of Himalaya, the biggest mountain of the world, is not a simple matter. This area is poorly developed in means of transportation and communication. The deep gorges of these ranges, the dizzy heights of peaks, the dense forests, the rock cliffs and snow-covered region at high altitudes, all go against the development of transport.⁷ The geology of the outer Himalayan ranges, on which many of the British hill resorts have been developed, is extremely complex. The passes of greater Himalaya are located over 3,000 metres in height, therefore, roads have to be made over three to four thousand metres and even more. Most of the roads remain open free from snow cover only for a part of the year. A comment on the road by an official in 1820 describes as "difficult and perilous in the extreme. It sometimes winds down the edge of rocks, sometimes zig-zags up the face of the hill, plunges into dark depths of a ravine, and creeps over the summit of a nature crag."⁸

Roads are the most important type of transport in Himalaya. Other means, like railways, ropeways and airways are developed only to a limit. Only Mussoorie and Nainital are equipped with ropeways.

Development of Transport System

In early days, each resort established its own supply system, without linkage between neighbouring regions, so the transport facilities first developed in the main centre. This compartmentalization⁹ of road

network is caused by relief which has direct and indirect influence on the development of transport and communications.

Greater accessibility of hill resorts led to expanding hinterlands, different classes of visitors and new movements, a repeating cycle which has accelerated with Indianization. The early British resorts were frequently accessible only on foot and on horse back. Ladies, old men and children were usually carried up by coolies.

Road and carriage way expanded the hinterlands. At the same time the resultant increased population required a considerable change in hill resorts activities. Recent transport movements have again accelerated the expansion of hinterlands. Buses opened the hill resorts to the middle class people and facilitated the migration of labour and short trippers. Trucks have encouraged widespread commercial activities. The establishment of taxi service to the nearest railhead or motor road has opened the hill resorts to long distant Indian elites.

Road Network

A detailed outlay of roads in U.P. Himalaya is presented in Fig. 47. Rail as means of transportation has a negligible importance in transportation system of U.P. Himalaya, as a small part of the southern border is served by railways with railhead at Tanakpur, Kathgodam, Ramnagar, Kotdwara, Rishikesh and Dehradun from east to west. All these railheads serve as a gate of the region from the south. Roads developed in various parts of U.P. Himalaya start from these railheads. The region has limited air services. Roads are the most developed transport system in U.P. Himalaya which may be explained by dividing the region according to the roadheads and their direct connected roads.

Road Network with Tanakpur Railhead

The network of roads with Tanakpur is in the eastern part of the region. A road starts from the Tanakpur railhead in the plain to Champawat, Lohaghat, Ghat, Pithoragarh, Askot, Dharchula and Tawaghat. A road bifurcates from Lohaghat and goes up to Haldwani. A road connects Ghat with Almora, Pithoragarh and Askot both are joined to Bageshwar via Didihat, Thal and Berinag. From Thal a road bifurcates to Munsiri via Tejam, which is also connected by a road with Kapkot. There is a trekking route from Munsiri to Milam glacier. From Bageshwar a road runs to Kapkot and then starts the trekking route of Pindari glacier. Kapkot is the last bus terminus on this route.

Road Network with Kathgodam Railhead

A wide and fine hill road starts from Kathgodam to Nainital and another road runs to Bhimtal. From Nainital a road runs to Bhowali. A road also joins Bhowali via Jeolikot. Bhimtal is also connected with Bhowali. From this road, a road goes to Ramgarh and Mukteshwar. Bhowali is the important road junction to go to Almora, Ranikhet and further up, viz, Garam Pani and Khairna. The road bifurcates from Khairna, one in the east is the connecting shortcut route to Almora and another in west goes to Ranikhet. A road communicates between Almora and Ranikhet. Almora is a very important road junction, which is connected to Baijnath by two roads via Bageshwar and via Someshwar and Kausani. On Bageshwar route, a road bifurcates to Binsar. Further up from Baijnath, there is a road up to Karnprayag via Gwaldam. Ranikhet is also connected with Karnprayag by a road via Chakhutia. A road from Ramnagar climbs up to Ranikhet via Dunagiri. From this road, a road goes to Dhikala (Corbett National Park). Gwaldam is connected by trekking route to the Kauri pass complex.

Road Network with Ramnagar Railhead

From Ramnagar a road goes to Kotdwara (in the west) via Kalagarh and to Ranikhet via Dhangiri, from where a road goes to Dhikala (Corbett National Park).

Road Network with Kotdwara Railhead

From Kotdwara railhead in Garhwal, a road climbs to Srinagar via Dogadda, Lansdowne, Gumkhal and Pauri. From Pauri a road bifurcates to Deoprayag in the west. Kotdwara is connected by a road with Hardwar.

Road Network with Rishikesh Railhead

Rishikesh, railhead is the starting point of two famous mountain routes, one to Badrinath and another to Gangotri. Though strategic importance of northern frontiers has accelerated the development of transportation and communication in this region since 1962, yet the isolation in most parts is not broken.¹⁰ A road (N.H. 45) joining Rishikesh to Badrinath runs along the Alaknanda river and serves the pilgrimage centres of Uttarakhand. This highway has strategic importance as it touches the Sino-Indian border and thus it is frequently used by defence personnel. The Badrinath road goes up to the Ganga valley to Deoprayag and then follows the course of Alaknanda to Srinagar, Rudraprayag, Karnprayag, Nandprayag, Chamoli, Joshimath and up to

Badrinath. This road is motorable up to Mana, which is located 5 kms beyond Badrinath. From Joshimath, a motorable road also goes to Malari, which is the last terminus for Niti pass. Karnprayag is the connecting centre of Kumaon and Garhwal in mountain region, which is the only road across west to east in the hilly area. A road from Rudraprayag bifurcates to Kedarnath. This road is motorable up to Gauri Kund. There is a trekking route (14 kms) proceeding to Kedarnath via Rambara. A road leads Kedarnath to Badrinath via Ukhimath, Mandal, Gopeshwar, Chamoli and Joshimath. Some important trekking routes bifurcate from these main roads. From Joshimath to the Kauri pass complex, from Govind Ghat to Valley of Flowers and Hemkund, from Mandal to Rudranath, from Guptakashi to Madhyamaheshwar and from Soneprayag to Triyuginarayan. A trekking route proceeds from Kedarnath to Khatling glacier.

A road from Rishikesh follows the Bhagirathi valley and goes to Tehri via Narendranagar and Chamba, which is also joined to Mussoorie. From Tehri a road leads to Dharasu, Uttarkashi, Bhatwari, Harsil and up to Gangotri. A trekking path runs to Gomukh and another to Kedar Tal. From Dharasu, a link road climbs up the watershed and descends into Yamuna valley at Barkot, which is a big road junction on the Gangani and further up to Hanuman Chatti follow the Yamuna valley. From the Hanuman Chatti starts the trekking route of Yamunotri. From Barkot another road goes across the Yamuna valley into Jaunsar-Bawar via Purola, Jarmal and Hanol to Tiuni, Chakrata and Kalsi via Kuwa. Rishikesh is also connected with Dehradun.

Road Network with Dehradun Railhead

A fine motorable road leads from Dehradun to Mussoorie, and further up to Chakrata and Tiuni. A road also runs from Mussoorie to Kalsi. From Dehradun one road goes to Chakrata via Kalsi, another road from Saharanpur also joins Chakrata via Kalsi. The Chakrata-Tiuni road goes up to Shimla in Himachal Pradesh and joins Shimla with Mussoorie (both are the famous hill resorts developed by Britishers).

Some trekking routes join the important centres in Garhwal, i.e., Tehri to Soneprayag (via Triyuginarayan), Tehri to Kedarnath via Khatling glaciers. Some trekking routes bifurcate from these routes which go up to Bhatwari in Uttarkashi district. From Uttarkashi, a path leads to Hanuman Chatti.

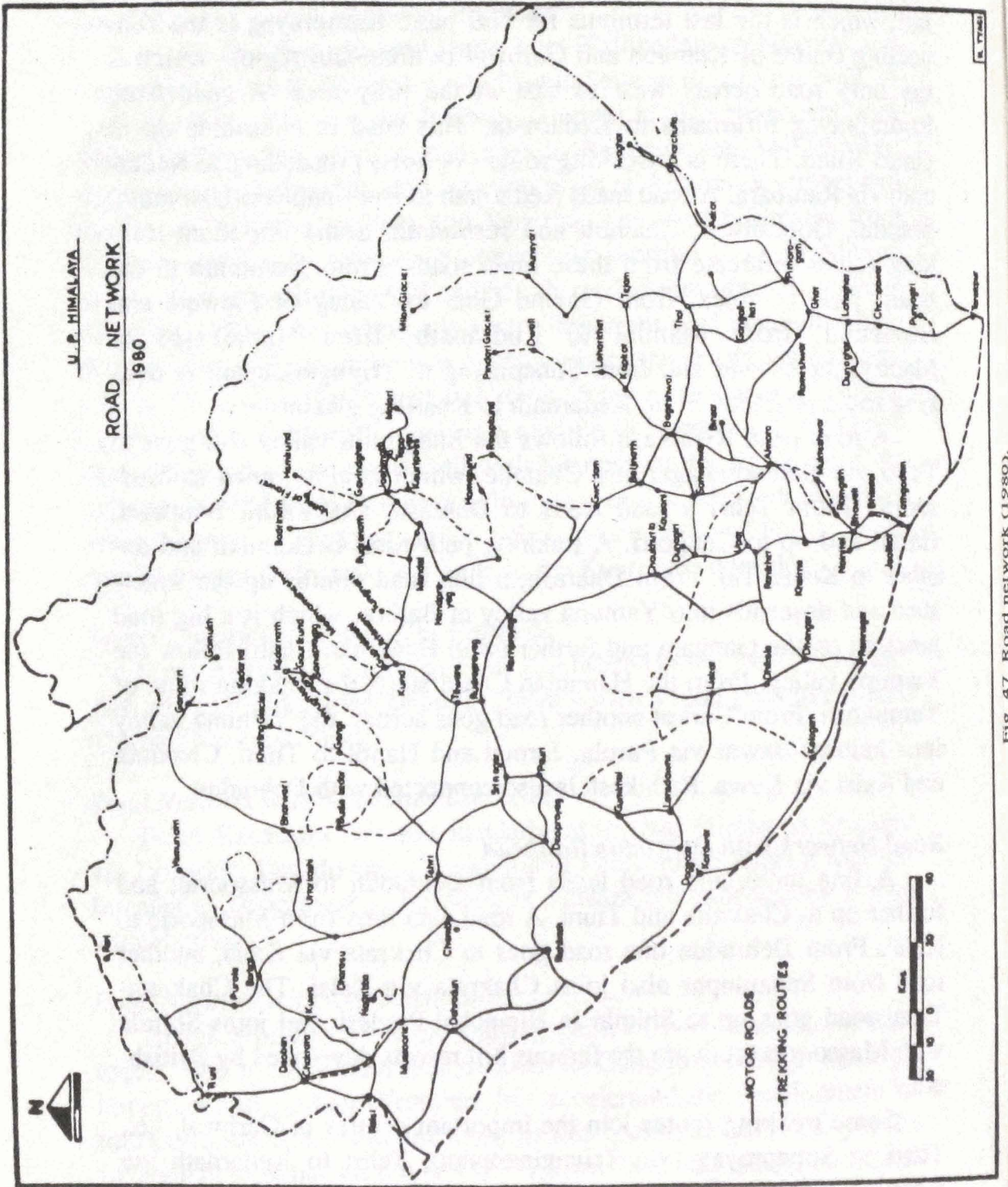


Fig. 47. Road network (1980).

Internal Road Network

In the mountain region internal road network at the resorts is according to contours and presents a zig-zag and up-down characteristics. At hill top and spur resorts, roads are in a straight way on ridge and spur and other roads are parallel to main road while in lake resorts (Nainital) roads follow the shape of the lake. Only in flat area, local transport as rickshaws or hand-pulled rickshaws are available. In trekking routes horses, ponies, candies^a and dandies^b are available. In Nainital, cycle rickshaws are available from one end to the other end of the Mall, and dandies, hand-pulled rickshaws, city buses and horses are available to go to the spots of tourists' interest. In Ranikhet and Almora, private taxis and city buses are also available. In Mussoorie, hand-pulled rickshaws, city buses and private taxis are available for all places from Mesonic Lodge bus station and Library bus stand. In Chakrata, any type of internal transport is not available. In Kedarnath and Yamunotri, tourists or pilgrims have to go by trekking routes. Those who can't go on their foot go on hired dandi, pony or by candi. Only in Badrinath buses go up to the temple.

OTHER FACILITIES

The resorts of U.P. Himalaya are also equipped with a number of other facilities, i.e., Tourist Bureaus, police information booths and vaccination posts etc. Tourist Bureaus are opened at some main resorts. There are 13 Tourist Bureaus in U.P. Himalaya. The information booths of police are located especially along the yatra routes. In tourist season the facility of cholera vaccination is made available at different places along the Yatra routes from Rishikesh and upwards by Badrinath-Kedarnath Temple Committee.

Thus, the study of civic amenities and public utility services of the resorts of U.P. Himalaya makes us clear that there is only electricity and medical facility available at nearly all the resorts barring only one or two. Other amenities are available at some selected resorts in a limited amount. These facilities are not in a satisfactory manner at any resort even in the context of the settlers of the resorts. As we consider these facilities adding the number of tourists with the settlers of the resort, we find acute shortage of the facilities.

^aCandy--Candies are a type of coolies. They carry 40 to 50 kgs goods and also men and women on their back.

^bDandi--Dandi is a 'doli' type of carriage. Four to six men carry it together.

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Chapter 10

Problems and Planning of Hill Resorts

The hill resorts of U.P. Himalaya occupy pride of place on the tourist map of India. They are indeed a tourist paradise, offering to the visitors religious shrines, aesthetic landscape, scenic beauty, a variety of spots with everlasting charm and recreation. The percentage of incoming tourists at these resorts has shown a consistent increasing trend since Independence. Due to development of tourism, these resorts have, no doubt, increased their civic amenities and public utility services (chapter 9) with the efforts of the State Government and local administration. Growth of such facilities in the resorts is the clear indication that the standard of living of the resort community has gone up considerably as a result of tourism.

Although the tourist industry is by far the backbone of the economic development of these resorts, these are failing in attracting tourists these days to their full capacity as these are experiencing a number of problems specially in peak period (related to tourism), i.e., transport, accommodation, seasonality, congestion, concentration, publicity, information, environment and ecology and others. A brief description of these problems is as follows:

Transport

The tourist industry has always been greatly assisted by the widespread development of good transport system. It makes even the remote areas readily accessible, as tourists reach the mountain peaks without effort and enjoy the magnificent scenery of the region. Transport, which makes travel possible is, therefore, an integral part of tourism. The resorts of U.P. Himalaya unfortunately have very limited

facilities of rail, air and water transport. Rishikesh is the only resort having rail terminus. No resort has the facility of air transport. Roads are the only mode of transportation in the region.

Resorts of U.P. Himalaya are not well connected by good roads with each other and with their surrounding regions. Roads run like spinal columns from south to north in the region specially following the river course of the contours and east to west following the upper edge of the ridges. East-west connection of resorts is very weak as Almora and Pauri have no direct connection. There are only two roads joining Garhwal and Kumaon, i.e., 1) Rudraprayag, Kamprayag, Gwaldam and Bageshwar in the north, and 2) Lansdowne, Dhikala, Dunagiri and Ranikhet in the south.

Hill resorts of U.P. Himalaya have not been directly linked with the resorts of the same hierarchy by road transport. Actually there are very few direct approach roads for the main resorts. Religious resorts (Yamunotri, Gangotri and Kedarnath) have no motorable road connection up to their doors and visitors are forced to go by trekking routes.

During the rainy season landslide usually disrupts traffic completely. Heavy down-pour also forbids high speed and also affects the availability of transport. At the peak season scarcity of transport facility results in abrupt hike in transportation charges. Air-conditioned, luxury buses are not available in sufficient number.

Internal traffic at hill resorts of U.P. Himalaya is mostly confined to covering distances on foot, due to undulating terrain. No resort except Nainital and Mussoorie has facilities even of hand-pulled rickshaws. Mussoorie and Nainital are the only resorts where ropeway facility is available.

Accommodation

Accommodation includes boarding and lodging. It is an important factor as large number of tourists go to a particular resort simply because that is equipped with high class standard hotels and supplementary accommodation which serve excellent food, rooms and other facilities. The resorts of U.P. Himalaya, as discussed in chapter 8, do not have sufficient number of hotel beds and supplementary accommodation to cope with the demand of tourists. During the peak seasons, this scarcity touches its peak. In most of the resorts, the ratio between bed and tourists goes up to 1:29 (Badrinath). Most of the hotels are of medium standard, costly for general tourists and unsuitable for the tourists belonging to affluent society. The accommodation

facilities at religious resorts exist in a primitive form with no sophistication. They are inadequate and do not even meet the demand of inland tourists.

During peak seasons at the time of 'tourist boom' (in the months of May and June, September and October) the accommodation charges in hotels and supplementary accommodations increase enormously. This increase sometimes goes up from two to seven times in different type of hotels.

Nainital has the capacity to accommodate only 2,247 tourists. In June 1980, 210 tourists were not in a position to get the accommodation as the total number of tourists visited was 2,457 in that month. This type of shortage is also experienced in Mussoorie where many tourists get no accommodation. Total beds available in Almora and Ranikhet are 334 and 510 respectively, whereas in 1979 in the month of June per day average of tourists remained 1,424 and 1,092 respectively. Thus, it is obvious that there is inadequate accommodation available in these resorts. Badrinath, having a capacity to accommodate 2,037 tourists a day, also experiences shortage of accommodation during the peak season. A number of pilgrims sleep in the open ground exposing themselves to the cold of the mountain weather at Badrinath. Not only hotels but supplementary accommodations too are not properly maintained. They are sub-standard, out-dated, ill-provided, dingy and dirty.

Seasonality

By seasonality we mean that tourists visit only for a limited period in a year resulting in uneconomical tourists affair.¹ It is the most serious problem of the resorts of U.P. Himalaya as they have a short season of tourism, often as little as six months especially the resorts of religious zone in northern part. Resorts situated in recreational zone of Himalaya attract tourists throughout the year but their number in winter months (depression period) goes down.

The effect of seasonality results into following disadvantages:

- 1) In the peak season acute shortage of accommodation forces many tourists not to visit these resorts.
- 2) Due to short span of the season, the tourist industry tries to encash maximum in the limited time.
- 3) Prices become often higher than expected.
- 4) It is uneconomical that facilities operated for tourists are very much underused for a greater part of the year and employment created

during peak period does not last the whole year. In most of the cases people do not consider it attractive to invest money in transport or accommodation due to seasonality.

Seasonality is most marked where the tourist industry is dependent upon holiday rather than business related travel.² The tourism of U.P. Himalaya, being dependent mainly on holiday travel, is significantly affected by seasonality.

Congestion

The tourists industry of U.P. Himalaya faces the problem of congestion (great overcrowding) in the peak season, because there are too many tourists to be accommodated and transported.

Congestion becomes the usual phenomenon of resorts during peak seasons. The floating population of tourists inundates the resorts creating a problem of seasonality. Malli Tal and Talli Tal (Nainital) have hustling-bustling crowd and 'Flat' is overcrowded. The distressed lake resort hardly maintains the hospitable mood when one to two lakh tourists make an explosive demand on scarce resource supply. The great influx of tourists having no proper accommodation causes unhygienic conditions, environmental pollution, black marketing, bargaining and unpalatable behaviour of local suppliers of amenities at the resorts especially at Nainital, Mussoorie and Badrinath. This has increased to such an extent that Nainital is losing the attraction for tourists gradually. The lake 'Naini', reputed attribute for tourism in Nainital, is converting into mud with dirty water. Mussoorie has just started to experience the problem of congestion especially related to transport facility.

Concentration

It is worth considering that there is an indispensable need to spread the tourist industry more equitably throughout the U.P. Himalaya to minimize the regional imbalances. But at present, it is predominantly concentrated in Kumaon Himalaya. Nainital and Almora complexes with immense potentialities are situated in Kumaon Himalaya. There is only the Mussoorie complex located in Garhwal Himalaya. Rest of U.P. Himalaya having same type of tourists potentialities is unacknowledged and undeveloped with no accessibility. Thus, there is an immense concentration of tourists activities particularly in certain pockets.

Publicity

Publicity plays an important role in the development of tourist industry. In foreign countries, millions of dollars and pounds are spent in tourist publicity through films, television, radio and newspapers, folders, pamphlets, brochures and coloured slides. In India and specially in U.P. Himalaya, the publicity aspect of tourism has been neglected a lot. Some folders of poor quality and ordinary cards are printed and distributed in limited number by Tourism and Information Department and some hotels of the resorts. This is a pity that resort publicity is confined to the tourists at the resorts only, and no effort is made regarding the resorts publicity outside the state or country.

Information

Information is an important aspect of tourism, as the tourist reaching at the resort firstly wants to be acquainted with the sight-seeing places, means of transportation, facilities of accommodation, shopping centres, souvenir articles, local specialities etc. Unfortunately, no proper media is there in the resorts to give such information to the tourists. No doubt, there are 13 resorts out of 33 in U.P. Himalaya equipped with information bureaus operated by U.P. Tourism Department, but they are not within an easy reach of tourists. They are playing an appreciable role, no doubt, but their capacity is limited. Rest of the resorts have no such facilities either operated by U.P. Tourism Department or other private and public organizations. There is a marked paucity of information boards, road maps and guide-maps at public places, important crossings and visiting places.

Ecology and Environment

U.P. Himalaya have always held a strange fascination for men of all walks of life--tourists, artists, writers, poets, scientists and provides unique opportunities for hikers, trekkers, mountaineers, skiers and nature lovers. The number of such visitors increased enormously during recent years due to increased facilities provided to the tourism activities in the area. This process led to the deterioration of environment and imbalance of ecology. The trekker's routes and religious trails, once clean and unpolluted, have now turned into a garbage trails, full of food and juice tins, bear bottles, chocolate papers and garbage. Recently the peak of Nanda Devi has been opened for mountaineering, simple trekking and for visiting sanctuary. As a result of influx of visitors, bushes in the sanctuary were indiscriminately cut and suddenly the situation became very alarming. Most common bushes,

above 3,048 metres are that of juniper, which are evergreen, brown and bluish, belonging to the Cypress family and these are burnt as fuel by mountaineers and trekkers, because these shrubs burn fast. This is very serious, as the vegetation destroyed above 3,048 metres, regenerates through a long and slow process. The slopes on either side of the road especially behind the shops and houses, particularly on the pilgrimage route are full of garbage. It is really a very shocking sight, sometime worse than even slums.

Others

The resorts of U.P. Himalaya have more or less the facilities of the infrastructure services, essential for modern social life and economic development--transport facilities such as roads, water supply, sewerage system, electricity and communication facilities, telephone--commonly supplied by public authorities but remarkably lack in providing 'the supra-structural services' such as access facilities for transport, e.g., air terminals, rail and coach stations, good hotels, motels and other accommodation units, standard restaurants, cafes, bars, clubs, sport recreation facilities etc. These services are mainly supplied by private companies or individuals, although sometime financed by government. Supra-structural facilities which are essential for the development of tourism have not sprung up significantly at any resort of U.P. Himalaya.

Another problem arises at resorts during tourists peak seasons regarding the behaviour of persons associated with providing facilities to tourists. They don't behave properly with the tourists, as the demand increases enormously.

In summer season, when monsoon outbursts, religious resorts usually have the chances of spreading cholera due to overcrowding and filth of pilgrims.

A much serious threat has been experienced by the settlers of the resorts of U.P. Himalaya in the form of 'cultural pollution'. The local habits and customs of the hill residents, which have been intact are changing these days very rapidly due to the influence of people from the outer and urban society. The old culture and hospitality has vanished from some resorts of U.P. Himalaya. This region, has been swarmed in large number by outsiders, who have introduced the locals to modern ways of life without taking into consideration the damage that this might cause.

Towards Planned Development

The study of hill resorts as tourists centres, civic amenities and public utility services available there and a thorough examination of problems at resorts, very clearly shows that hill resorts of U.P. Himalaya are not able to cope with the pressure exerted by tourists. The tourists trend (Fig. 42) at the hill resorts of U.P. Himalaya indicates that the problem would be more acute in future when the number of tourists will increase enormously. According to an estimate depending on previous rate of increase the number of tourists will increase more than three times at the end of the present century. Although, most of the hill resorts are experiencing problems only during peak season, some have started to face these problems throughout the year, and it is most serious that their reputation is deteriorating due to ignorance of proper management and planned development. No doubt, if this situation is not taken care of, tourism may ruin these resorts. History tells us that the pressure of tourism has degraded some cities to the point where tourists have become greater polluters of the environment than industries. Many tourist resorts, particularly in the more affluent countries, are now reaching their saturation point. Konard Smigielski drew attention to Rome where, he said "numerous coaches discharge . . . tourists from all over the world onto St. Peter's Square, the most beautiful pedestrian piazza of Europe. Cars are allowed to park on the Campidoglio in Rome--a great tourist attraction, an open air space of supreme quality which was designed for the sole use of pedestrians". And of Amsterdam he said, once a gracious city with pedestrian promenades along its canals, today it is packed with double rows of parked cars and is not worth visiting any more.³ Jean Cocteau has said of Paris, "It used to be the agora (market place) of the world. Now it has become a parking garage. . ."⁴ French architect Le Carbusier has proposed the closure of Venice to tourist only to check the influx of visitors.

Taking lessons from our past and to make tourism a beneficial phenomenon for ever to the hill resorts without harm, some rational proposal and feasible and amicable suggestions are given for proper and planned development of hill resorts especially in their regional context. The planning is proposed basically on the thorough examination of the tourists resources in the surrounding vicinity of the resorts (supply) and assessing the future influx of tourists with demands, based on surveys and forecasts, because, **planning after all, is really**

about supply and demand and the planning process requires an assessment of the supply of resources and the potential demand of these.

Objectives, Limitations and Precautions

The planning of hill resorts of U.P. Himalaya is proposed to achieve the following objectives:

1) The aesthetic landscape, charm and natural beauty must be protected in their original form unaffected from pollution.

2) Encroachment of streets, roads and open space and minimization of public utility space must be under control and at a particular stage completely reserved.

3) Development in the resorts must be according to approved plan, so nothing may go wrong regarding the resorts' reputation.

4) Creation of better prospects of tourism which is essential for the existence of the resorts and high standard of living of the residents of the resorts.

5) The resorts must be upgraded to a scale so that they may be able to conserve the resources of their environs properly for the development of their own.

6) The minimization of regional imbalance by developing tourist activities in resorts located in rural and backward areas.

7) Promotion of youth tourists activities, e.g., trekking, skiing, surfing, skating, yatching, hiking etc.

8) Promotion of domestic and foreign tourism by providing cheap and standard accommodation as hotels, youth hostels, motels etc. Hotels and recreational centres must be equipped with the arrangements of local dances, folk songs, local sovenir articles, special food preparations.

9) For the equitable distribution of development attractional attributes should be developed progressively throughout the entire area, so that tourism is spread as widely as possible, and the benefits which accrue from this industry are widely spread.

10) There must be a consideration of the future probable travel and recreational needs for the local population to ensure that tourism projects are backed by local customs, rituals and traditions.

11) Consideration of taste, interest and liking of the tourists according to their age group, because tourists desire new experiences, different environments, new thrills and different faces.

12) Physical environment of the region both natural and man made is a major factor in attracting tourists and a considerable care

has to be given not to upset the favourable environmental qualities, i.e., preservation of the ecology and environment.

Planning Adopted Previously

Geographically isolated and economically neglected the U.P. Himalaya has been a laggard region that has suffered the worst neglect of planners and policy makers.⁵ In the year 1974, the 'Tourism Development Corporation' was set up in Uttar Pradesh to look after the tourism activities and boost up tourist industry in the State. The Tourism Development Corporation constructed several tourist bungalows and handed over to the Kumaon and Garhwal Development Corporation for their management. The tourism wings of the Garhwal and Kumaon Development Corporation have also made elaborate arrangements of conducted tours to various tourist spots in the hills in close cooperation with U.P. Government Tourist Bureaus, which are proving beneficial to the tourists.

Only a few years ago useful work was completed by the U.S. National Tourism Review Commission.⁶ They recommended particularly about the use of natural areas of the park system and others for recreational purpose. Tourism promotion and development operated by the U.P. State Tourism Development Corporation, (U.P.S.T.D.C.); Garhwal Tourism Development Corporation (G.T.D.C.); Kumaon Tourism Development Corporation (K.T.D.C.) and U.P. Hill Development Board has been totally related to accommodation. They never beckoned towards recreational resources and effective planning needs. The working group of Hill Tourism (Lucknow, 1973) also could not touch some of the vital destination points. Even fifth five year plan efforts about tourism (hill region, 1974) could not be concrete in respect of planning, touching only some superficial and haphazard exercises.

Besides these organizations, the Town and Country Planning of Uttar Pradesh have conducted detailed surveys of present landscape and landuse of Kausani,⁷ Gopeshwar⁸ and Badrinath⁹ and presented a comprehensive physical plan for future. Some researchers have also tried to give some proposals about the planning of a particular resort area. Dr. T.V. Singh's Badrinath: Case Study in Himalayan Pilgrimage;¹⁰ Opening Garhwal for Tourism: Research Based Planned Development¹¹ and Tourism & Tourist in U.P.,¹² Jagdish Kaur's, Re-evaluating Nainital Tourist Capacity for Diffusion of Planned Tourism Activities in the Kumaon Lake Basins.¹³ R.L. Singh & Rana, P.B. Singh's, Regional Development Planning of Garhwal Region: Spatial Approach,¹⁴

V.K. Asthana's, Landforms and Settlement in Almora and Its Environs,¹⁵ S.C. Karakwal's, Landforms and Settlements in Nainital and Its Environs.¹⁶ C.B. Singh's, Uttar Pradesh ki Paryatan Kendron ka Bhoogolik Adhayan¹⁷ are worth mentioning.

It is quite evident that no attempt has been made till now about the planning of the hill resorts of U.P. Himalaya either by any organization or by individual.

Planning of Hill Resorts

Before advancing some proposals for planning of the hill resorts, some suggestions for improvement have been formulated to overcome or minimize the existing problems of the region.

1) Planning for Transportation

Transport planning is the most essential in order to bring the tourists to the U.P. hills from all over the country. It is expected that transport by cars and buses will increase manifold in near future. If the wayside amenities are provided at every fifty to sixty kms along the highways, they automatically will encourage the tendency to travel comfortably. Such, wayside amenities with standard restaurants can be built-up by the Tourist Department and let out to persons who can give guarantee to maintain the standard of service.

Improved and intensive transport network is necessary for the development of tourism in any region. Roads interconnecting the main roads and linking the resorts with the interior of the surrounding region make another incentive for the development. In U.P. Himalaya, the important centres should be interconnected horizontally and vertically. Roads running north-south along the river valleys should be connected by east-west running roads. The foothills road should be extended up to Kashmir.

In the religious resorts, the development of roads is also necessary to increase the number of tourists. Kedarnath, Gangotri and Yamunotri should be connected by jeepable roads. The trek of Gaumukh should also be improved so that people could reach there safely.

2) Planning for Seasonality

To reduce the problem of seasonality, it is essential to provide tourist amenities and regulate the movement of tourists by creating new tourist centres around and to improve capacity utilization by promoting all-year zones, creating new off-peak demand (winter sports, hunting etc) and by attracting other activities like conferences etc.

There is possibility of developing further winter sports centres in the mountain area. There are great natural attractions but until recently they offered few facilities.

In religious resorts like Badrinath, Kedarnath, Gangotri and Yamunotri, the problem of seasonality cannot be reduced due to their climatic conditions. These resorts are located along the greater Himalayan ranges which are snow covered in most part of the year. But, where beautiful slopes are available and which are covered with snow, skiing should be developed and attempts should be made to establish them as regular ski resorts.

3) Planning for Accommodation

The first thing necessary to develop tourism in U.P. hills is to create a fund to finance the development of accommodation facilities and restaurants. The government should help by offering low interest loan to investors prepared to build new hotels and to hoteliers wishing to expand and modernise their properties. Loans may also be given to the existing hotels and restaurants to improve present facilities. The policy of U.P. Government in declaring tourism as an industry requires rapid implementation within a short period. In planning, for the construction of accommodation at tourist centres attention should also be given to construction of youth hostels, students dormitories and holiday homes for children and workers, so that these sections of the visitors could enjoy holidays at cheap rates. Similarly, hostels should be opened for more and more low income groups.

A hotel and catering school at Nainital or Mussoorie should be established to improve the standard of hotel staff. The construction of the hotels of ordinary standard, providing lodging and fooding on reasonable rates must be given priority to attract the domestic tourists in great number. Some high standard hotels at reputed resorts must be constructed to fulfil the demand of the tourists of affluent society.

Preservation of Ecology and Environment

The vast size of U.P. Himalaya and the number of tourists, trekkers and mountaineers visiting it is not really that large as to pose any serious damage to its ecology. The corrective measure already taken and the concern that has already been aroused should make us vigilant for the future. The sub-committee on ecology formed in a meeting of the Directors of Tourism of all State Governments in Bombay in Sept. 1975 also concluded in a meeting held in February 1977 that the increasing number of tourists need not necessarily spoil the ecology of

the Himalayan area only if the flow of trekkers and mountaineers and the infrastructural facilities can be controlled properly. Tourism to the hill areas is very important for the economic prosperity of local people which in turn could enable them to conserve and preserve the rich wealth of flora and fauna with which nature had endowed them. 'Ecological Guidelines for Tourism in Hill Areas' and 'Do's and Donts' for mountaineers and trekkers, are full of instructions as to how to preserve the greenery of the camping sites and flora and fauna of the area. Preservation of ecology and environment can be maintained by announcing a very heavy fine for any offenders. Setting-up a chain of mountain huts on popular routes at certain distances may help in minimizing the degradation of these routes. Use of wood for cooking and heating would be much less in a mountain hut as compared to the open air camps. These huts not only serve the cause of ecology but also enable more people to use these routes without having to carry tents which are quite expensive and beyond the reach of many. To preserve the environment and ecology it is high time to learn a lesson from certain advanced mountain countries and adopt useful examples to save the U.P. Himalaya from any further degradation. New sources of energy for the mountain people such as hydro-power and latest fuel forestry must be introduced to avoid the threat to forests. Although the influx of millions of tourists in the hills is inevitable, we can avoid the adverse impact by the proper environmental control and planning as following.

Proposals for Planning

1) For the proper development of the resorts, it is necessary that their planning must be executed in respect to their complexes, so that their individual and regional development may be propagated side by side.

2) To minimize the congestion and concentration at particular resorts some satellite tourist spot development should be encouraged.

3) The areas which have tourist potential but not developed, must be suggested and developed into advanced tourist resorts.

4) The areas which have tourist resources but no accessibility must be attached with proper transport system with nearby resorts.

5) Resorts attracting large number of tourists must be given priority in their maintenance. They must be developed in future strictly following the plans already prepared after an intensive survey and approved by the government.

1) Planning for Mussoorie Complex

The Mussoorie complex is situated in the south-western portion of the region and ranks first in respect of the number of incoming tourists. It consists of Mussoorie, Chakrata, Chamba and Dehradun.

The sublime centre of the complex, i.e., Mussoorie must be given first priority in planning aspect. It needs a master plan for its future development, fully prepared according to the number, nature and composition of the tourists of the complex. To minimize the pressure of tourists at Mussoorie, the Dak Pather, Kempty Fall and Chakrata may be developed as satellite tourist resorts. Chakrata situated in the extreme west in the Mussoorie complex may be developed as hill resort. Kempty Fall, 15 kms from Mussoorie enroute to Chakrata, is a beautiful place. It can be developed as a major tourist centre to minimize the congestion of Mussoorie. Dak Pathar, a dam site with a reservoir has much potentiality for the development as a satellite tourist centre of this complex. Chamba may be developed as a new resort. It has great potentialities for tourist development. A panoramic view of the Greater Himalayan ranges from here elevates its charm as a resort. The completion of Tehri Dam shall increase its tourism potential a lot. The resort is easily approachable from Rishikesh, Mussoorie and Tehri and may be given priority for the development as a new resort.

A number of picnic spots may be developed in surrounding forested area which is directly connected to the resorts by motorable roads.

2) Planning for Nainital Complex

Nainital complex may also be termed as 'lake-basin complex'. The basin is spread in a length of 25 kms incorporating Sattal, Bhimtal and Naukuchiyatal. It is smallest complex among all the complexes of U.P. Himalaya as regards their area. The main centres of this complex besides Nainital are Bhowali, Ramgarh, Mukteshwar and Jeolikot.

Nainital is the sublime centre of the complex and faces huge problems regarding the tourism. To minimize the congestion and crowd of the sublime centre, Bhimtal, Sattal and Naukuchiyatal may be developed as complementary or counter resorts. To develop the north-west region of the Nainital complex, Mukteshwar may be developed as a modern resort. To increase the importance of Mukteshwar, it can be linked with Almora by motorable road.

In the Nainital complex Sattal, Bhimtal and Naukuchiyatal have

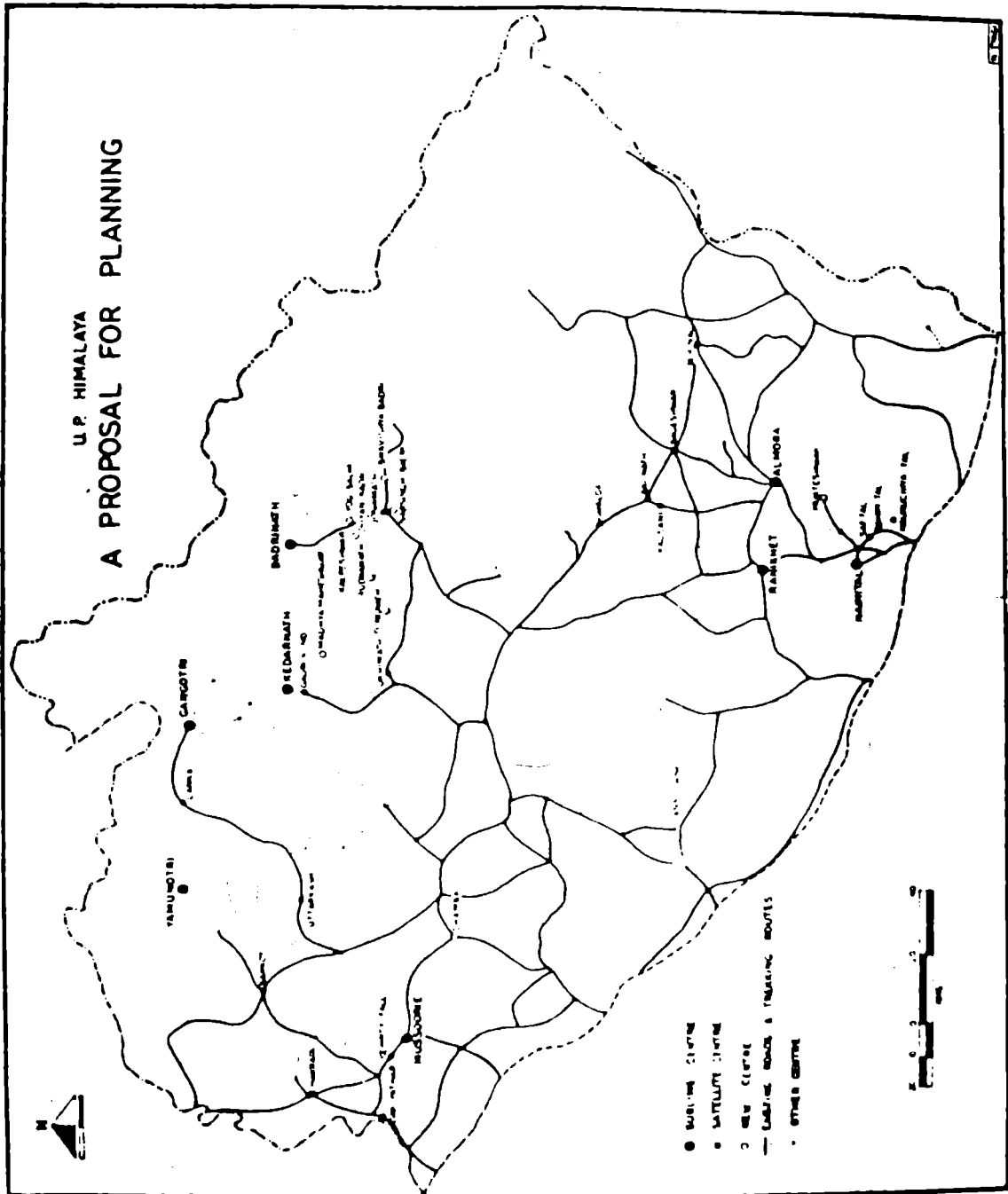


Fig. 48. A proposal for planning for U.P. Himalaya.

Table 10.1. Tentative diffusion of tourist activity in lake basin

<i>Centres</i>	<i>Types of proposed activity</i>	<i>Class of tourists</i>	<i>Infrastructure input</i>
Sattal	Trekking, Forest-rambling, Perception, Swimming and Angling	Students, Middle income group, Nainital escapers	Cottages and Carvans, Huts, Low cost tea-houses and Restaurants, also link road.
Bhimtal	Water sports, Boating, Surfing Swimming, Orchards viewing	Foreign visitors and high income tourists	1 or 2 Star Hotel, Tea stall and Restaurants, Recreation clubs and Social entertainment centres.
Naukuchiyatal	Bird watching Boating, Angling and duck shooting, Walking for pleasure	Sobre tourists old group, both foreign and domestic	Tourist Bungalow, Good Indian type accommodation, Boating centre.

immense potentialities for the development of tourism. The Hill Development Corporation and Department of Tourism Development must take initiative to develop these resorts as a complementary resort to Nainital resort. Tourist attracting attributes, e.g., mountain viewing, canoing, yatching, pony riding, boating, walking, promenading, swimming and trekking, and common recreation to Nainital visitors must be developed in these tals. T.V. Singh in his study of Nainital observes, "Obsessed by multitudes, heterogenously composed of different life styles, behavioural patterns, the genuine Nainital tourist wants to escape (from Nainital). Somewhere to a sequestered resort to seek his peace for which he left the noisy enervating plains". The probable activities, class of tourists with first dose of infrastructural input are suggested in the Table 10.1. This type of development will be useful for the diffusion of concentration of overcrowding from Nainital.

3) Planning for Almora Complex

Almora complex is located just north to the Nainital complex in Kumaon Himalaya. It comprises of Almora, Ranikhet, and Kausani. The area of this complex is more than Nainital and Mussoorie com-

plex but less than Pilgrim complex. There are two main centres in the complex, i.e., Almora and Ranikhet. In this complex Kausani may be given due attention for quick development to attract the tourists in great number and minimize the pressure on Almora, Ranikhet and Nainital. Kausani is, no doubt, an excellent place for scenic beauty and offers a commanding snow view of silvery high peaks of Himalaya. It has beautiful surrounding of forests like pine, deodar and oaks. A number of sites can be developed as picnic spots in these forests. A number of peaks in the vicinity are providing trekking routes from Kausani.

Bageshwar, Baijnath, Gwaldam and Berinag may be developed as satellite centres. Road leading to Pindari glacier is metalled only up to Kapkot, from where 60 kms is to be travelled by trekking route. The metalled road may be extended up to Dhakuri.

4) Planning for Pilgrim Complex

Pilgrim complex is the largest complex starting from Rishikesh in the south to Yamunotri in the north-west, Gangotri and Gomukh in the north and Badrinath, Hemkund and Joshimath in the north-east. This complex is spread in the valley of river Ganga. Resorts of northern portion are badly affected with seasonality. For six months of the year these resorts have no population and for other six months they have acute problem of congestion. Keeping this in view, Joshimath, Gauri Kund, Ukhimath and Lanka may be developed as satellite resorts to give the relief to Badrinath, Kedarnath, Gangotri and Yamunotri. Five Badris, five Kedars and Nanda Devi sanctuary may be given due attention for their development as new centres. Five Prayagas may also be developed to minimize the imbalance of tourism. The world famous Valley of Flowers and Hemkund, a reputed religious place of Sikhs, may be directly linked by motorable road with Joshimath to increase the vitality and potentiality of the resorts of the region.

These centres must be connected with the centres of other complexes by shortest motorable roads.

5) Planning for Other Resorts

Besides these complexes, there is only a small portion where a small number of resorts are located in sprinkled way. Uttarkashi and Barkot are in the western portion between the Pilgrim and the Mussoorie complexes. Lansdowne and Pauri in the south-middle portion between Srinagar and Kotdwar, Uttarkashi and Barkot are enroute

resorts and may be incorporated in religious resorts as they have religious importance of their own. A new site of attraction may be developed near cantonment in Lansdowne to attract tourists in this region from Corbett National Park (Dhikala), from which it is directly connected by a metalled road. Lansdowne may be connected with Kotdwara by a rail line for its vitality.

The economic development of U.P. Himalaya is directly related to tourism and tourism is dependent on the hill resorts. Therefore, the study and planning of the hill resorts of U.P. Himalaya has its ever-increasing importance for the economic development. The hill resorts have attracted a considerable number of tourists no doubt, but they have failed to develop tourist industry to a considerable amount due to negligence of the government. The hill resorts can very easily accommodate their residents in tourist industry. Like-wise, the hill resorts are responsible for the tourism development and tourism development is responsible for the prosperity of the resorts. The hill resort of U.P. Himalaya may be developed as important tourist centres according to the suggested plan for their development and development of the surrounding region without facing any difficulty and possibility of deterioration of their reputation and credit in future. The resorts of U.P. Himalaya will no doubt, thus, blossom to their full extent and capacity and earn their fame and name in every nook and corner not only of the country but also of the world to attract domestic and foreign tourists in greater numbers.

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Chapter 11

Summary and Conclusions

U.P. Himalaya (from 29°5' N to 31°25' N latitude and 71°45' E to 81°00' E longitude) looks like the crown of Uttar Pradesh and stands guard to the Upper Ganga plain with its own matchless grace and charm with glistening lakes and beautiful scenery. Many geological surveys have been made in various parts of the Himalaya, but even now, geologically much of the area is yet to be explored. The major geological formations in this region are related to the age since pre-Cambrian to Cretaceous. The region has been divided into three broad geological zones, e.g., 1) Higher Himalayan zone, 2) Lower Himalayan zone, and 3) Outer and sub-Himalayan zone, separating each other by major faults.

The ranges of Himalaya in this region run almost from north-west to south-east direction. The lakes follow the general trend of the ranges and their basins extend 25 kms in length and 4 kms in width. Important lakes (tals) are Nainital, Bhimtal, Naukuchiyatal, Sattal, Khurpatal, Sukhatal and Sariatal. The main rivers of northern India, viz, the Ganga, the Yamuna and the Kali, rise from this region. Apart from these river systems the Ram Ganga, the Kosi and the Gola rivers drain the south-eastern portion of the region, rising from the peaks of the Lower Himalaya.

The present Himalayan landforms of the region have been shaped by pleistocene glaciers. Several ice-sculptures of past glaciers are clearly traceable among the landforms of the Himalaya. Milam, Pindari, Kamet and Gangotri are the main glaciers of this region.

The U.P. Himalaya enjoys sub-tropical temperate to very cold type of climate due to surface elevation. Generally, valleys receive excessive heat, whereas higher ranges and mountains possess eternal frost.

In U.P. Himalaya, every elevation has its own typical mean annual temperature during the year. The humidity in general remains greater in this region as compared to the plains due to forest-clad slopes, valleys, lakes and other water-logged surfaces. Physiography shows a definite control over the distribution of rainfall. The quantity of rain depends on the situation of the place of windward and leeward sides. The rainy season always comes sooner on the hills than plains. The lower limit of the snow in winter is usually about 2,000 metres in Kumaon. Fog is the common phenomenon during the monsoon months due to the western disturbances. In winter season valleys avail morning fog frequently. The climate of the region has been ideal for Britishers and now it can be treated as an asset for the development of physical environment-oriented tourist resorts.

The Himalaya contains a natural cover of vegetation ranging from sub-tropical forest to sub-arctic lichens. The Himalaya have vegetation richer and more varied than of any other part of the country. The sub-Himalayan tract of this region is covered with forest of sub-tropical zone, where 'sal' trees are among the most prominent species of this region. Temperate zone contains broad-leaved evergreen trees mixed with conifers, especially 'chir', sub-alpine zone is full of oak, cypress and deodar trees. The alpine zone has trees and grasslands. Birch grows up to the treeline (4,200 metres) and temperate grasslands up to snowline. There are a number of varieties of medicinal shrubs and flowers available in higher Himalaya.

The U.P. Himalaya (Uttarakhand) has a number of shrines, temples, rivers, lakes and mountains of sacred and mythological importance. In this region, every rock and rivulet is dedicated to some diety or saint and has appropriate traditional legend attached to it. During ancient period the 'Aryans' declared this region sacred and finally the 'abode of gods'. The region is dotted all over with old temples and famous shrines. Shankracharya's efforts in 8th Century A.D. further strengthened the ties between this region and the south.

During the medieval period a considerable number of Rajput princes penetrated into the valleys of U.P. Himalaya, due to the confusion created by the Muslim invaders in the plains, and set up a number of small principalities there. Many places have been named following the native places from where they (Rajput princes) migrated, e.g., Ajmer Patti, Udaipur Patti etc.

The Indian hill resorts, as a high altitude settlements were originally established by the Britishers of India. The Britishers in mid-19th

century felt that the cool climate at the hill resorts was an answer to their problem of difficult adjustment with the tropical life and they regarded going to the hills for several months of the year as necessary adjustment to their working in India.

Despite British origin, the British hill resorts phenomenon has become a part of Indian tradition and they have flourished even after the departure of its creators. The recent changes in the character of hill resorts are due to the increasing number of short-time visitors and larger size of groups going to hills.

As a cultural artifact, hill resorts make a bold appearance on the dominantly physical landscape of the hilly and mountainous regions. They are located up to 31° N latitude in U.P. Himalaya. Altitude, terrain, micro-climate, scenic beauty, accessibility, personal interest of founders, political constraints, strategic importance, plural societies and reputation of a locality have also been identified as chief determinants of the locational and distributional pattern of the hill resorts in this region. Religion and technology available may be listed as additional factors.

There is no regularity in the distributional pattern of the hill resorts in U.P. Himalaya. The southern portion consists of more resorts, nearly 63 per cent, in comparison to northern portion. The resorts of U.P. Himalaya consist of their specific site, period of prominence and reputation. On the basis of physical attributes of their sites, resorts have been classified into four categories, i.e., Valley, Spur, Hill Top and Gap resorts. Out of the total, 54.5% resorts are located in valleys, 30.3% on spurs and 9.1% on hill tops. Remaining 6.1% pertain to gap resorts. Depending on the basis of period of prominence, the resorts of U.P. Himalaya have been classified into three categories, i.e., pre-British (60.6%), British (36.4%) and post-Independence (3%). According to reputation, the hill resorts are grouped into five categories, i.e., religious (42.5%), administrative (15.1%), health and tourism (24.2%), defence (9.1%) and trade (9.1%).

The concentration of the resorts is no doubt, higher in the southern portion of the region. In U.P. Himalaya, the resorts are located at greater distance from each other and hence the distribution is very near to random pattern. The derived *R* value for the region comes to 1.03, for the Kumaon Himalaya 0.66 and for the Garhwal 1.12. It shows that spacing among resorts in Garhwal is dispersed than in Kumaon.

The hill resorts of U.P. Himalaya tend to display certain common characteristics of morphology. Centripetal and centrifugal forces, road

pattern, human creative instincts, governmental control are the main factors affecting the morphology of the resorts. The resorts have been classified into five categories for their analysis according to their period of commencement and influence, i.e., 1) ancient and medieval resorts, 2) British resorts, 3) ancient and medieval resorts influenced by Britishers, 4) post-Independence resorts, and 5) British resorts after independence.

The ancient and medieval resorts are developed around shrines, forts or palaces of kings. The streets of these resorts are irregular, narrow and crooked, following the shape of nucleus and terrain. The business area is characterized by very clumsy and compact development along the main roadsides. Adjacent to the business area, there are generally residential buildings. The morphological characteristics of the British resorts present a contrast to the pattern of ancient and medieval resorts. The tree-shaded roads are broad, metalled and paved. The buildings are well set. The British resorts consist of a main road, i.e., 'Mall', along which there are shops catering for the demands of Britishers and it was also used for their recreational purpose. The cantonment resorts were especially developed for British military purposes. The British resorts serve as a health sanatorium and summer resorts due to healthier climatic conditions. There has been a noticeable contrast between residential and business areas mainly used by Britishers and Indians respectively in British resorts. High class residences (relating to Britishers) were concentrated on higher slopes and that of Indians on middle and lower slopes. The business area of Indians was set apart and was much congested.

The ancient resorts are mostly religious resorts and are not influenced by Britishers but, some medieval resorts which have strategic positions and healthy climate have been influenced and developed by Britishers too. These resorts consist of the mixture of indigenous and Anglicised type of morphology.

During post-Independence period, resorts developed in a planned manner. They are characterized by specialized functional uses, such as business area, residential area, educational area etc. The streets and road patterns of such resorts are planned.

The external shape of some resorts of U.P. Himalaya is mainly affected by physical features, i.e., sites. No doubt, almost all the resorts look to be developed in a linear form but they possess significant difference in their external layout, building heights, skyline-views, segregation of people by socio-economic status and circulation pattern.

In the demographic characteristics, the growth of population, distribution of population and population composition, density of population, age composition, dependency-ratio, sex-ratio, religion and literacy of the resorts of U.P. Himalaya have been analysed. The percentage increment among resorts has been registered from 31 per cent in Lansdowne to 413 per cent in Rishikesh from 1901 to 1971. Rishikesh, Pauri, Chakrata, Ranikhet and Srinagar have more increase in percentage than the State, i.e., 150 while, Rishikesh, Pauri and Chakrata have more increase than the country, i.e., 288.

The population concentration in resorts of the southern region is higher than in northern region, due to nearness to the plain, satisfactory transport connections and pleasant climate. Resorts of higher altitude, located in the north are comparatively smaller in size. There seems to be a co-relation between the size of resorts and their altitude and northern location.

There is great difference in the density of population of the resorts of U.P. Himalaya. Resorts like Joshimath has the density of 49 persons per sq. km, while Bageshwar has 3,556 persons. The age structure of hill resorts is very distorted because in the working age group, most of the young men of these resorts go towards plains in search of their bread and butter.

The highest dependency ratio on per hundred workers is (293) in Jeolikot and lowest in cantonment resort Chakrata, i.e., 33. The sex-ratio in the resorts of U.P. Himalaya is highly unbalanced ranging from 143 (Chakrata) to 850 (Bageshwar), except Jeolikot with 1,784 which is an exception. Religious institution of U.P. Himalaya is a mosaic of six major religious communities and persuasions. Largest religious community is that of Hindus, which are 85 to 99 per cent to the total population of the resorts. Next to Hindus come Muslims. Other communities in succession are Christians, Sikhs, Jains and Buddhists.

Level of literacy, as a mark of social progress, is poor in India, which is also true in the case of U.P. Himalaya. The literacy among resorts ranges from 34% (Gwaldam) to 72% (Almora) to the total population of the resorts.

The hill resorts, having their reputation as tourist resorts, as health resort or as religious resorts etc perform many functions. They are most commonly multifunctional rather than unifunctional. The resorts of U.P. Himalaya have been classified according to their specialization calculating the F.S.I. and F.C.I. values into seven categories, i.e.,

primary, manufacturing, construction, commerce and trade, transport, services and diversified resorts. Out of the total hill resorts in U.P. Himalaya, 40.74% stand above the regional average in primary function while 44.4% resorts in manufacturing. Ten resorts stand above the regional average (48.8%) in construction activities and 44.4% resorts in trade and commerce. In services 48.14% resorts lie above the functional mean.

In the functional structure of the resorts of the U.P. Himalaya 'services' has been by far the most important function, as the percentage of workers engaged in this function is not less than 14 at any hill resort. 27 per cent hill resorts have more than 75 per cent workers engaged in this function while 48 per cent hill resorts engage more than 50 per cent workers in this category. Commercial activities are the second most important function of hill resorts as 13 hill resorts engage workers in this function between 10 to 30 per cent of the total working population.

Centres having their specialization in more than one function are classified as diversified resorts. They are further sub-divided into four categories according to the frequency of qualifying specialization, i.e., 1) bi-functional, 2) tri-functional, 3) tetra-functional, and 4) more than tetra-functional. For further analysis regarding the ranking of the resorts, scoring method has been adopted according to their specialization hierarchy.

U.P. Himalaya equipped with prominent shrines, tourist spots of climate and scenic beauty and a wide range of variegated flora and fauna created an immense attraction to pilgrims, tourists, trekkers and mountaineers. In this region pilgrimage and tourism both have been entwined since ancient period. The visit to four holy shrines of U.P. Himalaya (Badrinath, Kedarnath, Gangotri and Yamunotri) serve double purpose--a pilgrimage coupled with a sight-seeing trip.

The British resorts constitute a perfect recreation belt (secular tourism) in the Lesser Himalayan region experiencing tourist boom in summer and autumn with definite tourist peaks. The hill resorts of U.P. Himalaya have been grouped into four complexes from tourism view point, i.e., the Nainital complex, the Mussoorie complex, the Almora complex and the Pilgrim complex. Some resorts of U.P. Himalaya are uncompassable by tourist complexes especially Pauri, Lansdowne, Uttarkashi and Barkot.

The resorts of U.P. Himalaya show increasing trend in number of tourists. Tourist age-group as well as sex-ratio varies from resort to

resort. The Pilgrim resorts attract tourists of more than 45 years while the recreational resorts those of below 30 years. In the Pilgrim resorts, females are more in number than males while in the recreational resorts, the ratio between male and female is equal or males are more than females. Tourist cycle experiences 'peak' as well as 'depression' periods in summer, autumn and winter respectively. The catchment area belongs, no doubt, to the whole country but northern India especially Delhi and surrounding regions come in its direct influence. Tourists' stay period is very short from one to six days, especially for honeymooners. Accommodation facility is satisfactory except in peak periods, when there is an acute shortage. The Almora complex consists of Almora, Ranikhet and Kausani with Pindari glacier while the Mussoorie complex consists of Mussoorie, Chakrata and Dehradun. The Nainital complex is full of lakes and tals. In the Pilgrim complex resorts are distributed in a scattered way as Prayagas, Badris and Kedars starting from Rishikesh in the south to Yamunotri, Gangotri, Kedarnath and Badrinath in the north.

Water supply is available in almost all the hill resorts of U.P. Himalaya. Here, the water supply is made by pumping of water to high altitude, and where the water source is available at a considerable height, it is collected and supplied to resorts by gravitation. The water supply is provided at most of the resorts by gravitational system since olden days and pumping water system has been introduced recently at some resorts.

Only 15 per cent resorts have the sewerage and drainage disposal facilities. In most of the resorts night soil is collected and burnt, while at some resorts it is used for compost. The electricity, post, telegraph and telephone facilities are available in all the resorts of U.P. Himalaya. Only Mussoorie has television tower that provides the television facility to most of the surrounding regions.

There is lack of educational facilities in resorts of U.P. Himalaya. There are 69 primary schools, 32 junior high schools, 34 intermediate colleges, 11 degree colleges, 6 technical institutions and 2 universities in the resorts of U.P. Himalaya.

Medical facilities are also available in almost all the resorts of U.P. Himalaya. T.B. sanatoria and T.B. clinics are also located in some of the resorts due to their healthy climate. Total beds available in the hospitals of U.P. Himalaya are 2,026.

The quality of transport network in U.P. Himalaya is the key factor determining the accessibility of individual resorts and tourist

spots. U.P. Himalaya has poorly developed means of transportation and communication. Roads are the only means of transportation in this region. They are connected to most of the railheads like--1) with Tanakpur railhead, 2) with Kathgodam railhead, 3) with Ramnagar railhead, 4) with Kotdwara railhead, 5) with Rishikesh railhead, and 6) with Dehradun railhead.

The internal road network at the resorts is according to contours and presents a zig-zag and up-down characteristics. Rickshaws, hand-pulled rickshaws, horses, ponies, candies and dandies are available as internal means of transportation. Facilities of Tourist Bureaus, police information booths, vaccination posts etc are also provided at the resorts and along the trails.

The hill resorts of U.P. Himalaya occupy important place on tourist map of India. Although, the tourist industry is the backbone for the economic development of these resorts, they are failing to attract tourists these days to their full capacity as they are experiencing a number of problems specially in peak period related to tourism, i.e., transport, accommodation, seasonality, congestion, concentration, publicity, information and others. The tourist trend at the hill resorts of U.P. Himalaya indicates that the problems would be more acute in future, as the number of tourists will increase enormously due to increased income and leisure, paid holidays and awareness towards recreational appetite.

Taking the lessons from our past and to make the tourism a beneficial phenomenon for ever, some rational proposals and suggestions are given for proper and planned development of the hill resorts, especially in their regional context. A comprehensive planning is, therefore, proposed especially after a thorough examination of the tourist resorts resources in the surrounding vicinity and assessing the future influx of tourists with their demands based on surveys.

For the proper development of the resorts, the planning has been suggested on the complex basis. All the resorts are kept under particular complexes, i.e., the Nainital complex, the Mussoorie complex, the Almora complex, the Pilgrim complex and others, so that their individual as well as regional development may be propagated side by side. Keeping in view the problems faced by the complexes, the following remedial steps are considered for proper planning of these resorts.

- 1) The sublime centre of the complexes must be given priority for their studies and their Master Plans must be prepared for future

- development after thorough examination of the prospects, problems and incoming tourists with their stay,
- 2) Satellite centres must be selected and developed as tourist attracting spots as counter magnets especially to minimize the pressure of tourists at the sublime centres, and
 - 3) The resorts situated at the periphery or in remote areas of the complexes or out of the complexes must be developed by providing a number of amenities and facilities to develop the resort and the surrounding region so that the disparities of the development in the region may be minimized. The areas which have tourism potential but not yet developed must be suggested to be equipped properly to attract the tourists.

On the basis of the suggested scheme for the planning, Nainital, Mussoorie, Ranikhet, Badrinath and Kedarnath need their Master Plans. In the Nainital complex--Bhimtal, Sattal and Naukuchiyatal may be developed as satellite or complementary resorts. To develop the north-west region of the Nainital complex, Mukteshwar may be developed as modern resort. Chakrata, Kempty fall and Dak Pathar may be developed as counter magnets of Mussoorie in the Mussoorie complex, whereas, Chamba may be developed as a new resort. In the Almora complex, Kausani may be developed as complementary and Bageshwar, Baijnath, Gwaldam and Berinag as satellite centres. In the Pilgrim complex, Badrinath, Kedarnath, Gangotri and Yamunotri are the sublime centres while Joshimath, Gauri Kund, Ukhimath and Lanka may be developed as satellite resorts. Five Badris and five Kedars need to be developed as new centres for the regional development. The areas which do not fall in any tourists complex have certain cantonment sites where such developments may take place. Lansdowne attracts many tourists in this region as it is directly connected with the Corbett National Park (Dhikala).

Suggested planning will no doubt create extended opportunities for increasing incoming tourists and give the resorts relief from congestion, environmental pollution, ecological imbalances and further deterioration in future. These resorts thus, shall be healthier, wealthier, aesthetically protected and ever-blooming advanced tourists centres of the country attracting tourists even from abroad.

Appendix Tables

Appendix Table 1. Mean monthly temperature of some resorts of U.P. Himalaya

<i>Places</i>	<i>Elevation in (mtr)</i>	<i>MONTHS</i>											
		<i>Jan.</i>	<i>Feb.</i>	<i>Mar.</i>	<i>Apr.</i>	<i>May</i>	<i>June</i>	<i>July</i>	<i>Aug.</i>	<i>Sep.</i>	<i>Oct.</i>	<i>Nov.</i>	<i>Dec.</i>
Mukteshwar	2,286	4.2	6.4	10.25	17	19	17.89	16.7	16.65	15.3	15.5	10.9	9.15
Mussoorie	2,005	4.72	6.8	11.85	17.55	19.3	19.35	17.4	17.8	16.4	15.6	11.15	9.45
Nainital	1,938	4.9	6.85	11.65	17.95	20.56	19.7	18.31	18.8	17.1	15.7	9.13	6.7
Joshimath	1,890	4.85	6.4	11.25	18.3	19.55	21.95	21.6	20.4	18.65	16.4	11.6	8.6
Uttarkashi	1,153	7.75	9.3	13.7	20.2	24.5	25.3	25.3	22.1	22.3	20.85	13.45	10.15

Source: Meteorological Department, Lucknow.

Appendix Table 2. U.P. Himalaya--Classification of resorts by their sites and related characteristics

<i>Site</i>	<i>Name of resorts</i>	<i>Original dominant function</i>	<i>Period of evolution as a prominent place</i>	<i>Present dominant function</i>
A) Valley	Badrinath	Religion	Pre-British	Religion-cum-Tourism
	Kedarnath	"	"	"
	Yamunotri	"	"	"
	Joshimath	"	"	"
	Uttarkashi	"	"	Religion-Tourism-cum-Administration
	Muni-ki-Reti	"	"	Religion-cum-Tourism
	Rudraprayag	"	"	Religion-cum-Trade
	Karnprayag	"	"	Religion
	Nandprayag	"	"	"
	Deoprayag	"	"	"
	Barkot	"	"	"
	Srinagar	"	"	Administration
	Berinag	"	"	Religion-cum-Tourism
	Bageshwar	Religion-cum-trade	"	Religion-cum-Trade
	Gangotri	Religion	"	Religion-cum-Tourism
	Nainital	Admn.	British	Tourism-cum-Health
Bhim Tal	Health	"	"	
B) Spur	Almora	Admn.	Pre-British	Admn. cum Tourism
	Ukhimath	Religion	"	Religion
	Gwaldam	Health	"	Tourism

Appendix Table 2 continued

Site	Name of resorts	Original dominant function	Period of evolution as a prominent place	Present dominant function
C) Hill Top	Bhowali	Health	British	Health
	Binsar	"	"	Health-cum-Tourism
	Kausani	"	"	"
	Mukteshwar	"	"	"
	Pauri	Admn.	"	Admn.-cum-Tourism
	Ranikhet	Defence	"	Defence-cum-Tourism
	Jeolikot	Health	"	Health-cum-Trade
	Mussoorie	Health	"	Health-cum-Tourism
	Chakrata	Defence	"	Defence
	Lansdowne	"	"	Defence-cum-Tourism
D) Gap	Gopeshwar	Admn.	Post-Independence	Admn.-cum-Tourism
	Rishikesh	Religion	Pre-British	Religion-cum-Tourism
	Gauri Kund	"	"	"

Appendix Table 3. Population of resorts of U.P. Himalaya (1981)

<i>Sl. No</i>	<i>Places</i>	<i>Population</i>
1.	India	658,141,000
2.	U.P.	110,862,000
3.	Almora	22,758
4.	Chakrata	5217
5.	Lansdowne	8106
6.	Mussoorie	18233
7.	Nainital	26093
8.	Srinagar	9171
9.	Ranikhet	18190
10.	Rishikesh	29145
11.	Bowali	3212
12.	Pauri	13607
13.	Uttarkashi	10043
14.	Deoprayag	1701
15.	Muni-ki Reti	2264
16.	Kausani	1487
17.	Mukteshwar	1366
18.	Gopeshwar	9709
19.	Joshimath	8610
20.	Karnprayag	3772
21.	Barkot	2070
22.	Bageshwar	4368
23.	Jeolikot	698

Appendix Table 4. Density of population of the resorts of U.P. Himalaya (1981)

<i>Resorts</i>	<i>Density per sq. km.</i>
Bageshwar	874
Nainital	1822
Almora	2834
Rishikesh	1121
Bhowali	2433
Lansdowne	1331
Muni-ki-Reti	1244
Srinagar	1180
Ukhimath	45
Uttarkashi	835
Kedarnath	44
Gopeshwar	646
Chakrata	3267
Kausani	3.46 Hec.
Mussoorie	270
Deoprayag	328
Barkot	414
Pauri	328
Ranikhet	836
Joshimath	721
Jeolikot	30.80 Hec.
Badrinath Pauri	823
Karnprayag	151

Appendix Table 5. Sex ratio at the resorts of U.P. Himalaya (1971, 1981)

Sl. No.	Resorts	No. of females per thousand males	
		1971	1981
1.	Jeolikot	1,784	--
2.	Bageshwar	850	714
3.	Ukhimath	808	--
4.	Pauri	788	731
5.	Bhowali	730	791
6.	Deoprayag	694	--
7.	Rishikesh	693	762
8.	Gwaldam	686	--
9.	Almora	681	824
10.	Kausani	678	1001
11.	Karnprayag	674	676
12.	Nainital	666	732
13.	Gopeshwar	647	649
14.	Barkot	596	578
15.	Uttarkashi	579	573
16.	Mussoorie	571	654
17.	Joshimath	553	573
18.	Srinagar	543	573
19.	Ranikhet	473	484
20.	Lansdowne	426	412
21.	Muni-ki-Reti	414	466
22.	Mukteshwar	402	--
23.	Chakrata	143	271
24.	Badrinath	--	540

Appendix Table 6. Religious communities in resorts of U.P. Himalaya in per cent (1981)

<i>Resorts</i>	<i>Buddhist</i>	<i>Christian</i>	<i>Hindu</i>	<i>Jain</i>	<i>Muslim</i>	<i>Sikh</i>	<i>Others</i>
Uttarkashi	.09	--	96.94	--	2.40	.57	--
Joshimath	.12	.69	96.55	.23	1.34	1.08	--
Karnprayag	--	--	98.12	--	1.30	.58	--
Gopeshwar	.10	.11	97.20	.22	2.17	.24	--
Muni-ki-Reti	--	.80	97.75	--	.53	.92	--
Deoprayag	--	--	98.06	--	.59	1.35	--
Chakrata	2.34	--	84.36	5.16	5.77	2.37	--
Rishikesh	.10	.16	94.58	1.73	.90	2.55	--
Mussoorie	7.85	8.12	70.27	3.86	5.32	4.46	.11
Pauri	.70	2.81	91.71	.08	4.63	.07	--
Srinagar	--	.15	95.91	.77	2.73	.44	--
Lansdowne	.16	.52	95.16	3.11	1.05	--	--
Bageshwar	.30	.41	92.47	--	6.52	.30	--
Ranikhet	.04	2.67	86.01	.19	8.42	2.68	--
Almora	.13	2.62	91.13	.04	5.86	.22	--
Nainital	.15	2.69	80.59	.11	9.37	7.09	--
Bhowali	--	2.30	77.02	--	9.74	10.65	--
Bhimtal	.31	--	99.86	--	.14	--	--

Appendix Table 7. Accommodation facilities at the pilgrim complex (1979)

<i>Sl. No.</i>	<i>Places</i>	<i>Hotels (beds)</i>	<i>Govt. accom. (beds)</i>	<i>Dharam- shalas</i>	<i>Others</i>	<i>Total capacity</i>
1.	Gopeshwar	70	4	74	--	148
2.	Nandprayag	--	12	--	--	12
3.	Karnprayag	26	32	100	--	158
4.	Kedarnath	60	24	250	--	334
5.	Srinagar	35	104	685	--	824
6.	Rishikesh	202	20	1,145	--	1,367
				(Rooms)		
7.	Muni-ki-Reti	--	161	6,475	--	6,636
8.	Gangotri	40	20	825	100	985
9.	Joshimath	102	8	177	--	287
10.	Badrinath	77	--	1,960	--	2,037
11.	Uttarkashi	--	58	450	100	608
12.	Barkot	--	48	--	--	48
13.	Yamunotri	--	6	50	50	106
14.	Deoprayag	100	56	184	--	340
15.	Rudraprayag	100	171	120	--	391
16.	Gauri Kund	300	30	180	--	510

Source: U.P. Tourism Department, Lucknow.

Appendix Table 8. Accommodation facilities (beds) in the resort complexes

<i>Sl. No.</i>	<i>Resorts</i>	<i>Hotels</i>	<i>Govt. accommo- dation</i>	<i>Dharam- shalas</i>	<i>Others</i>	<i>Total</i>
1.	Nainital	1982	40	25	200	2247
2.	Almora	224	35	25	5	289
3.	Ranikhet	265	35	60	150	510
4.	Kausani	28	14	26	--	68
5.	Mussoorie	2680	40	450	200	3370

**Appendix Table 9. Existing accommodation facilities provided by
Tourist Department at the resorts (1979)**

<i>Sl. No.</i>	<i>Name</i>	<i>Beds</i>
1.	Youth Hostel, Nainital	44
2.	Log Cabin, Naina peak	4
3.	Tourist Lodge, Kathgodam	8
4.	Eog Cabin, Almora	4
5.	Tourist Rest House, Pithoragarh	24
6.	Pilgrim Shed, Srinagar	158
7.	Tourist Lodge, Gauri Kund	30
8.	Traveller's Lodge, Kedarnath	72
9.	Hotel Himlok, Kedarnath	10
10.	Traveller's Lodge, Badrinath	72
11.	Hotel Deolok, Badrinath	20
12.	Tourist Rest House	8
13.	Traveller's Lodge, Joshimath	72
14.	Tourist Rest House, Nandprayag	4
15.	Traveller's Lodge, Kamprayag	72
16.	Tourist Rest House, Gwaldam	4
17.	Pilgrim Shed, Muni-ki-Reti	148
18.	Pilgrim Shed, Deoprayag	44
19.	Tourist Rest House, Uttarkashi	16
20.	Tourist Lodge, Uttarkashi	100
21.	Tourist Lodge, Chinialsaur	50
22.	Waiting Shed, Lanka	100
23.	Tourist Rest House, Gangotri	8
24.	Tourist Lodge, Gangani	4
25.	Tourist Lodge, Gangotri	50
26.	Tourist Lodge, Bhaironghati	100
27.	Tourist Rest House, Barkot	4
28.	Tourist Lodge, Barkot	100
29.	Tourist Lodge, Sayana Chatti	50
30.	Tourist Lodge, Beef	50
31.	Tourist Rest House, Sahastradhara	4
32.	Tourist Bungalow, Kashipur	8
33.	Tourist Bungalow, Dakpathar	38
34.	Holiday Home, Almora	40
Total Beds		1,520

Source: U.P. Tourism Department, Lucknow.

Appendix Table 10. List of allopathic hospitals, dispensaries and P.H.C. in the resorts (1981)

Sl. No.	Name of resorts	Name of hospitals	Number of beds for			
			Total	Men	Women	Children
1.	Nainital	1. Govind Ballabh Pant Hospital	38	30	8	--
		2. Pt. Badri Dutt Pandey Men's Hospital	60	52	--	8
		3. Pt. Badri Dutt Pandey Women's Hospital	50	--	50	--
		4. Police Hospital, Nainital	22	22	--	--
		5. Lohia Head Hydroelectric Department	6	6	--	--
		6. Eye Hospital	50	25	25	--
2.	Bhowali	7. Bhowali Dispensary	4	2	2	--
		8. Kings Edward VII Sanatorium	348	256	92	--
3.	Jeolikot	9. Jeolikot Dispensary	4	2	2	--
4.	Bhimtal	10. Bhimtal P.H.C.	8	4	4	--
5.	Almora	11. Har Govind Pant Hospital	59	37	16	6
		12. Victor Mohan Joshi Women's Hospital	59	--	59	--
		13. T.B. Clinic	--	--	--	--
		14. District Jail Hospital	5	5	--	--
		15. Unit M.I. Room	5	5	--	--
		16. Leprosy Hospital and Home	120	80	40	--
		17. Sitapur Eye Hospital	25	10	10	5
		18. Civil Hospital	40	30	10	--
6.	Ranikhet	19. Military Hospital	160	121	31	8
		20. Sitapur Eye Hospital	25	10	10	5
7.	Bageshwar	21. Women's Hospital	6	--	6	--

Appendix Table 10 continued

Sl. No.	Name of resorts	Name of hospitals	Number of beds for			
			Total	Men	Women	Children
22.		Bageshwar P.H.C.	4	2	2	--
23.		Sitapur Eye Hospital	5	2	2	1
24.	Kausani	Kausani Dispensary	4	2	2	--
25.	Chamoli	District Hospital, Gopeshwar	58	28	18	12
26.		District Hospital, Chamoli	8	4	4	--
27.		T.B. Clinic, Chamoli	40	40	--	--
28.		Sitapur Eye Hospital, Gopeshwar	25	15	10	--
29.	Joshimath	Joshimath P.H.C.	22	12	10	--
30.	Kedarnath	Kedarnath Dispensary	--	--	--	--
31.	Karnprayag	Karnprayag P.H.C.	12	8	4	--
32.	Ukhimath	Ukhimath P.H.C.	6	3	3	--
33.	Bardrinath	Bardrinath Hospital	10	6	4	--
34.	Gwaldam	Gwaldam Dispensary	6	4	2	--
35.	Gauri Kund	Gauri Kund Dispensary	4	2	2	--
36.	Mussoorie	St. Mary's Hospital, Mussoorie	53	36	17	--
37.		Civil Hospital, Mussoorie	8	5	3	--
38.		Police Hospital	6	6	--	--
39.		Railway Jharipani (Ch.)	--	--	--	--
40.		Oak Grove School Hospital, (Northern)	58	--	--	58
		National Academy Dispensary, Landour	--	--	--	--

(contd.)

Appendix Table 10 continued

Sl. No.	Name of resorts	Name of hospitals	Number of beds for			
			Total	Men	Women	Children
18.	Rishikesh	41. Women's Hospital	10	--	10	--
		42. Barlujanj Dispensary	--	--	--	--
		43. Gandhi Chauk	--	--	--	--
		44. Nagar Palika Eye Hospital	12	6	6	--
		45. Landour Community Hospital	82	82	--	--
		46. G.D. Hospital	32	24	8	--
		47. Women's Hospital	14	--	14	--
		48. T.B. Clinic	--	--	--	--
		49. T.B. Hospital	20	12	8	--
		50. Anti-Biotics Hospital, Birbhadra	9	9	--	--
19.	Chakrata	51. Chakrata P.H.C.	16	9	7	--
20.	Pauri	52. District Hospital	123	99	14	10
		53. Women's Hospital	20	--	20	--
		54. V.D. Clinic	--	--	--	--
		55. T.B. Clinic	--	--	--	--
		56. Eye Hospital	10	10	--	--
		57. Men's Hospital	54	44	--	10
21.	Srinagar	58. Women's Hospital	6	--	6	--
		59. Leper Asylum	40	40	--	--
		60. Rudraprayag Hospital	6	4	2	--
		61. Laxmanjhoola Hospital	26	18	8	--
22.	Rudraprayag	62. Females Hospital	6	--	6	--
		63. Cantt. General Hospital	25	25	--	--

Appendix Table 10 continued

Sl. No.	Name of resorts	Name of hospitals	Number of beds for			
			Total	Men	Women	Children
24.	Berinag	64. Berinag P.H.C.	6	4	2	--
25.	Deoprayag	65. Deoprayag Hospital	4	2	2	--
26.	Uttarkashi	66. District Hospital	78	45	21	12
27.	Barkot	67. Barkot Dispensary	4	2	2	--
		68. Leprosy Unit	--	--	--	--
28.	Gangotri	69. Gangotri Dispensary	--	--	--	--
Total			2026	1307	594	125
Percentage			100	64.52	29.32	6.16

Source: List of Allopathic Hospitals, Dispensaries and P.H.Cs in Uttar Pradesh, 1977.

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