Chapter III

Himachal Pradesh: Geographic Personality and Tourism Resources Potential
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He who thinks of Himachal though he may not behold it, is greater than he who performs worship in Kashi and he shall have pardon for all his sins. Those beings who while dying, think of its Snows are freed from their sins. In a hundred ages of gods I could not tell thee of the glories of Himachal where Shiva lived and the Ganges fell from the foot of Vishnu like the slender thread of a lotus flower. As the dew is dried up by the rays of morning sun, so are the sins of mankind by the sight of Himachal”

Excerpts from Skanda Purana

Himachal Pradesh is known for exuberance of silvery peaks, black mountains, tumbling falling foaming rivers and streams, heavenly lakes and springs, verdant forests and spectacular meadows, and above all, for its glorious history and the rich and colourfu cultural heritage. Known as Jalandhar Khand during Pauranic times, this sylvan Himalayan land has been a centre of attraction for religious souls, as for scholars, voyagers and spirited adventure lovers, not only from the Indian sub continent but also from the distant parts of Central Asia, China and Tibet, who used to travel to places like Kullu, Mandi, Rampur, and Kangra braving the topographical and meteorological discomfiture and the other obvious odds including the wayside risks. Splendidly dotted with Hindu, Sikh, Christian and Buddhist religious sites Himachal has been rightly quoted as Dev Bhoomi in the Puranas and other scriptures.
The state, strategically perched almost in the centre of the long Himalayan sweep between the coordinates 32°22’40’’ to 33°12’40’’N and 75°47’55’’ to 79°04’20’’ E, is bounded in North by Kashmir - the valley of Saffron; in the South-East by Uttarakhand - the land of Holy Ganges; in the South by Haryana - the land of famous Kurukshetra battle; in the West by Punjab - the granary of India; and in the North-East by Tibet (China) - the land of Lamas, comprises of twelve divisions, fifty-one sub-divisions and sixty-eight tehsils. Spread over approximately 55,673 Sq Km, Himachal Pradesh.

Historical Background

The ancient history of Himachal Pradesh, like many other parts of the country and especially the Himalayan tract, is available in fragmented form. However, taking references from literary sources, travelogues, archaeological
studies, inscriptions and coins etc., it can be derived that some form of human life certainly existed there at some stage of the Pre-historic Age. Majority of the Historians believe that the nomadic tribes, including Kolas, Mujavn, Arjiks, Mahavrides, Shivas and Nishadas etc., occupied this part of the Himalayas during the zenith of the Indus Valley Civilization. Mythological and historical evidences generally indicate that the Aryans may have settled in parts of this hilly terrain at a very early period - probably even before the hymns of Rigveda were compiled. As elsewhere in the country, there has been a good deal of fusion between the Aryans and the aboriginals by way of cross-fertilization of socio-cultural beliefs, values and traditions on account of the closer interactions, particularly along the northern and eastern frontiers of this tiny Himalayan hill state. Scriptures reveal that Kinners, Kiratas, Nagas, Khasas and Yakshas were the major occupants of the region, parts of which came under the sway of Rajput reign when Susarma Chandra founded the kingdom of Trigarta during the Mahabharta times. The kingdom, administered in the form of Ganpada, is said to be controlled through the twin Capitals of Jalandhra and Nagarkot till the beginning of Gupta Period. In the course of time the rulers became hereditary and independent and thus came the Jalandhra-Trigarta kingdom under the dynastic reign of the Katochs. Thereafter, till the 11th century Trigarta comprised of the area between Ravi and Satluj rivers along with Jalandhra-Doab of the plains. Some Historians believe that originally Multan was originally the capital of this state, but after the Mahabharta war, Multan and the surrounding area of the Ganpada was lost to the Kaurawas and the rulers had to retreat to Jalandhra occupying the hill tracts, about which H Tsang has mentioned in his account. In 883 AD the region, became subject to Sankar Varma, the King of Kashmir, as quoted in the Rajtarangini. The prosperity of the kingdom is aptly evident from the remark of Ferishta on the contemporary Kangra, “Priests and princes used
vessels of silver and gold and were dressed in embroidered silk. History and philosophy were studied and commentaries written on books older than the Assyrian empire”. The riches and reputation of the kingdom paved way for aggression and looting by Mehmud of Ghajni in AD 1009. In A. D. 1043, the region was recaptured by the Rajput Princes. Kangra fort is said to have been taken over by Abdul Rashid, son of sultan Mahmud in 1051-52 A.D., but only to be recovered by the Katoch rulers in 1060 A. D. During Sultanat periods, the Delhi throne, though attacked Punjab plains several times but did not pay any attention to the hills. The kingdom went under the control of Muhammad-bin-Tughluq in 1337 and remained tributary to the Tughlaq Sultanat. During the subsequent period, the successive incursions by the Muslims led to frequent shift of the reign between Muslim rulers and local Rajput chiefs but despite this, Kangra continued to retain its glory as an eminent centre for the treatment of eye diseases, plastic surgery and Basmati rice. Among the Mughal Rulers, Akbar was first to conquer Kangra fort. Infact Raja Dharam Chand, the then ruler of the hill kingdom yielded to the Mughal army after a brief resistance and remained loyal to the empire till his death. Thereafter, the succeeding Kangra Kings tried to become independent, but in vain. It was Shah Jehan who, for the first time, effectively countered tany kind of rebellion from Kangra kings and the rebelling hill chiefs. During the reign of Aurangzeb, Raja Bhim Chand, probably provoked by the forced conversion of Hindu temples into mosques, leaged with Guru Govind Singh succeeded in repelling the Mughal forces. Unfortunately thereafter, durin the time of Gambhir Chand, the Kangra kings were too submissive and, thus remained merely as Jagirdars of the Mughals. The contemporary Hill kingdoms of Chamba and Sirmaur too followed the feats of Kangra. Thanks to the administrative acumen of Raja Sansar Chand, who took over the reign of Kangra in 1775 A. D., that the kingdom, once again revived as an
independent entity with keen enthusiasm to increase the expansion of its territory. Sansar Chand attacked many small kingdoms of Punjab, but each time to be defeated due to the support lent by Maharaja Ranjeet Singh to the latter. The hill kingdom, in turn, on account of the complex Himalayan terrain, largely escaped the successive and violent waves of Muslim invasions like its counterparts in the plains of Punjab which nearly swept away all monuments of old Indian civilization. As a result, the ancient remains are more abundant and well preserved in Himachal as compared to the plains.

During the reign of Sansar Chand, who was a great patron of art and crafts, the hill kingdom witnessed its Golden age. He was defeated by Ranjit Singh in 1804 and by the Gurkhas later. The Gurkhas virtually laid waste the country “grasses grew up and tigresses whelped in the streets of Nadaun”. After devastating the country, the Gurkhas retreated but Kangra fort and some villages had to be surrendered to Ranjit Singh in return of the help he extended in freeing the country from atrocities of the Gurkhas. Moorcraft on his way to Ladakh visited the court of Sansar Chand in A. D. 1820 and remarked that “his peasantry was resolute and warmly attached to him”. By about the early 19th century, the area came under British control. The Shimla tract was annexed by the British after the Gurkha war of 1815-16. Since 1864, Shimla became the summer headquarters of Government of India and since 1871 of Punjab Government as well. The British rule lasted for almost a century and a half. During this period, there was considerable development in means of transport and communications, education, agriculture, and trade and commerce. However, the part under princely states remained considerably less developed.
Formation of Modern Himachal Pradesh:

After Indian Independence, Himachal Pradesh was initially awarded the status of Chief Commissioner’s Province on 15 April 1948 by putting together twenty Six Shimla Hill States and four Punjab Hill States with its headquarters in the historic building of British India Foreign Office at Shimla. Mr N.C. Mehta is credited to be the First Chief Commissioner of the state assisted by Mr E. Penderal Moon asvhis Deputy. An Advisory Council was subsequently constituted in September 1948 to advise the Chief Commissioner in matters of general Policy, development and legislative matters. It consisted of six Public representatives viz; Leela Vati, Dr Y. S. Parmar, Avtar Chand Mehta, Swami Purna Nand, Shri Padam Dev and L. Shiv Charan, in addition to three reprentatives from administration. However, the council was merely an advisory body with no administrative powers.

Due to wide spread resentment against the bureaucratic rule, a constitutional battle was waged and consequently Government of India, passed Part “C” States ‘Act’, which conceded Part ‘C’ State status to Himachal Pradesh, under a Lieutenant Governor replacing the Chief Commissioner. Elections for the 36 member Legislative Assembly were held in November, 1951 in which the Congress party got 24 seats Dr.Yashwant Singh Parmar sworned in as the first Chief Minister of the state on 24th March, 1952.

The States Reorganisation Commission, constituted by the Government in December, 1953 presented its report on 30th September 1955 recommending merger of Himachal Pradesh with Punjab which was overtaken by an unprecedented pandemonium. Dr Parmar ultimately succeeded in convincing the then Prime Minister, Jawahar Lal Nehru, to
consider the mergence issue on the condition of surrendering its democratic set-up for the time being thereby giving way to the old pattern of a bureaucratic rule for some time.

Meanwhile, on 1st July 1954, one more erstwhile State of Bilaspur (1167 Sq Km) was integrated into Himachal adding 5th district namely Bilaspur. Because of its mergence the total area of Himachal increased to 28,185 sq km. On 1st November 1956 Himachal became Union Territory under an Administrator designated Lieutenant Governor Raja Bajrang Bahadur Singh of Bhaduri.

The district of Kinnaur comprising the erstwhile Bushahr State came into being on 1st May 1960. The Lahaul and Spiti, the two different geographical units beyond Rohtang and Kunzum Passes bordering Tibet were put together to form a new district in 1960.

Thanks to the bold and plain speaking in parliament by the then Home Minister Late Lal Bahadur Shastri on the grant of democratic set up to Himachal - “It is better not to take half-hearted steps and half-hearted measures. It is better to delegate whatever power we want to them at stretch and give the power to the representatives of the people to run their own Government” that consequently in 1963, democratic set-up was restored to Himachal under the “Government of Union Territories Act, 1963”. The Territorial Council, elected on universal suffrage in 1962, was converted into Legislative Assembly and Dr. Parmar was made once again the Chief Minister of Himachal Pradesh. His Cabinet colleagues Karam Singh and Hari Das were also sworn in on 1st July 1963.

After the formation of Himachal Pradesh, certain areas the Princes were
obliged to hand over to the British India remained outside its jurisdiction and were recognized as part of the PEPSU (East Punjab), till they were merged with Himachal Pradesh on 1st November, 1966 bringing sizable increase in its area. With the reorganization of Punjab Hill areas on 1st November, 1966, 4 more districts viz., Kangra, Kullu, Lahaul Spiti and Shimla were merged with Himachal Pradesh alongwith Nalagarh tehsil of Ambala district, some parts of the tehsil of Hoshiarpur district, Daihousie tehsil, Pathankot and Bakloh areas of Gurdaspur district of Punjab, thereby increasing its area to 55,673 sq km.

On the recommendation of Punjab Boundary Commission, the Government of India, while reorganizing the Punjab State into two separate States namely Punjab and Haryana, decided to integrate the Panjab Hill Areas of the districts of Kangra, Kullu, Shimla, Lahaul and Spiti, Nalagarh area of Ambala district, part of Una Tehsil of Hoshiarpur District and Pathankot Tehsill of Gurdaspur District with Himachal Pradesh. On integration, all the MLA representing the Hill Areas of Punjab Vidhan Sabha were declared the members of the Himachal Vidhan Sahha, in January, 1967.

The Pradesh Vidhan Sabha voicing its feelings passed an unanimous resolution on 24th January, 1968 demanding full-fledged Statehood for the Pradesh - “This house earnestly feels that it is high time for Himachal Pradesh to be recognized as full-fledged State and to that end, it strongly urges that the Union Government concede the demand of the Pradesh for Statehood by bringing about the necessary legislation without further loss of time”. Finally, on 18th December, 1970, the Parliament passed the State of
Himachal Pradesh Act, which was introduced in the Parliament on July 31st, 1970 to elevate the status of Himachal Pradesh to a full-fledged State. The first Governor of Himachal Pradesh S. Chakravarti sworn in Dr. Yashwant Singh Parmar as the first Chief Minister of the 18th State of the Indian Union - State of Himachal Pradesh on 25th January, 1971. On 1st September, 1972 two more districts Una and Hamirpur were created as a result of trifurcation of the existing Kangra district and new district Solan was created out of reorganization of then existing Mahasu and Shimla districts. It might have taken over two decades for Himachal Pradesh to achieve statehood but the worthy Home Minster of the Independent India - Sardar Vallabh Bhai Patel had specifically spelt its future in the year 1948 only, by stating that, ‘In the final stage, after this area is sufficiently developed in its resources and administration, it is proposed that its constitution should be similar to that of any other province. The ultimate objective is to enable this area to attain the position of an autonomous province of India.’
Administratively, Himachal Pradesh is now organized in twelve districts namely, Chamba, Kangra, Lahul & Spiti, Kullu, Mandi, Solan, Shimla, and Una and Bilaspur. Each district is further divided into sub-divisions and Tehsil. Putting subunits of all the twelve districts together, there are a total of sub-division and Tehsil in the state (Table 3.1). While the former eight districts along with part of Simaur are predominantly mountainous, Hamirpur, Una and Bilaspur largely share topographic features with the adjoining Panjaban plains. Areawise, Lahaul – Spiti (13885 sq km) is the largest district but has lowest population density (i.e., 2.25 person/sq km) among all the districts of

<table>
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<tr>
<th>Districts</th>
<th>Subdivision</th>
<th>Area in Sq Km</th>
<th>Population (2001 Census)</th>
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<tr>
<td>Bilaspur</td>
<td>Bilaspur, Ghumarwin</td>
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<td>2,95,387</td>
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<td>Chambā</td>
<td>Chamba, Churah, Pangi, Bharmaur &amp; Daihousie</td>
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<td>Hamirpur</td>
<td>Hamirpur, Barsar Nadaur</td>
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<td>Kangra</td>
<td>Kangra, Palampur, Dharamshala, Nurpur, Dehra Gopipur, Baijnath and Jawali</td>
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<td>Nichar, Kalpa, Pooh</td>
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<td>Kullu, Anni and Banjar</td>
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<td>Mandi</td>
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the study area on account of extremely complex Himalayan terrain. Likewise, due to physiographic extremes, district Kinnaur despite having a sizeable geographic area (6401 sq km) too has considerably thin population distribution (i.e., 11.13 person/sq km)). District Kagar stands on the top with regard to total population (11,74072 sq km), Hamirpur despite being the smallest district in terms of land area (1,118 sq km) has highest population density among all the districts of Himachal Pradesh (330.16 persons/sq km).

**Pysiography**
Topography of the state is typically Himalayan characterized by complex hilly terrain witnessed by intricate mosaic of snow peaks, black mountains, glaciers, U and V shaped valleys and densely forested slopes frequently intercepted by rivers and streams. Average altitude in the state generally ranges between 450 m to 6500 m above the msl; mountain elevation, as in other parts of the Himalaya, increasing from South-West to North-East (Figure-3.2). The physiography of the State is comprehensively influenced as much by the interplay of latitude and longitude, as by the three prominent ridges, namely the Dhauladhar, the Pir Panjal and Hathi Dhar. Generally, the steep mountain slopes in the study area are covered with coniferous and broad-leaved forests, meadows, pasturelands and terraces, often clinging precariously to the mountainsides. The Valleys situated amidst these mountain ranges contain gurgling streams, torrents, terraced fields and fairy tale villages.

Areas adjoining Punjab State, i.e., parts of Kangra, Una and Solan districts are relatively plain. Likewise, Paonta area of Sirmaur district located in the extreme south of the state too has relatively lower elevation. Taking into consideration the altitudinal, topographic, climatic and even geological and biotic perspectives, the study area is divisible into following five broad physiographic divisions:
(i) **Outer Himalayas or Shivaliks**  
(ii) **Lesser or Lower Himalayas or the Central Zone**  
(iii) **Great Himalayas**  
(iv) **Trans-Himalayas and the Zanskar**

**Outer Himalaya:**  
Also known as Shivaliks or the Sub-Himalayan Zone the Outer Himalaya occupies Southern and South-Western boundary of the study area. The average elevation of this zone is approximately 600 meters, with greatest height of the ranges above the Gangetic plain not reaching beyond 915 meters. Interestingly, the steep Southern slopes gently dip into fascinating longitudinal Valleys known as the Duns – characterized by flat bowl shaped valleys. Popular as “Mainak Parbat” among the ancient geographers, Shivaliks literally means “tresses of Shiva”. This zone maintains almost a regular course from Ravi to Yamuna in the South of the state and is composed of highly unconsolidated deposits, which easily lend themselves to erosion.

Consisting predominantly of tertiary formations extending from Northwest to Southeast, Siwaliks comprise of great thickness of detrital rocks, clays and conglomerates. Considered to be the youngest in age, the Shivalik chain observes widest span in the Beas Valley. Palaeontologically, the range is divisible into three sub-groups - *Upper, Middle and Lower or Nahan*. Some of the important towns which are located in the Shivalik hills are Paonta, Nahan, *Sarahan* (Sirmaur), Nalagarh, Kunihar, Hamirpur, Una and Nurpur.
Unfortunately, despite the inherent environment for rich flora and fauna, the Shivaliks have been highly deforested and eroded resulting in the formation of Chos.

**Lesser Himalayas:**

Also known as Lower Himalayas or the Central Zone and occupying the central part of Himachal Pradesh, most of this zone is composed of granite and other crystalline rocks of unfossiliferous sediments. However, on account of severe tectonics the crystalline rocks have generally given way to the formation of the crystalline klippen, especially in the Shimla area. The average height of mountain summits in the Lesser Himalayan zone is 4,500 meters. Dense tropical forests cover the lower slopes of mountains in the East giving way to magnificent coniferous forests Westward, the pride of all being the deodars of
Bushahr, Jubbal, Chopal and Kullu areas. The main species in this range includes oaks, chir-pine, deodar, blue pine, fir, spruce, hemlock, rhododendron, chestnut, walnut and, sub-alpine and alpine pastures. On the outer fringe of the Lesser Himalayas facing the Indian plains are located the main towns and Hill Stations like Chamba, Daihousie, Manali, Shimla, Solan, Baijnath, Palampur and Dharamshala having altitudes between 1500 m to 2250 m. The Lesser Himalayan Zone consists of a series of mountain ranges rising abruptly above low rolling hills thereby creating a scenario where the landscape and vegetationscape and, consequently the socio-cluturalscape keeps on consistently changing.

**Dhauladhar Range**

The Dhauladhar range looks in supreme majesty over the Kangra Valley and presents a fascinating panorama. It is also known as ‘The White Range’ and forms the most striking feature. It breaks off from the Great Himalayan range near Badrinath. It is intercepted by the Satluj at Rampur Bushahr, by Seas at Larji and by Ravi at South-West of Chamba. The beautiful Kangra Valley is backgrounded by Dhauladhar range. The Outer Himalayas or Shivaliks are marked by a gradual elevation towards the Dhauladhar. But the rise is more abrupt in Shimla hills, especially in the conspicuous peak of Chur as mentioned earlier. Kangra Valley is a longitudinal trough at the foot of the Dhauladhar range. The mean elevation of this range is about 4550 metres. While above the Kangra Valley the rise of Dhauladhar is quite about 3600 m only.

The range with mountain barrier of high peaks forms Southern boundary of the district Chamba separating it from Kangra district. Hathi Dhar is another range quite conspicuous in this region. It is a lower hill range, which runs parallel to Dhauladhar, in its South. A narrow fertile tract is formed between
Dhauladhar and Hathi Dhar in Chamba district. Dhauladhar range in Kinnaur district constitutes the Southwestern part of the district and forms a longitudinal belt along the boundary line between Kinnaur and Shimla, and Uttar Pradesh in its South. Dhauladhar in its Western half runs parallel to Satluj river and its Eastern half runs parallel to Baspa river which is one of the main tributaries of Satluj river. This range in Kinnaur district gives origin to some streams and rivulets like Zupkia Gad and Mukti Gad that join Baspa River. Dhauladhar extends in North and North-Eastern Mandi and runs in continuation of Dhauladhar of Kangra district in Northwest to South-East direction passing through North-Eastern Jogindernagar tehsil and North-Eastern Mandi tehsil.

Generally Dhauladhar range is considered a Granite body. Dhauladhar meaning “Grayish white” is the outer most portion of Lesser Himalayan range. It is bifurcated from the Great Himalayas in the East stretching Westward to pass to North of Shimla region, where its second branch near Kullu-Mandi boundary is located having an altitude of 3000-4500 metres. Later it terminates in the Southwest part near Dalhousie. This range is dominating land feature beyond Shimla hills till the North of Kangra Valley where it takes abrupt rise of 3600 metres for a distance of about 11 km leading to crustal imbalances which has rendered the area earthquake prone. All the three major rivers, the Ravi, the Beas and the Satluj cut through Dhauladhar range antecedent to their debenture in to the tropical zone. In Shimla district there is a rapid change in elevations, which causes irregularities in the Ridges, and river courses. For example, the thrusts from the South have formed ridge types of Shimla, Chail and Sabathu hill stations, causing an abrupt rise of land in Shimla hills and narrowing the stream Valleys.
The Lesser Himalayas is marked by a gradual elevation towards Pir Panjal Range. The Northern flank of the Dhauladhar range impinges against the Southern flank of the Pir Panjal range (average elevation 4600 m) at the mountain knot of Bara Benghal. The Pir Panjal, the largest and most impressive of the Lesser Himalayan ranges bifurcates from the Great Himalayan Range near the bank of Satluj, forming the water parting between Chenab on one side, Beas and Ravi on the other, and finally bending towards the Dhauladhar range near the source of the Ravi. This range in Chamba district forms a longitudinal mountainous tract stretching from Northwest to Southeast direction between Ravi Basin in the South and Chandra Valley in the North. It is a long mountain range and extends beyond Chamba district to Northern Kullu district and adjoining area of Lahaul-Spiti and Kangra districts. It forms a narrow tract along the Western and South-Western parts of Lahaul-Spiti district. In Kullu district Pir Panjal lies in its extreme Northern and Northwestern parts. There are steep slopes in this region. Evidently, the Beas river rises from the Beas Kund (3540 m) near Rohtang Jot in the Pir Panjal and flows towards South. Maximum altitude in this region is 4990 m at the boundary line between Kullu and Kangra districts in the West. The imposing Mussoorie Ridge runs westward from Mussoorie in Uttaranchal Pradesh and crosses to Himachal Pradesh in the North of Sataun, where it is cut through by the Yamuna river. Thereafter it runs to the North of the Giri River before culminating in the Churdhar Massif. It is the highest peak in the lower Himalayas between Shimla and Sirmaur districts. The Shimla Ridge, on the other hand, marks the watershed of the rivers Ganga and Indus. In other words the slopes of the Western side drain in to the Arabian Sea whereas the water on the Eastern slopes finds its way to the Bay of Bengal. The Shimla ridge predominantly drops to the Satluj gorge geographically.
Main or The Great Himalayas:
The Great Himalayan range having an elevation between 4800 m to 6000 m comprises of a towering snow clad ridges that run along the North-Eastern border of the State and then turn South-wards, separating the Trans Himalayan Zones of Pooh, Lahaul and Spiti from the rest of the country. Also, this range separates the drainage of the Spiti river from that of the Beas. Comprising of a number of peaks having an altitude of over 6000 m and Dunting passes like Baralacha and Rohtang the Great Himalayan Range itself is cut across by the defile of the Satluj. This towering range acts as a barrier to the South-West monsoons, thereby depriving the northern parts from monsoon rain. Consequently, Pooh and Spiti regions are desertlike due extremely low rainfall (less than 50 cm annual rainfall). Incidentally, the dry climate has proves as a boon to the inhabitants, as it has created ideal conditions for cultivation of Walnut, Almond, Grapes and cash crops like Zira, Saffron, Ruth, Hops and Millets etc.

As in other parts of the Himalaya, the Southern slopes of the Great Himalayan range in the study are also gentler as compared to their northern counterparts and hence have good forest cover generally dominated by deodar, fir, blue pine, pruce, moru and kharsu oaks, hem-lock, rhododendron, sub-alpine betula and alpine meadows. The northern slopes, on the other hand, are largely devoid of vegetation except those occasional tufts of grasses appearing along lower elevation during summers.

Trans – Himalayas:
Popularly known as the desert of snows, this zone with average elevation of over 3000 m., is located to the North of the Main or Great Himalayan range. Physiographically, here the conditions resemble to those in Tibet. Since the moisture laden Southwest monsoons clouds are unable to cross the Main
Himalayan range therefore the rainfall is very scanty. Lahaul-Spiti district and Pooh Tehsil of Kinnaur district are located in this zone.

**The Zanskar range** stretching South Eastwards from Ladakh is the most prominent mountain range of the Trans-Himalyan part of Himachal Pradesh. It separates Spiti and Kinnaur from Tibet. It has many glaciers, as also numerous six thousander peaks. The Satluj through its Shipki defile cuts across this range. There are also many interesting Passes in this part, generally located between 5200 m to 5000 m. The Trans-Himalayan zone is largely devoid of forest vegetation. It is only in summer that occasional tufts of grasses and natural flowers come up on the mountain slopes.

**Geomorphology**

Most of the geologically mapped area of Himachal Pradesh is covered by tertiary rocks except the Northern and Northeastern parts of Chamba district. The structural features of the Chamba district fall in line with geological characters of the North-West Himalayas. Along the Southern margin of the mountain region the Shivaliks are found in contact with the old Himalayan rocks, the line of junction between them being a thrust, the old Himalayan thus appearing above the tertiary beds. Since the Dharamshala beds are seen overlying the Shivalik formation and underlying the volcanic series, the base and top contacts of the bed are thrust planes as seen in the Dalhousie area where the trap comes in-between the Carbo-triassic series and the tertiary rocks, but in the ‘Bandal-Dihur’ area it comes in between the Carbo-triassic series and the upper silurian conglomerate. In both the Dalhousie and the Bandal-Dihur areas, the trap is found in contact with the Carbo-triassic series, while the latter section is in a sharp contact with the upper Silurian conglomerate on the one side and the Carbo-triassic lime-stones on the other.
In the Dalhousie neighborhood, the rock in contact with the volcanic series South of ‘Dain Kund’ is a quartzite ‘which appears to correspond with the quarzite seen in the Shimla region at the base of carbo-triassic series consisting of slates and limestones. Northwards, the rocks of the Carbo-triassic series are succeeded by a band of gneissose-granite. Around Chamba, the older Himalayan formations are exposed. South of Chamba, gneissose-granite is exposed with some overlying sequence of silurian, carboniferoustrias and volcanic series formations. From Basohli, the Shivaliks continue with a steady N.E. 5° E. dip all the way to Bhond. At Bhond, the Shivaliks dip under indurated red clays and fine-grained sandstones of dark grey colour. These rocks are presumed to represent the ‘Dagshai’ and Kasauli’ groups equivalent to the Dharamshala beds. In short the Chamba district and the Dalhousie area geologically possess all the characteristics of the North-West Himalayas, though local details vary. Along the Southern margin the Nahan series predominate.

To the North of Spiti, the Tibetan zone is represented by a series of beds extending in age from cambrian to cretaceous; this is separated from the central zone by the granite range between Spiti and Kullu. The rocks of the central zone consist of ‘slates’, conglomerate and ‘limestone’ representing the Infra-Blaini and overlying systems of the Shimla area: still farther to the South the third of sub-Himalayan zone consists of shales and sandstones (Sirmaur series) of Lower tertiary age and sandstones and conglomerates belonging to the upper Tertiary Shivalik series. The slate or quartz-micaschist of the central zone is fissible and of considerable value for roofing purposes; it is quarried at and round Kanihara. Gypsum occurs in large quantity in lower Spiti.
Towards the South and the Southwest lie the Shimla hills, extending towards Mandi in the Northwest and towards Sirmaur in the East and Bushahr in the Northeast. Mandi area lies partly on rocks belonging to the Central Himalayan alone, of unknown age and partly on Tertiary shales and sandstones. The rocks of the central zone consist of slates, conglomerates and limestones, which have been referred to the Infra-Blaini and Blaini and Krol groups of the Shimla area. The sandstones and shales of the sub-Himalayan zone belong to the Sirmaur series, of Lower Tertiary age and to the Shivalik series (Upper Tertiary). The most important mineral is rock salt, which appears to be connected with the tertiary beds. The rocks found in the neighbourhood of Shimla belonging entirely to the carbonaceous system and fall into four groups—the Krol the Infra-Krol, the Blaini and the infra-Blaini or Shimla slates. The Shimla slates are the lowest beds seen; they are succeeded by the Blaini group, consisting of two bands of boulder-slate, separated by white weathering slates (bleach slates) and overlain by a thin band of pink dolomitic limestone. The Blaini group is overlain by a band of black carbonaceous slate, which follows the outcrop of the Blaini beds. The overlying beds consist of a great mass of quartzite and schist, known as the Boileauganj beds; they cover the greater part of Shimla and extend to Jutogh. Above this is the Krol group consisting of carbonaceous slates and carbonaceous and crystalline limestones, with beds of horn-blende-agralet schist which probably represent old volcanic ash-beds; they are largely developed in Prospect Hill and Jutogh. Intrusive diorite is found among the lower limestones of the Krol group on the Southern slopes of Jutogh. No fossils have been found in any of these rocks and in consequence their geological age is unknown. In the South-Eastern corner of Himachal the greater part of Sirmaur region lies on rocks of Tertiary age, with beds belonging to the carbonaceous system (Krol and Blaini groups) on the North and NorthEast. The Lower tertiary rocks are particularly well
developed; and the Sirmaur series which includes the Subathu, the Dagshai and Kasauli groups, takes its name from the Sirmaur slate. The upper Tertiary, or the Shivalik series, is largely developed in the neighbourhood of Nahan where the lower beds consist of a great mass of sandstones, the Nahan group, these are overlain by sandstones and conglomerates (middle and upper Shivaliks) containing a rich mammalian fauna of Pliocene.

Himachal is poor in minerals accounting merely 0.2% of the output of minerals in the country. In terms of commercial value, only limestone, building stone, slates, gypsum and rock salt deposits found in some parts of the state are worth mentioning.

**Drainage System**

The Study Area has a rich and intensive drainage system supported by a number all perennial rivers, streams, lakes, springs and waterfalls apart from the seasonal rain-fed waterbodies. A unique feature of the drainage system of the state is that it provides water to both the Indus and the Ganges basins. The major river systems of the area are the Chandra-Bhaga or the Chenab, the Ravi, the Beas, the Sutlej and the Yamuna. One of the significant features of the drainage system of *Himacha is that it provides water to both the Indus and Ganges basins.*

**Glaciers**

Glaciers in local language are known as "Shigri". There are four major concentration of glaciers in Himachal Pradesh; namely (i) Bara Banghal, lying amidst Kullu, Kangra, Chamba and Lahaul Valleys, feeding the river Ravi; (ii) near the trijunction of Kullu, Spiti and Kinnaur; feeding the tributaries of the Beas and Satluj and (iii) in the zone of Lahaul-Spiti and Kullu valleys,
feeding glacial tributaries of the Beas river. Some of the prominent Glaciers in the study area are:

**Bara Shigri** located in the Chandra valley of Lahaul which feeds to the river Chenab is the largest glacier in Himachal Pradesh. It is about 3 km wide and 25 km long. It is said that in the year 1936 this glacier caused a great havoc in Chandra valley and formed a large lake known as Chandertal. The other prominent glacier of Chandra valley in Lahaul are— *hhota Shigri, Pacha, Kulti, Shipting, Ding Karmo, Tapn, Gyephang, Shili, Bolunag* and *Shamundri*. Kulti glacier is near Koksar. The Milang glacier to the North of Kulti is located between Darcha and Khekrar. Taragiri glacier is also located near Milang glacier. **Bhadal Glacier** is located on the South-Western slopes of the Pir Panjal range in the Bara Banghal area of Kangra district of Himachal Pradesh. The river Bhadal is fed by this glacier, which is one of the main tributaries of the river Ravi. The surface of this glacier is strewn with boulders and other glacier deposits. **Chandra Glacier** is located on the slopes of the main Himalaya in the Lahaul-Spiti district of Himachal Pradesh. This glacier is responsible for forming Chandertal lake and has originally separated from Bara Shigri glacier. It feeds the river Chandra, which along with Bhaga forms the *Chenab*. **Bhaga Glacier** is located on the slopes of the main Himalayan range in Lahaul area of Himachal Pradesh. The river Bhaga originates from this glacier. High snowclad peaks surround this glacier on all sides. Bhaga glacier can be approached via Koksar and Tandi in Lahaul-Spiti district. It is 25 km long. The main glaciers in Pattan valley are *Shilla, Kukti, Lainghar, Doksha* and *Nilkant*. The important glaciers of the Bhaga valley are Milang, Mukkila, Lady of Keylong and Gangstang. **Chandra Nahan** glacier is located on the South-Eastern slopes of the main Himalaya in the area to the North-West of Rohru in Himachal Pradesh. The river Pabbar is fed by this glacier. Minor tributary glaciers join the trunk glacier. It has carved a
depression and in it lies the Chandra Nahan lake. The glacier is surrounded by high rising peaks, having elevations above 6,000 meters. **The lady of Keylong** is situated at an altitude of about 6061 mts which can be seen from Keylong and is very popular among tourists. It was named so by *'Lady Elashainghday'* about a century ago during British Raj. **Gora Glacier** glacier is tenanted on the South-facing slopes of the main Himalayan range of Himachal Pradesh. Gora glacier has receded in the recent past due to a negative mass balance. **Sonapani** is only about five and a half km from the confluence of Kulti Nala and has been surveyed twice. First in 1906 by Walker and Pascoe and second time in 1957 by Kurion and Munshi from the Geological Survey of India. Sonapani glacier is visible from the Rohtang Pass. **Dudhon, Parbat, Milkkila Glacier, Perad Glacier, Miyar Glacier, Beas Kund, Tichu, Sara Umg, South Dakka, North Glacier, Chandi-Ka-, Sammuder Tapa, Taragiri, Rai Ghar, Bhadal, Tapni Lahuni, Sili Laluni, Shan, Tal, and Shipting etc.** are some other worth mentioning glaciers in the study area which critically support the drainage system in the state apart from extending temptation to the adventuroud souls.

**Rivers**

**Chandra Bhaga River:** Chandra Bhaga, the largest river (in terms of volume of Water) in Himachal, derives its name after the two main sister tributaries, i.e., the Chandra and the Bhaga, originating from the opposite sides of the Bara Lacha glacier, located at an elevation of 4,900 m ultimately meet at Tandi. Thereafter it enters Pang Valley of Chamba district near 'Bhujind' and leaves the district at 'Sansari Nala' to enter Paddar Valley of Kashmir where it is known as Chenab. Of its total course of about 1,200 kms, Chandra Bhaga flows only for 122 Kms in Himachal Pradesh from Tandi. Chandra Bhaga enters the Kashmir Valley and is thereafter. Likewise, of its total
catchment area of about 61,000 km², only about 7,500 km² lies in Himachal, rest being in J & K.

**Ravi River**: The historic Ravi river cited as Parushni in Vedic literature (about 2000 BC) and also named as Iravati in Sanskrit (during 1,000 B.C.) originates in the form of twin tributaries – the glacier fed 'Badal' and 'Tant Gari' from Bara Bangahal range which is an offshoot of Dhauladhar range. Ownwards the confluence, the unified river Ravi flows for about 158 km in Himachal and has a catchment area of about 5,451 km² in the state. All along its upper catchment the Ravi flows through precipitous gorge. As the Ravi flows down from the heights, it passes hill sides with terraced fields. Sometimes the hill seems to move away and the river comes out into lovely green valleys. The Ravi first flows Westward through a trough separating the 'Pir Panjal' from Dhauladhar range and then turns Southward, cutting the deep gorge through the Dhauladhar range. It flows nearly 130 kms. in Chamba region, before leaving it finally at 'Kheri'. Its major right bank tributaries are the Budhil, Tundahan Beljedi, Saho and Siul while left bank tributary worth mentioning is Chirchind Nala. The Ravi forms the biggest sub-micro region of Chamba district. From Bara Banghal of Kangra district, it flows through Bara Bansu, Tretha Chanota and Ulhansa. The Ravi merges with the Chenab in Pakistan.

**The Beas**: The Beas (Vedic-Arjikiya, Sanskrit-Vipasa) rises in the Pir Panjal range near Rohtang pass, at an elevation of about 4,000 m and flows for about 256 km in Himachal before debouching on to the plains at Mirthal. In fact, Beas initially emerges in the form of twin tributaries which meet at 'Palachan village', 10 km. North of Manali to form the river Beas. On both banks of the river Beas many places of historic and touristic places are located, viz., Manali, Naggar, Katrain, Ralson, Kullu, Pandoh, Mandi and Sujanpur. After covering hundreds of kilometres through the hills, the river at 'Hari Ka Patan'
in Ferozepore district of Punjab embraces the river Sutluj before flowing into Pakistan. The river is joined by a number of tributaries, the more important ones being the Parbati, the Hurla, the Sainj, the Tirthan, the Uhl, the Suketi, the Luni, the Awa, the Banganga, the Manuni, the Gaj and, the Chaki. The northern and eastern tributaries of the Beas are snow fed and perennial, while their southern counterparts are seasonal. After piercing the Dháuladhar range at Larji, the Beas flows through a steep terrain below Mandi before entering into the undulating tract of south Kangra. The average bed slope is 1 in 40 for first 120 km from its source, which decreases to 1 in 5,000 near plains. Average flow for the Beas is 61,302 cusecs in August and 4641 cusecs in January. The total course of the river is approximately 460 km.

The Beas enters Kangra district at 'Sandhol' and leaves it near 'Mirthal'. At 'Bajaura', it enters Mandi district. Mandi town is situated on its left bank. In Mandi district, its own Northern feeders are Hansa, Tirthan, Bakhli, Jiuni, Suketi, Panddi, Son and Bather. The Northern and Eastern tributaries of the Beas are perennial and snow fed, while Southern are seasonal.

**Satluj:** The Sutluj (Vedic - Sutudri; Sanskrit - Shatadru) rising from beyond Indian borders in the Southern slopes of the Kailash mountain, near 'Mansarover' from 'Rakas lake'. Known as Longchhen Khabab river in Tibet, Sutlej is largest among the five major rivers of Himachal Pradesh. It enters Himachal at ‘Shipki’ (altitude 6,608 mts.) and flows in the South-Westerly direction through Kinnaur, Shimla, Kullu, Solan, Mandi and Bilaspur districts. It flows in the state for a distance of about 400 km almost parallel to the Indus and then cuts right through both the Zaskar range and the Great Himalaya “thus forming perhaps the most striking physical feature of the region”. It leaves Himachal Pradesh to enter the plains of Punjab at 'Bhakhra', where the world's highest gravity dam has been constructed on this river. The
catchment area of the river in the state is approximately 50140 km of Satluj, bulk of which falls above the permanent snow-line over an altitude of 4500 msl. The prominent human settlements that have come on the banks of the Satluj river are Namgia, Kalpa, Rampur, Tattapani, Suni and Bilaspur. Its total catchment area in Himachal Pradesh is 20,000 sq. km. Some of its prominent tributaries viz, the Spiti, the Ropa, the Taiti, the Kashang, the Mulgaon, the Yula, the Wanger, the Throng and the Rupi as right bank tributaries, whereas the Tirung, the Gayanthing, the Baspa, the Duling and the Soldang are left bank tributaries.

**Swan River:** The Swan catchment falls between 31°17'30" N to 31°50'10" latitude and 75°58'17" E to 76°23'13" E longitude. It is bordered by Kangra district in the North, Hamirpur in the East, Rupnagar (Punjab) in the South and Hoshiarpur district from South-West to North-West. It intersects district Una in almost two equal parts. Out of total areas of 1540 Sq. km. of Una district, the Swan river and its tributaries (chos) cover about 1290 sq. km. The rest of the area falls in the Lun khad catchment. Interestingly, during rains it is colossally a broad river but at other times it is a petty stream divided into two-three channels almost lost in its sandy bed. The river is fed by number of ephemeral streams (khads/chos), total 73 within the territory of Himachal Pradesh draining from both the flanks of the river. The Swan river catchment in lower Shivaliks is in fact one of the highly degraded land masses in the Himalayas calling for elaborate corrective measures for the restoration of its ecology. The recurring floods in the Swan river and its numerous tributaries (Malahat Khad, Takewali Khad, Hum Khad, Barera Khad, Garni Khad, Gubri Khad, Panjoa ke Khad, Sunkali wali Khad and Amb wali Khad cause colossal damage to agricultural lands, civil works, property, animal and human life. The dimension of large scale despoliation brought about by "river could well be imagined from its being called as the "River of Sorrows" by the local
people. To some extent people themselves are also responsible for the growing menace of spillage of flood waters from the rivulets and Swan river into their agricultural land.

**Yamuna:** Having had originated from Yamunotri Glacier in Uttaranchal, Yamuna flows in South-Westerly direction upto Banog and thereafter turns westwards before it is met by its principal tributary, the Tons at Kalsi about 48 km from Dehra Dun. The Gin and the Bata join the Yamuna upstream and downstream of Paonta respectively. It enters Himachal Pradesh at 'Khadar Majri' in Sirmaur district and is incidentally the the Eastern-most river of the state. Among its principal tributaries in the study area are Pabbar, Giri or Giri Ganga, Jalal, Markanda, Andhra, Giri, Asni and Bata Rivers.

The main geomorphic features of the Yamuna valley are interlocking spurs, gorges, steep rock benches and terraces. The latter have been formed by the river over the past thousands of years. The area drained by the Yamuna system includes Giri-Satluj water divide in Himachal Pradesh to the Yamuna Bhilangana water divide in Garhwal. To be more precise, the South-Eastern slopes along the Shimla ridge are drained by the Yamuna system. After Himachal Pradesh the river flows through the state of Haryana, Delhi and Uttar Pradesh where it merges with the Ganga river at Allahabad.

**Lakes**

**Ghadasaru Lake**, located in district Chamba, at an altitude of 3505 msl with nearly 1 km circumference, this perennial waterbody is 96 kms from the district Headquarters. The lake is mostly visited by local people to offer prayer at Kali temple, located on its bank. **Khajjiar Lake**, located amidst the centre of a spectacular grassy meadow, about 1.5 km long and 1 km wide, is
surrounded by soothing cedar forest, a small lake. It is 24 km from Dalhousie on way to Chamba. **Lama Lake** is 45 kms from Chamba nestled on the inner slopes of Dhauladhar range. In fact, there is a group of seven lakes, the largest of which is known as Lama Dal lake. Situated at an altitude of 3962 mts it is 20 km from Dainkund. **Manimahesh Lake**, located about 35 kms from Bharmour, on the foot of Mount. **Dal Lake**, also known as ‘Bhagsunath Lake’, it is situated at an altitude of 1775 meters above msl in district Kangra, at a distance of about 11 kms from Dharamshala, the district headquarters. The lake lies amidst hills and stately fir trees. **Rewalsar Lake**: It is situated at about 15 kms from Mandi. It is an important place of pilgrimage. This lake is known for its *floating islands*. The natural islands moving on the water surface is a feast to the eyes. When the islands broke off from the mainland and started floating in the lake, is still a mystery lo man. The Lake is also associated with Nag cult. This lake is about 12 to 15 meters deep at the centre. **Prashar Lake**, situated on a cup like valley at height of about 2743 meters above sea level, it is about 30 kms away from Mandi town. The lake is fed by small mountain streams. A pagoda like three storied temple of Prashar Rishi is located close to the lake in beautiful setting. **Bhrigu lake** is situated at the height of 4235 meters above the mean sea level near Rohtang pass. Its depth is about 3m and it remains under snow for the whole of winter. **Renuka Lake**, perched amid fascinating natural environment about 35 kms away Nahan, is the one of the most sacred and picturesque lakes in Himachal. **Suraj Tal**, situated in district Lahaul-Spiti, at an altitude of 4800 mts, is *the source of Bhaga river*. This lake is located opposite Baralacha having about 1200x1600 sq.mts. of area. **Chandra Tal** is yet another fascinating lake in thr study area, located in entral Lahaul at an altitude of 4270 m above mean sea level on a large meadow between a lower ridge and Kunzum range. Also known as the *'lake of the moon'* it is the source of Chandra river. The lake lies in large
depression formed by glaciers and remains completely frozen during winter. It is nearly one and a half kilometer long. A number of temples exist on the periphery of the lake, which treasures crystal clear water and magnificent scenery.

**Pong Lake** is 42 km long reservoir of the Pong Dam constructed on the Beas river in 1960. This mass of water varies from 180 sq. km to 400 sq. km during winters and summer/monsoon months, respectively. The lake was declared sanctuary in 1983. The reservoir has rapidly become an important staging and wintering area for a wide variety of migratory birds. This huge water body attracts 15 to 20 thousand migratory birds every year, belonging to 54 species, which in turn has added international importance to it. The lake has one permanent island and several other seasonal ones that are connected to the shore. **Pandoh Lake**, another man made lake in the state, situated at about 14 kms from Pandoh towards Aut on the Mandi-Kullu National Highway no 21. It has been formed due to the construction of Pandoh dam after diverting the water of the Beas river into Satluj at Slapar. Likewise, **Chamera Lake** is formed owing to construction of 540 MW Chamera Hydro-electric project on the river Ravi near village Chamera in district Chamba. It is situated at a distance of 25 km from the famous hill resort of Dalhousie and is visible from the Chamba-Pathankot highway. The road connecting the Chamera Dam goes along the lake to 'Bhalie temple' and the famous thick forest of Bhandal Valley.

**Govind Sagar**, yet another artificial lake formed as a result of the world-famous Bhakra Dam on the river Sailuj, is in district Bilaspur. It has become popular for water sports and fishing. Bhakra is the world’s highest gravity dam, has rightly been described by Pt. Jawahar Lal Nehru as a 'New temple of Resurgent India'. The crystal clear water flowing out through river outlets in
the shape of a cascade soothes one's eyes. The area of this lake is about 168 sq. km and it exists between Slappar and Bhakra villages on 88 km. length.

**Hot Springs**

Himachal Pradesh is endowed with a number of hot springs. Most of these waterbodies are located in the Satluj and Beas valleys. Generally there are three types of water springs observed in Himachal Pradesh, *viz.*, ordinary springs, mineral springs and thermal water springs. An ordinary water spring can be defined as temporary or permanent passing underground water to the surface. Mineral water spring has dissolved minerals; whereas the thermal water spring has the distinctive high temperature water. All springs have one common feature i.e. there is natural fluctuation in the quantity of water which is attributed mainly due to climatic conditions in the area.

Among one of the prominent hot water springs in the state is **Tattapani**, located on the right bank of the river Satluj at an altitude of 656 meters. It is about 51 kms away from Shimla and 29 kms from Naldera - a famous tourist resort located in district Mandi. This natural sulphur spring is widely appreciated for curative power of its waters, especially with regard to skin diseases and digestive ailments. **Mani Karan** comprises for a group of springs scattered over about 1.3 km along the bank of the river Parbati. This spring complex is about 45 kms from Kullu. It is awe-inspiring to see the water gushing-out with a strong force. Temperature of the water is generally well above boiling point. The water is said to have no sulphur or iron contents and the high temperature is considered due to radio-activity. The water is so hot that pulses (dal), rice, *chapatis*, vegetables etc. can be boiled in it. The healing properties of the Mani Karan springs are well known all over the country and pilgrims from far-off places come here for the cure of their
ailments. Pneumonia, gout, bronchitis, rheumatism and muscular pains are said to be rapidly cured by taking bath in this water. Kasol, yet another hot water spring in the state, is about 1 km further up stream Mani Karan and 32 kms from Bhuntar, where the 'first airport of Himachal Pradesh' is situated. The temperature of the water considerably less as compared to Mani Karan. Khirganga, Vashisht Satdhara, Kalika Kund, Jawalamukhi, Lunani, Salol spring and Baijnath are some other noteworth springs in the study area. As regard waterfalls, one comes across a number of them all around, particulary in Lesser and Great Himalayan zone during Monsoon months. However, Jeori, Rahla, Dhancho, Chadwick and Bhagsunath are some of the interesting perennial water falls in the state with stronger touristic appeal.

**Meteorology**

On account of the altitudinal extremes and topographic diversity, climate in Himachal Pradesh from semi-tropical to the semi-arctic. Generally speaking, the climate of the study area is distinguished from the adjoining plains by shorter and less severe hot weather, a somewhat higher precipitation and colder and more prolonged winter. The two main climatic characteristics of the region are the seasonal rhythm of weather and the vertical zoning. The climatic conditions vary from hot and sub-humid tropical in the southern low tracts to temperate, cold alpine and glacial in the northern and eastern high mountains. Lahaul and Spiti experience drier conditions as they are almost cut off by the high mountain ranges. The highest monthly maximum temperatures are experienced for June after which the temperatures continue to fall and the lowest monthly minimum temperatures are experienced in January. Above 20°C mean marks a hot month. Mandi has as many as 7 hot months while Simla has none. Normal monthly minimum temperatures are as low as 1.9°C in January at Simla and 6.5°C at Dharmsala. Similarly the normal monthly maximum temperatures in June are 15.6°C at Simla and 22.8°C at
Dharamsala. The annual range of temperature at Simla is 14.4°C and at Dharamsala 17.0°C, while at Mandi it is 18.0°C. The absolute temperatures can go down in January to -4.9°C at Simla (12-1-57) and —03°C (21-1-60) at Dharamsala and may rise to 38.3°C (on 17-6-58) at Dharamsala and 42.7°C (18-6-58) at Mandi.

The distribution of rainfall varies from less than 500 mm in greater parts of Lahaul and most of Spiti to over 3,400 mm at Dharamsala (Dhauladhar range). Kuhi receives about 915 mm rainfall while Jogindarnagar less than 35. However, there is no rainless month. In all places below 900 m heat is excessive during summer. It snows during winter down to an elevation of about 1,500m, but the snow does not lie for long below 2,500 m. At elevations of about 3,000 m, the average snowfall is about 3 m and lasts for 4 months, from December to March. Above 4500 m there is almost perpetual snow. Generally the rainfall increases from the plains to the hills according to relief and aspect. Beyond Kulu, the rainfall again decreases due to rain-shadow effect towards Lahaul, Spiti and Kinnaur. Spiti is the driest (below 50 cm) being enclosed by high mountains on all sides. About 70% of the annual rainfall is obtained during July to September about 20% from October to March and 10% from April to June. In Lahaul & Spiti, winter and spring precipitation is greater than the summer and autumn. During winter and spring, westerly depressions bring cloudy weather and light rain and often cause heavy snowfall in the higher regions. These wet spells may be followed by cold waves. The frequency of these depressions is about two in November, four to five during December to April and again about two in May. Pre-monsoon showers occur in June and post-monsoon showers continue till the first week of October but the total amount of both is low. Highest normal monthly rainfall may take place in July or August. Dharamsala is the rainiest
place experiencing maximum rainfall (1,055.3 mm) in July. The exceptionally heavy rainfall in Dharamsala area can be attributed to the interplay of monsoon currents and the sudden rise in altitude (i.e., from 900 m in the valley to over 3700 m in the Dhauladhar) and particular alignment of mountain ranges vis-à-vis aspect. Thus, Shimla and Nurpur lie in a rainfall zone of 1,500-2,000 mm. Dalhousie Dharamsala, Kangra, Palampur and Jogindarnagar lie in a zone exceeding 2,000 mm but beyond this zone of maximum rainfall, there is gradual decrease towards Mandi, Rampur, Kulu, Kalpa and Keylong. Most of Lahaul and Spiti receive less than 500 mm of precipitation. The numbers of rainy days vary from 48.6 at Keylong to 99.3 at Dharamsala. There is inverse correlation between rainfall and its variability. “In the comparatively rainy parts of Shimla and Kangra districts the variability index is as low as 20. Where the rainfall is only 500 mm the index rises to 35.

The relative humidity is generally higher in Himachal region than in the adjoining plains during the pre-monsoon (May-June) and monsoon period (July-August and September). After September the relative humidity sharply declines and the values are generally lower than in the plains. During winter also the values are lower and continue to remain so till April. Mandi is an exception where the humidity is generally high due to its situation on the river.

Physiography, as in other parts of the Himalaya, plays a more decisive role in creating its own effect on the climatic variations in the study area, as well. It is evident from the facts that, in Himachal Pradesh
- *South-facing slopes receive more sunlight and rain.*
- *The lower slopes lying behind high ridge are shady and fall in the rain shadow zone.*
- *There occurs less precipitation in the form of snow on South facing slopes.*
The snowline is higher on Southern aspects.

Taking the climatic perspective of the state as a whole, following three seasons can be broadly identified:

- **Cold** (*Sayal*, *Sardi* and *Thandi*) - October to February
- **Hot** (*Garmi*) - March to June
- **Rainy** (*Barsat*) - July to September

**Vegetation**

Owing to the interplay of a wide range of altitudinal and climatic variations, Himachal Pradesh has inherited a very diverse vegetational spectrum – representing almost every type of West Himalayan Flora from Himalayan meadows and high-land birches and rhododendrons, down to the Pine forests, tropical scrubs and bamboos of the low foothills culminating into rich broad leave forests in the Outer Himalayan zone.

As per the National Forest Policy, hilly ecosystems should have a forest at least upto cover 60% of the total geographical area. Efforts had, therefore, been made to bring the forest area “as near to the figure laid down in our National Forest Policy as possible.

As such, forests are not uniformly distributed throughout the study area, which are mostly confined to higher hills and interior valleys. It is due to the fact that along the lower and more accessible areas, the forests have been
cleared to make room for cultivation and settlements. Broadly speaking, the natural vegetation in the study area has an altitudinal zoning as given below:

<table>
<thead>
<tr>
<th>Sr No</th>
<th>Vegetation Zone</th>
<th>Altitude in meters</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Tropical and sub-tropical</td>
<td>300-1525</td>
</tr>
<tr>
<td>2</td>
<td>Temperate</td>
<td>1525-3650</td>
</tr>
<tr>
<td>3</td>
<td>Alpine</td>
<td>3650-4650</td>
</tr>
</tbody>
</table>

In most parts, the tree line reaches up to 3,950 m, beyond which is the Himalayan meadow-land up to the snow line which may reach as high as about 4,600 m, depending on the aspect. As regards the forest composition in the study area, it falls into the following broad categories:

(a) **coniferous forests**
(b) **broad-leaved forests**

Chir Pine (*Pinus roxburhii*), Blue Pine or Kail (*Pinus Excelsa*), Ddeodar (*Cedrus deodara*), Spruce, (*Abies pidrow*), Silver Fir and *Chilgoza Pine* are the principal coniferous genera while among the broad-leaved species, Sal (*Shorea robusta*), *Ban* oak (*Quercus incana*), *Moru* oak (*Q. dilatata*), Kharsu oak (*Q. Semecarpifolia*), Walnut (*Juglans regia*), Maple, Bird Cherry, Horse Chestnut, Alder, Semal (*Ceiba pentendra*), *Tun* and *Shisham* (*Dalbergia sissoo*) dominate the scenario.

The distribution of different species obviously follows the interplay of altitudinal stratification *vis-à-vis* aspect except where the local changes in rock and soils bring in vegetation inversion, *i.e.*, the associations which otherwise occur at higher altitudes may be in the lower zone and vice-versa. Generally speaking, the sequence of important timber species growing in the
region is Sal, *Chir, Deodar, Kail*, Spruce and Silver Fir while the broad-leaved species grow in small pockets in suitable sites mainly along the Outer Himalaya.

The forests in the study area can be classified mainly into nine forest types as under:

- **Dry Alpine forests** are found in Lahaul, Kinnaur and Pangi mainly. They are very open xerophytes. Main species are juniper, artemesia, lonicera, cotoneaster etc. Extensive alpine pastures are the characteristic feature of this forest type and support large flocks of sheep and goats during summer months and remain covered with snow from October to April or May.

- **Moist Alpine Scrub Forests** are mainly found beyond the tree limit and consist of evergreen scrub growth forming dense cover in patches broken by grasses in between, mostly represented by Salix, Lonicera and Viburnum etc. Herbaceous flora is fairly rich and includes a variety of aromatic and medicinal plants.

- **Sub-Alpine Forests** occur above the altitude of 3,500 m and below the moist Alpine scrub zone. *Kharsu* and *Betula utlis*, the typical trees of this zone, are however, sparsely met with. High level blue pine occurs only in Kinnaur, Pangi and Lahaul divisions. Between 2800-3,800 m these are generally well stocked. Between 2500-4000 m occur the Himalayan Temperate Parklands which are characterized by grasslands having scattered misshapen and often moribund trees of *Kharsu* oak, maple etc. They are used as grazing grounds by the migratory herds of sheep and goats.

- **Himalayan Moist Temperate and Mixed Forests** largely occupy the area between 1,500-3,500 m. The moist deodar forests are the most
valuable timber forests of this zone. Chaupal, Shimla, Kotgarh, Kinnaur, Suket, Nachan, Kulu, Seraj, Chamba and Churah are the Forest Divisions where such forests are mainly found. The mixed coniferous forests representing pure strands of spruce, silver fir, silver-fir and spruce, and spruce-deodar formations occur above deodar and kail zones between 2,000-3,500 m. The silver fir and spruce forests occur extensively in Chaupal, Pabar valley, Shimla, Kotgarh, Nachan, Kulu, Seraj, Chamba and Churah divisions. Both the species are magnificent in height (50-55 m), and girth (5.5 m). The moist temperate deciduous forests occur between 2,000-3,000 in moist depressions often along the nalas. Horse chestnut, bird cherry, walnut, maple and poplar are main species. The upper oak-silver fir forests are met with between 3,000-3’, 500 m. Alder extends up to 2,250 m and colonizes unstable hillsides and moist ravines. Kail producing valuable timber occurs between 1,500-2,500 m mainly in Chaupal, Pabar, Shimla, Kotgarh, Suket, Nahan, Mandi, Seraj, Kullu, Chamba and Kinnaur divisions. Chilgoza Pine forests comprise open forests mixed with deodar. They are commercially very important as they produce edible and costly nuts. Dry deodar forests occur in Kinnaur and Pangi divisions. Montane bamboo brakes occur as undergrowth in ban-oak and spruce-silver firs.

**Wet Temperate Forests** are largely confined to wet slopes of Dalhousie, Dharamsala, Kangra, and Palampur area and include various temperate species.

**Sub-Tropical Rine Forests** mainly comprising of Chil-pine occur between 1,000-2,200 m. Both lower or Shivalik chir-pine and upper or
Himalayan chir-pine are met with in Suket, Chamba, Nachan, Mandi, Kotgarh, Shimla, Chaupal, Pathankot, Kangra, Beas and Hoshiarpur divisions.

**Sub-Tropical Broad Leaved Hill Forests** stretch east to west from Mandi along the Beas (below 1200 m). Great damage has been done to these forests by grazing and excessive lopping, which have been reduced at places to scrub.

**Northern Tropical Dry Deciduous Forests** occur up to 1,250 m in the lower hills extending in the interior valleys along the rivers. Sal is the main species largely found in Nahan and Bharwain range of Hoshiarpur division.

**Tropical Thorn Forests** occupy a small area of Nalagarh and Pachhad tehsils.

Due to increasing requirements of wood and timber, fellings have been excessive. There has been extension of terraced cultivation and *nautor* in forest areas. In addition to growing pressure of human population, the incidence of grazing is high. Glover estimated a grazing incidence of 1.25 per acre while according to another estimate it is 2.50. Forest fires have done great harm. Deforestation has lead to microclimatic changes, loss of wild life, landslips causing loss to property and communications, erosion, lowering of subsoil water and irregular river regimes, and deposition and silting - all have ultimately brought about numerous hardships and even ruin.
As mentioned in the foregoing, distribution of various plant species follows fairly regular altitudinal stratification. As obvious, the vegetation varies from Dry Scrub Forests at lower altitudes to Alpine Pastures at higher altitudes. In between these two extremes, distinct vegetational zones of Mixed Deciduous Forests, Bamboo, Chil, Oaks, Deodar, Kail, Fir and Spruce, are found. The richness and diversity of our flora can be gauged from the fact that, out of total 45,000 species found in the country as many as 3,295 species (7.32%) are reported in the State. More than 95% of the species are endemic to Himachal Pradesh and characteristic of Western Himalayan flora, while about 5% (150 species) are exotic, introduced over the last 150 years. The forests of Himachal Pradesh are rich in vascular flora, which forms the conspicuous vegetation cover. Out of total 45,000 species of plants found in the country as many as 3,295 species (7.32%) are reported in the State.

Table: 3.3

<table>
<thead>
<tr>
<th>Type of flora</th>
<th>Number of species</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flowering Plants</td>
<td>3,120 species</td>
</tr>
<tr>
<td>Conifers</td>
<td>13 species</td>
</tr>
<tr>
<td>Pteriophytes</td>
<td>124 species</td>
</tr>
<tr>
<td>Orchids</td>
<td>38 species</td>
</tr>
</tbody>
</table>
Table: 3.4
Existing Forest Cover in Various Districts of Himachal Pradesh

<table>
<thead>
<tr>
<th>District</th>
<th>Geo. Area</th>
<th>Legally Classified forest area</th>
<th>Tree covered area</th>
<th>% Geographic Area</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Dense</td>
<td>Open</td>
<td>Total</td>
</tr>
<tr>
<td>Bilaspur</td>
<td>1,167</td>
<td>428</td>
<td>65</td>
<td>170</td>
</tr>
<tr>
<td>Chamba</td>
<td>6,528</td>
<td>4917</td>
<td>1585</td>
<td>716</td>
</tr>
<tr>
<td>Hamirpur</td>
<td>1,118</td>
<td>219</td>
<td>93</td>
<td>95</td>
</tr>
<tr>
<td>Kangra</td>
<td>5,739</td>
<td>2842</td>
<td>1338</td>
<td>301</td>
</tr>
<tr>
<td>Kinnaur</td>
<td>6,401</td>
<td>5093</td>
<td>436</td>
<td>213</td>
</tr>
<tr>
<td>Kullu</td>
<td>5,503</td>
<td>4956</td>
<td>1631</td>
<td>343</td>
</tr>
<tr>
<td>Lahaul &amp; Spiti</td>
<td>13,835</td>
<td>10132</td>
<td>34</td>
<td>116</td>
</tr>
<tr>
<td>Mandi</td>
<td>3,950</td>
<td>1860</td>
<td>982</td>
<td>557</td>
</tr>
<tr>
<td>Shimla</td>
<td>5,132</td>
<td>3511</td>
<td>1808</td>
<td>582</td>
</tr>
<tr>
<td>Sirmaur</td>
<td>2,825</td>
<td>1843</td>
<td>742</td>
<td>366</td>
</tr>
<tr>
<td>Solan</td>
<td>1,936</td>
<td>728</td>
<td>274</td>
<td>218</td>
</tr>
<tr>
<td>Una</td>
<td>1,540</td>
<td>487</td>
<td>132</td>
<td>185</td>
</tr>
<tr>
<td>Total</td>
<td>55,673</td>
<td>37016</td>
<td>9120</td>
<td>3962</td>
</tr>
</tbody>
</table>

More than 95% of species are endemic to Himachal and characteristic of Western Himalayan flora, while about 5% (150 species) are exotic introduced over the last 150 years. The exuberance of vegetational diversity in the state is aptly evident from the following table:

Table 3.4 provides an over-view on the vegetational wealth of the various districts in terms of the existing forest cover:

Wildlife

So far the information on bio-diversity of the study area, especially in faunal perspective, is sparse and fragmented due to lack of systematic taxonomic studies. However, on the basis of the available references, it can be conveniently observed that the state has both unique and diverse plant and animal species, and is particularly rich in high altitude taxa. The fact that already 77 species of mammals, 463 of birds, 44 of reptiles and 80 of fishes
have been recorded, itself speaks of the magnitude of faunal exuberance in this tiny Himalayan State (Table 3.5)

Table – 3.5
Bio-diversity in the Study Area

<table>
<thead>
<tr>
<th>Area under Protected Area Network</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>National Parks (2)</td>
<td>1440 km²</td>
</tr>
<tr>
<td>Wildlife Sanctuaries (32)</td>
<td>5562 km²</td>
</tr>
<tr>
<td>Recorded species of mammals</td>
<td>77</td>
</tr>
<tr>
<td>Recorded species of birds</td>
<td>463</td>
</tr>
<tr>
<td>Recorded species of reptiles</td>
<td>44</td>
</tr>
<tr>
<td>Recorded species of fishes</td>
<td>80</td>
</tr>
<tr>
<td>Recorded species of aquatic fauna</td>
<td>436</td>
</tr>
</tbody>
</table>


As evident from Table 3.5, 463 bird species are so far reported from the state which include a good number of summer and winter migrants. In fact, on account of its strategic position close to centre of the long Himalayan sweep,
majority of the species found in this mighty mountain range are found in the state barring a few endemic birds of the far eastern part. Thus, species belonging to *Martins, Minivets, Munias, Mynas, Nutcrackers, Nuthatches, Orioles, Parakeets, Partridges, Pheasants, Sandpipers, Snowcocks, Sparrows, Sunbirds, Swifts, Teals, Thrushes Babblers, Bee-eaters, Bullfinches, Buntings, Cormorants, Cuckoos, Darters, Drongos, Finches, Flowerpeckers, Flycatchers, Forktails, Tits, Warblers, Junglefowls, Kingfishers, Kites, Magpies, Harriers, Hombills, Hoopoes, Woodpeckers, Partridges, Pheasants, Pigeons, Eagles, Kites and Vultures are richly distributed here. Presence of *Tragopan and Monal Pheasents, Snow Cocks and Snow Partridge* is particularly noteworthy.

Reptiles, as obvious in case of higher Himalayan reaches, being cold bloded species can not comfortably thrive and hence are thinly distributed along the lower reaches of the study area. As such, Vipers, Himalayan Pit Vipers, Common Ratsnake, Mud Snake, Book's Gecko, Indian Python, Common Indian monitor and various species of lizards are found in one or the other part of the state.

Himachal Pradesh is endowed with numbers of fast flowing rivers and streams originating from glaciers, rumbling and swirling along the rugged mountain passing through awesome gorges, canyons, alternating with pools and fiery rapids. Besides, there are also good number of natural and man made fresh water lakes. As a result, Ichthyo-fauna present in the state is not only rich but considerably diverse as well. Presence of various species *Tor, Barilus, Schizothoracids, Crossocheilus, Gara, Channa and Glyptothorax* makes the study area an angler’s paradise. Among others, presence of *Tor putitora, Tor tor, Tor Khudre, Tor progerneius, Tor Kulkarni, Salmo trutta fario, Salmo gairdnerii, Oxygaster bacailia, O.clupeoides, O.gora, Barilus barila,*

Aware of its unique and diverse biotic treasure *vis-à-vis* extremely fragile nature of the ecosystems, the state has established an intensive network of Protected Areas in order to conserve entire range of biodiversity *in situ*. Thus, there are 2 National Parks and, as many as 32 Wildlife Sanctuaries, together occupying approximately 3,94,788.65 hectares, which is approximately 7.10% of the total land area of the state; 2.33% and 4.77% under national parks and sanctuaries, respectively. The existing reserves are, The Great Himalayan National Park (N.P.) in Kullu district (alt. 1500 - 5805 M), Pin Valley N.P.- Lahaul-Spiti (alt. 3,300-6,632 M), Bandli Wildlife Sanctuary (W.S.) - Mandi (alt. 762 to 2160 M), Chail W.S. - Solan and Shimla, Churdhar W.S.- Sirmaur and Shimla (alt. 2000-3647M), Daranghati W.S. – Shimla (alt. 2,100 - 3,315 M), Darlaghat W.S. - Solan and Bilaspur, Gamgul Siahbehi W.S. – Chamba (alt. 1800-3919M), Kais W.S.- Kullu (alt. 2,800-3,680 M), Kalatope Khajjiar W.S.- Chamba (alt. 1185 - 2768 M), Kanawar W.S.- Kullu (alt. 1800 - 4833

**Population**

On account of its predominantly complex terrain, the state is rather thinly populated. According to 2001 Census, the total population of Himachal Pradesh has been 1,027,015,247 persons; respectively 531,277,078 males and 495,738,169 females. The sex ratio thus comes to be 933 per thousand males. Interestingly, the decadal growth rate during 1991 – 2001 period has been (+) 21.79 % and (+) 20.93 in case of females and males respectively. Higher growth in
female population is further evident from the fact that the sex ratio in
the population of children of ‘0 to 6 years’ age group has been 927
females per thousand males (Census – 2001). Among the twelve
district of the state, Hamirpur has the highest population density
followed by Bilaspur, Una, Solan and Kangra, while Lahaul – Spiti has
the lowest population density followed by Kinnaur, Kullu and Chamba
(Table 3.6). This trend clearly indicate that population density is largely
governed by altitude and terrain, i.e., density decreasing with altitude
and complexity of terrain. Talking of the sex ratio, Hamirpur, Kangra,
Una, Mandi and Bilaspur are the districts where the ratio is in favour of
females in contrast with Lahul – Spiti, Kinnaur, Shimla and Sirmaur
where it males dominate the ratio(Table 3.6). Though no logical
reason can be given without a sound research base, perceivably
altitude goes against the former. The literacy in the state, according
to 2001 Census has been approximately 65.38%. Males (86.02%)
seem to be comprehensively ahead to females (68.08%), in this
context. Taking reference from 1991 Census, it is aptly evident that
while the literacy percentage in the state is considerably increasing, it
is relatively higher in case of the females. Both of the trends indicate
towards growing overall awareness which is indeed a very progressive
sign.

Highest literacy rate, as per the 2001 Census, has been for Hamirpur,
Una, Kangra, Simla, Bilaspur and Solan, the lowest being for Chamba.
It is really intriguing that district Simla, where the state capital is
located does not lead in terms of literacy. Female literacy, is also
highest in Hamirpur closely followwed by Una, Kangra Simla, Bilaspur,
and Solan in that order, and least being in Chamba, thus following the
trends in overall literacy rate. Incidentally data for Kinnaur have not
been available, though one can assume for average literacy rate in the
district keeping in view its physiography.

Table 3.6

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Himachal Pradesh</td>
<td>976</td>
<td>970</td>
<td>93</td>
<td>109</td>
</tr>
<tr>
<td>1</td>
<td>Chamba</td>
<td>949</td>
<td>961</td>
<td>60</td>
<td>71</td>
</tr>
<tr>
<td>2</td>
<td>Kangra</td>
<td>1024</td>
<td>1027</td>
<td>205</td>
<td>233</td>
</tr>
<tr>
<td>3</td>
<td>Lahul &amp; Spiti</td>
<td>817</td>
<td>804</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>4</td>
<td>Kullu</td>
<td>920</td>
<td>928</td>
<td>55</td>
<td>69</td>
</tr>
<tr>
<td>5</td>
<td>Mandi</td>
<td>1013</td>
<td>1014</td>
<td>197</td>
<td>228</td>
</tr>
<tr>
<td>6</td>
<td>Hamirpur</td>
<td>1105</td>
<td>1102</td>
<td>330</td>
<td>369</td>
</tr>
<tr>
<td>7</td>
<td>Una</td>
<td>1017</td>
<td>997</td>
<td>246</td>
<td>291</td>
</tr>
<tr>
<td>8</td>
<td>Bilaspur</td>
<td>1002</td>
<td>992</td>
<td>253</td>
<td>292</td>
</tr>
<tr>
<td>9</td>
<td>Solan</td>
<td>909</td>
<td>853</td>
<td>197</td>
<td>258</td>
</tr>
<tr>
<td>10</td>
<td>Sirmaur</td>
<td>897</td>
<td>901</td>
<td>134</td>
<td>162</td>
</tr>
<tr>
<td>11</td>
<td>Shimla</td>
<td>894</td>
<td>898</td>
<td>120</td>
<td>141</td>
</tr>
<tr>
<td>12</td>
<td>Kinnaur</td>
<td>856</td>
<td>851</td>
<td>11</td>
<td>13</td>
</tr>
</tbody>
</table>
Going by the information cited in Table 3.8, there are Primay, Middle and High School one each in every 5.3 sq km, 33.1 sq km and 56.2 sq km, respectively. The distribution of schools may appear to be too sparse, but taking into consideration the thinner population density in the state vis-à-vis the magnitude of uninhabited areas, the statistic may not appear discouraging.

Table - 3.7
Himachal Pradesh – Literacy Perspective

<table>
<thead>
<tr>
<th>Sr.No</th>
<th>State/District</th>
<th>Literates</th>
<th>Literacy Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Himachal Pradesh</td>
<td>4,029,097</td>
<td>1,762,994</td>
</tr>
<tr>
<td>1</td>
<td>Chamba</td>
<td>249,680</td>
<td>1,762,994</td>
</tr>
<tr>
<td>2</td>
<td>Kangra</td>
<td>950,260</td>
<td>1,762,994</td>
</tr>
<tr>
<td>3</td>
<td>Lahul &amp; Spiti</td>
<td>21,659</td>
<td>1,762,994</td>
</tr>
<tr>
<td>4</td>
<td>Kullu</td>
<td>241,042</td>
<td>1,762,994</td>
</tr>
<tr>
<td>5</td>
<td>Mandi</td>
<td>593,462</td>
<td>1,762,994</td>
</tr>
<tr>
<td>6</td>
<td>Hamirpur</td>
<td>301,176</td>
<td>1,762,994</td>
</tr>
<tr>
<td>7</td>
<td>Una</td>
<td>315,342</td>
<td>1,762,994</td>
</tr>
<tr>
<td>8</td>
<td>Bilaspur</td>
<td>235,245</td>
<td>1,762,994</td>
</tr>
<tr>
<td>9</td>
<td>Solan</td>
<td>334,964</td>
<td>1,762,994</td>
</tr>
<tr>
<td>10</td>
<td>Sirmaur</td>
<td>277,204</td>
<td>1,762,994</td>
</tr>
<tr>
<td>12</td>
<td>Kinnaur</td>
<td>NA</td>
<td>NA</td>
</tr>
</tbody>
</table>

The opportunities for higher and professional education, in view of the availability of number of relevant institutions, are relatively good and certainly reflect towards the keen concern of the state government. Apart from three universities there are multiple engineering, medical and dental colleges in the study area. On the whole, the overall literacy percentage, as well as, consistently increasing female literacy over the years, indicate towards a definitely improving awareness scenario.
### Table 3.8
**Educational Institutions in Himachal Pradesh**

<table>
<thead>
<tr>
<th>Type of institution</th>
<th>Level/Category</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Schools</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Primary Schools</td>
<td>10,482</td>
</tr>
<tr>
<td></td>
<td>Middle Schools</td>
<td>1678</td>
</tr>
<tr>
<td></td>
<td>High Schools</td>
<td>990</td>
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<tr>
<td></td>
<td>Sr. Sec. Schools</td>
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<tr>
<td><strong>Colleges</strong></td>
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</tr>
<tr>
<td></td>
<td>Govt. College</td>
<td>37</td>
</tr>
<tr>
<td></td>
<td>95% aided College</td>
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</tr>
<tr>
<td></td>
<td>On Adhoc Grant</td>
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</tr>
<tr>
<td></td>
<td>Un-aided</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>Evening Colleges</td>
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<tr>
<td><strong>Professional Institutions</strong></td>
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</tr>
<tr>
<td></td>
<td>Medical Colleges</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Engineering Colleges</td>
<td>2 (One Govt. + One Pvt.)</td>
</tr>
<tr>
<td></td>
<td>Colleges of Education</td>
<td>6 (One Govt. + Five Pvt.)</td>
</tr>
<tr>
<td></td>
<td>Sanskrit Colleges</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Dental Colleges</td>
<td>4 (Two Govt. + Two Pvt.)</td>
</tr>
<tr>
<td></td>
<td>Ayurvedic Colleges</td>
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</tr>
<tr>
<td></td>
<td>Polytechnic Colleges</td>
<td>5</td>
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<tr>
<td></td>
<td>DIET's</td>
<td>12</td>
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<tr>
<td><strong>Universities</strong></td>
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<td></td>
<td>H.P. University, Shimla</td>
<td>3</td>
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<tr>
<td></td>
<td>Agriculture University, Palampur</td>
<td></td>
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<tr>
<td></td>
<td>Dr. Y.S Parmar University of Horticulture &amp; Forestry, Nauni Solan</td>
<td></td>
</tr>
</tbody>
</table>


Economy

The state has inherited a typically agrarian economy duly supported with service sector. The availability of power coupled with a strong industry supporting policy of the state has now been consistently strengthening the industrial sector. In fact, realizing the fact that the mineral resources, on account of poor distribution and that too in small pockets, seldom lead to the prosperity, the state government has been rightly extending everstronger support to agriculture with due emphasis on industrial development.

Figure – 3.3
Occurance of Mineral Resources in the Study Area

Figure 3.3 throws on the occurance of various mineral resources in its different parts, especially, limestone, iron, copper, gypsum, dolomite, sulpher, coal and gold. As already mentioned above, the distribution of the above minerals is not only too thin but restricted to a few pockets
only and hence economically not so significant. May be that deeper studies in the field unearth revealing fact to this effect.

Himachal Pradesh is one of the classic examples of rapid transformation from one of the economically most backward part of the country to one of its most advanced states. The state now ranks fourth in respect of per capita income among the states of the Indian Union.

The era of economic planning started in Himachal in 1948 along with the rest of India. The first five-year plan allocated Rs.5.27 crore to Himachal. More than 50% of this expenditure was incurred on road construction since it was felt that without proper transport facilities, the process of planning and development could not be carried to the people, who mostly lived an isolated existence in far away areas. Efforts were also made to involve people more in the process of economic and social advancement.

The community development programme launched in 1952, in certain selected areas of Himachal was later extended to the entire rural area. New ideas and techniques relevant to specific areas and climatic zones were introduced thereby. Thus, a new awareness amongst the people about the production possibilities of there respective lands which for centuries were being used along the centuries old worn methods. In Mandi and Kangra districts package programmes were undertaken in
collaboration with the West German government for popularising modern techniques of cultivation among the farmers. Suitable agricultural machinery and good breeds of cattle, sheep and poultry were introduced in these areas. Well equipped soil testing laboratories, dairy farms and agricultural workshops were established at various centres, besides an Agriculture University at Palampur. Evidentaly, the focus was on the development of agriculture and agro-based industries.

Himachal has an impressive record to look back upon and built-up a promising future for itself. As of now, its education system is well established, agriculture reaching near self-sufficiency, horticulture making a name in the country and even abroad and, road system having emerged as one of the most reliable in the hill perspective. Its infrastructure industrial development is well laid out, its rich forests being augmented and above all, the increasing attention of the nation towards exploiting its hydel resources are the guarantees for its bright future. It has already become virtually a case model with regard to effective development of the hill areas of the country, especially in Himalayan context. It has become a leading state now, particularly with respect to horticulture, fruitpreservation and the related activities, power production, tourism and hospitality concerned business, floriculture, pisciculture and other agro-based economic activities and above all industrial development. Its industry friensdly policed have started paying rich dividends to the extent that good deal of multinationals have already strted their operations especially from the
areas like Parwanoo while many more are in the queue. Residents too have developed entrepreneurial skill and aptitude and are particularly coming ahead with tourism and hotel related operations. Alondside this, service sector too is growing strongly.

As such, Agriculture still contributes for a lion’s share to the economy of the state, i.e., still account for over 45% of the net state domestic product. It is in fact the economic mainstay for both the resident and the state. Consequently, over 93% of the population in Himachal depends directly upon agriculture, provides direct employment to almost 71% of its people. Fact remains that this sector still suffers from a number of constraints, especially in terms of production of food grains. One of the reasons to this effect is that the area under cultivation cannot be further extended to any appreciable extent, while, reclamation of land along hill slopes for cultivation of food grains is neither economical nor beneficial, more so due to unpredictable meteorological factors.

The farmers are thus more inclined towards cash crops suited to the agro-climatic conditions. The main cereals grown are wheat, maize, rice and barley. Kangra and Mandi district, and to some extent, Paonta Valley of Sirmur district are the major producers of wheat, rice and maize, while barley is mostly grown in Shimla district. Production of
seed-potato, ginger, vegetables, vegetable seeds, mushrooms, chicory seeds, hops and olives etc is particularly on consistent rise. Shimla, Kulu and Lahaul areas are especially noteworthy in terms of production of potato. Fruit cultivation, mainly apple production is another field proving to be an economic boon to the farmers, accounting for cumulative income of over Rs.300 crore annually. Therefore the state is befittingly known as ‘Apple State of India'. Likewise, district Kangra is known for production of quality tea, which is mostly exported.

Figure 3.4
Prevailing Agricultural Landuse patterns in H.P.
Now, special efforts are being made to promote cultivation of new crops like olives, figs, hops, mushrooms, flowers, pistachio nuts, sarda melon and saffron.

The agrarian reforms undertaken in the state by the government has also helped a great deal in the advancement in agriculture. In 1954, revolutionary land reforms legislation, the Himachal Pradesh (H.P) Abolition of Big Landed Estates and Land Reforms Act was enacted. This Act took away land beyond a certain limits from big landlords and erstwhile rulers and transferred the same to tenants on payment of compensation amounting to 24 times of the land revenue paid on the land. In 1972, the H.P ceiling on Land Holding Act was passed which had the ceiling fixed on various kinds

![Figure 3.5](image1.png)
**Terraced Farming is common all along the Hilly Terrain of the State**

![Figure 3.6](image2.png)
**Kinnaur & Shimla Districts are Fore-runners in Apple Production**
of lands and tenants could not be evicted. It also directed that every agricultural family must be given at least five bighas of land. As a result of these measures, 2500 big landed estates were abolished and an area of about one lakh acres was thus declared surplus and distributed to the landless. Again, in 1974, H.P Village Common Land Vestment and Utilization Act was passed to enable the government; to give sham let lands to the landless. Under these aggressive reforms, out of about 5 lakh agricultural families, about 4.5 lakh families have become landowners. Ban on purchase of land by non-residents and prohibition on land transfer in identified tribal belts even to residents of Himachal has further proved a longterm safeguard for the farmers.

Figure 3.7
Tea Plantation in Kangra

The state government is convinced that availability of cheap credit, organization of marketing facilities and provision of agricultural inputs are very important for the development of agriculture and that, besides governmental agencies, co-operative societies are the only agencies
which perform some of these functions. Consequently, there are Co-operative societies numbering around 3841, which together cover about 93% of rural population. Some agricultural societies provide short and medium term credit facilities to their members. Other functions of the co-operatives, are mobilization of deposits and the marketing of agricultural and horticultural produce. They also play a vital role in the public distribution system and are already running a lot of fair piece shops in the state.

**Industry**

Consequent to the industry freiedly policy of the state, industries including multinational are vying to start their operations in the state. However, the government lays particular industries which cause water or air pollution are not encouraged, consequently, every industrial project has to obtain the clearance of the Environment Protection Organization before its establishment.

Initially, Himachal had to face many hurdles on way to advancement of Industries. Lack of adequate and dependable means of transport was one of the main drawbacks. Other handicaps were the poor mineral resources of the state, non-availability of infrastructural facilities, shortage of capital and equipment, absence of modern skills and lack of entrepreneurship among the locals and, the inherent emphasis on cottage industries. One of the advantages was the availability of requisite power supply.

With a view to develop industrialization, a new industrial policy was adopted by the government providing various incentives to the potential entreprizes, such as cheaper power, provision of requisite land, and
easier and subsidized credit facilities through the State Finance Corporation and the nationalised banks for setting up new industries. Land was made available on 99 years’ low rate lease basis and new industries were exempted from sales or purchase tax and from octroi both on raw material and finished goods for 5 years. Concession was also given on freight charges for transport of raw materials from the nearest railhead outside the state besides provision of other marginal benefits such as assistance in the preparation of project reports. This concession, majority of which still exist, helped in luring leading industrial houses to start their operations in the state.

As of now, industrial areas have been established at Pauranoo, Barotiwala, Baddi, Paonta Sahib, Mehatpur, Shamshi, Nagrotu Bagwan, Bilaspur, Reckong-Peo and Sansar Pur Tera. Since the dust free and cool climate of Himachal is extremely suitable for the establishment of electronic and precision industries, many electronic complexes have been set up at Solan, Mandi, Hanurpur, Shogi, Raga-Ka-Bagh, Chamba, Ambi, Taliwala and Keylong, like watch manufacturing units, thermometers, microscopes, hospital and laboratory equipment. Facilities available for setting up electronic industry for which a subsidy up to 50 lakhs is given, has encouraged manufactures to set up entreprizes dealing with production and fabrication of TV sets, tape recorder, video-cassettes, electronic toys and computer parts.
## Table - 3.9

**Major Industrial Houses Operating in Various Districts of H.P.**

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Group/ District</th>
<th>Solan</th>
<th>Sirmour</th>
<th>Kangra</th>
<th>Una</th>
<th>Shimla</th>
<th>Bilaspur</th>
<th>Mandi/ Kullu</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Food Products</td>
<td>17</td>
<td>2</td>
<td>6</td>
<td>1</td>
<td>--</td>
<td>1</td>
<td>--</td>
<td>27</td>
</tr>
<tr>
<td>2</td>
<td>Beverages</td>
<td>3</td>
<td>1</td>
<td>--</td>
<td>1</td>
<td>--</td>
<td>--</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>3</td>
<td>Textile/Spinning</td>
<td>21</td>
<td>1</td>
<td>--</td>
<td>1</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>23</td>
</tr>
<tr>
<td>4</td>
<td>Chemical &amp; Chemical Products</td>
<td>20</td>
<td>6</td>
<td>--</td>
<td>1</td>
<td>--</td>
<td>--</td>
<td>1</td>
<td>28</td>
</tr>
<tr>
<td>5</td>
<td>Engineering</td>
<td>11</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>11</td>
</tr>
<tr>
<td>6</td>
<td>Non Metallic Mineral Products</td>
<td>2</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>2</td>
</tr>
<tr>
<td>7</td>
<td>Electronics</td>
<td>23</td>
<td>2</td>
<td>--</td>
<td>--</td>
<td>4</td>
<td>--</td>
<td>--</td>
<td>29</td>
</tr>
<tr>
<td>8</td>
<td>Steel &amp; Steel Products</td>
<td>21</td>
<td>9</td>
<td>--</td>
<td>2</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>32</td>
</tr>
<tr>
<td>9</td>
<td>Paper &amp; Paper Products</td>
<td>11</td>
<td>5</td>
<td>--</td>
<td>2</td>
<td>1</td>
<td>--</td>
<td>--</td>
<td>18</td>
</tr>
<tr>
<td>10</td>
<td>Cement</td>
<td>3</td>
<td>3</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>2</td>
<td>--</td>
<td>8</td>
</tr>
<tr>
<td>11</td>
<td>Leather &amp; Leather Products</td>
<td>2</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>2</td>
</tr>
<tr>
<td>12</td>
<td>Ceramic</td>
<td>1</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>1</td>
</tr>
<tr>
<td>13</td>
<td>Plastic Products</td>
<td>7</td>
<td>2</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>9</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>142</td>
<td>31</td>
<td>6</td>
<td>8</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>196</td>
</tr>
</tbody>
</table>

Furniture making, rope making, bamboo products, manufacturing and specialized wood based industrial units have also been set up. Two vanaspati ghee plants have been set up. Where limestone exists in plenty, cement factories have come up in public and private sectors. Sericulture, handloom and tea are other industries that have lately been given particular attention while, silk industry is already providing employment to a lot of people.

Tea is traditionally grown in Kangra and Mandi districts at an altitude of 1000 to 1500 metres. With a view to encourage this industry, subsidy is
being provided to growers besides facilities for chemical analysis and co-operative tea processing in a factory. The Tea Board of India has given financial assistance for laying out demonstration plots and for undertaking research.

Himachal has a rich heritage of handicrafts which include woolen and pashmina shawls, gudmas, carpets, silver and metal ware, embroidered chappals, grass shoes, Kangra and Gompa style paintings, wood work, horse-hair bangles, wooden and metal utensils and various other household items. These aesthetic and tasteful handicrafts declined due to competition from machine made goods and also because of lack of marketing facilities.

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>District</th>
<th>No. of units</th>
<th>Investment (Rs. in lacs)</th>
<th>Employment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Bilaspur</td>
<td>1921</td>
<td>2926.54</td>
<td>7000</td>
</tr>
<tr>
<td>2.</td>
<td>Chamba</td>
<td>1513</td>
<td>2147.58</td>
<td>5349</td>
</tr>
<tr>
<td>3.</td>
<td>Hamirpur</td>
<td>2335</td>
<td>3621.44</td>
<td>8480</td>
</tr>
<tr>
<td>4.</td>
<td>Kangra</td>
<td>7991</td>
<td>14769.95</td>
<td>34622</td>
</tr>
<tr>
<td>5.</td>
<td>Kullu</td>
<td>2059</td>
<td>3482.31</td>
<td>10170</td>
</tr>
<tr>
<td>6.</td>
<td>Kinnaur</td>
<td>511</td>
<td>348.07</td>
<td>1558</td>
</tr>
<tr>
<td>7.</td>
<td>Lahaul &amp; Spiti</td>
<td>548</td>
<td>245.33</td>
<td>1474</td>
</tr>
<tr>
<td>8.</td>
<td>Mandi</td>
<td>3006</td>
<td>6532.45</td>
<td>12072</td>
</tr>
<tr>
<td>9.</td>
<td>Shimla</td>
<td>2795</td>
<td>44491.71</td>
<td>10297</td>
</tr>
<tr>
<td>10.</td>
<td>Sirmour</td>
<td>2339</td>
<td>8958.66</td>
<td>10379</td>
</tr>
<tr>
<td>11.</td>
<td>Solan</td>
<td>2725</td>
<td>16889.31</td>
<td>18125</td>
</tr>
<tr>
<td>12.</td>
<td>Una</td>
<td>2433</td>
<td>6564.13</td>
<td>10345</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>30,176</td>
<td>70977.48</td>
<td>129871</td>
</tr>
</tbody>
</table>
But now the demand for handicrafts has increased within and outside the country. Now, Himachal Pradesh Handicrafts Corporation is implementing schemes for the revival and rehabilitation of handicrafts. Apprenticeship schemes aiming at training in almost extinct crafts like Kangra and Chamba painting and metal wares were undertaken. The handicrafts design centre was set up to provide new design adaptations to the artisans. The corporation has introduced a procurement scheme under which master craftsmen are provided work at their doorsteps and the finished goods are collected from them and marketed.

As such, the state has now nearly 196 medium and large scale and approximately 30,176 small scale industrial units together leading to an investment of about 3087 crores rupees and generating employment for about 1.60 lac people. Due efforts have been made to strengthen the large, medium and cottage sector of the industry by way of developing an intensive transportation network. While the road transport has perhaps progressively developed over the years, despite the complex Himalayan terrain, rail network, still, is largely confined to the efforts made during Raj days. Obviously, the air transportation, on account of the topographic complexity, vis-à-vis limited demand has, so far, remained a lesser developed area, but with the consistently growing tourist influx, it is bound to get ever-stronger ground. On a whole, it can be conveniently remarked that there are not much constraints in the study area, especially from the residents’ view point. Further details to this effect have been incorporated in the chapter, ‘Tourist Plant Facilities’.

The growth trends aptly reveal that the state is consistently prosrering, thus Agriculture/ Horticulture and industrial development together contributing to this effect with due support to the service sector. However, for long-term
sustenance, tourism, on account of inherently strong resource treasure, can be similarly identified as an agent to holistic development of the study area. Blessed with the dramatically diversified range of touristic appeals, high, moderate to relatively low summits, glaciers, daunting black mountains, crystal clear lakes, stupendous water falls, hot and cold water sprays, gurgling tumbling falling, foaming rivers, vividly varied vegetational and wildlife spectrum, awe inspiring mountain scape duly complemented by the rich historical and cultural facts, ethos and traditions, the bewirdling varieties of folk traditions, life-styles and craftman-ship, and rich galaxy of summer resorts and the above all the tourism favouring policies and strategies of the state Government, tourism is all set to be the agent to the holistic vis-à-vis long term prosperity of the state, be it social, sociological, cultural, economic and even ecological. This fact tempted the scholar to take up the present problem with special reference to Himachal Pradesh.

Tourism Resource Potential

The term tourist resource has been defined and interpreted differently by different scholars. To quote Rogers (1989), tourist resources can be defined as "the inputs required by the transformation process that satisfies tourists needs or wants". Any natural, cultural, historical, social or man-made element qualifies to be a tourist resource that has an appeal to attract people, observes Bansal (1994). However, it would be fallacious to believe that every resource is an attraction (Punia, 1992). Thus, it has been rightly remarked that, "Resources are not they become" (Zimmermann, 1964). The ultimate test of what constitutes a tourist resource and the degree of appeal must be the preferences, interests and requirements of the tourist themselves (Ferrario, 1978). Essentially, the core of tourist product consist of the total appeal of all natural and man made characteristics that an area can offer, supported by an adequate development of catering equipment and promoted by an effective sales organization (Jeferies,
Ferrario (1978), in his study “Evaluation of Tourist Resources of South Africa” has enlisted as many as 2300 features that could be identified as tourist resource(s) and subsequently grouped them into 21 categories. He is of the view that the eventual resource value of touristic feature could be finally determined through working-out the inter-relationship between the degree of availability and intensity of demand by using the following formula:

\[ I = A + B \]

Where,
- \( I \) is the index of ‘tourist resource potential’
- \( A \) is the ‘appeal component’ as determined by the tourist survey, and
- \( B \) is the ‘availability component’ as determined by local survey

The modus operandi applied by Ferrario is conceptually more or less the same as the one evolved by Gearing var and others (Gearing et al. 1974). Ferrario selected a set of 17 more or less independent variables, organized them into five sub groups and assigned numerical values to each of them on the basis of preferences indicated by the tourists. The numerical value thus assigned was taken as an index of the tourist attractiveness to be used in the following formula (Kaur, 1985), according to which, the tourist attraction of a region \( (T_j) \) is:

\[ T_j = f (N_j, S_j, H_j, R_j, A_j) \]

Where,
- \( T_j \) = Total tourist attraction of a Region
- \( N_j \) = Natural factors
- \( S_j \) = Social factors
- \( H_j \) = Historical factors
- \( R_j \) = Recreational and shopping opportunities
- \( A_j \) = Accessibility and accommodation above the minimal tourist quality
Mill and Morsion (1985) have evolved an interesting approach that was used in the tourism development programme for Collingwood-Midland-Orillia zone in Ontario (Canada). It classifies the various resource components having local, regional, provincial, national and international appeal with respect to the existing, desired and potential markets. Here too, the needed information to evaluate the potential of an individual resource is based on the responses and reactions of the domestic (including local and regional visitors) and the international tourists. Prospective use- patterns in each individual case were determined on the basis of past, present and future tourism trends. The information thus collected was finally used to evaluate the overall tourism potential of the above-mentioned area. This method provides a complete overview on the resource potential of an area. Interestingly, the potential value otherwise explained in qualitative terms can also be translated into quantitative terms as and when needed.

On the whole, while applying anyone of the above approaches there are the following common steps:

1. Identification and mapping of available tourist resources in a given area.
2. Assessment of the degree of tourist preferences and tourist interests for each of these features; and
3. Finally, determining the resource value in qualitative or quantitative terms.

“Potential” broadly insinuates something promising but not yet (fully) exploited; it symbolizes the sum total of qualitative and quantitative values of the given resources on which the degree and extent of its exploitability depends (Kandari, 1984). In the context of tourism, assessing the resource potential in quantitative terms is highly complex process, if not impossible, as it involves the physical, psychological and spiritual demands on the people belonging to diverse
geographical, socio-cultural and economic backgrounds who travel under different motives, interests, preferences and immediate needs.

To quote Kandari (1984), “potential for tourism development in any area depends on the availability of recreational resources in addition to the factors like climate, seasons, accessibility, proximity to market, political stability, state of economy and general infrastructure, quality of natural environment, attitude of the local people, travel trade entrepreneurs and tourism planners, the existing tourist plant facilities and the degree to which they can be further developed within the prevailing limitations of natural, cultural and financial environments. Healthy combination of all those and many other factors create an ideal tourismagnetic environment at a given destination if the touristic values of the resource are effectively translated into a saleable, but composite tourist product”.

Identification, enlisting and mapping of the tourist resources is the first step, and yet, the most important, one in planning and development of tourism. Obviously, tourism planners and developers ought to be ever keen to know the degree of attractiveness of a resource or a set of resources, though it is a challenging proposition as the touristic value of an attraction is dynamically changing factor owing to the consistently changing 'tourist demand trends' and the 'resource use patterns'. In this context, there is now a consensus view that the most effective way to assess the touristic appeal of the 'generic' and 'specific' attractions, is to consistently cross-examine the perceptions and priorities of tourists vis-a-vis the attractions in question. However, the result of such studies can not be applied to the similar type of resources or attraction distributed in different geographical and socio-cultural settings since the ultimate attractiveness of a natural and cultural feature not only depends on its quality but determined by a complex combination
of many factors including additional resources / attractions besides the other features already stated above.

The exclusive feature of tourism industry is that there intrinsically exists potential in the form of conversionable resources ranging from a mountain, river stream, lake, waterfall, dam, forest, wildlife, beach, island, desert, historical site, museum, monument, art object, fair or festival, tradition and folk dress, to the fact that even a prominent personality can be a tourist resource. It can, thus, be conveniently observed that almost every place has some degree of tourism resource potential (Singh, 1999). Since psychological make-up and consequently the perceptions, interests, tastes and preferences differ from person to person, as also time to time, the relative touristic value of each of the resource is obviously diverse for different individuals (Kandari, 1984). Likewise, the use pattern with relation to a given resource varies from person to person i.e., the same landscape may be used by the individuals for photography, trekking, bio and geo-studies, nature spotting, wildlife watching and so on. The best resources are those that have mass appeal or say, the strength to attract huge number of people from widest possible psychographic segments.

The mighty Himalayan ranges, enshrouded with captivating mystery and thrill, have been, and would continue to, fascinate not only the adventurers, voyagers, naturalists, bio & geo scientists and cultural anthropologists but the religious souls, as well. Its dramatic land architecture, fascinating vales and dales, and tranquil environ, all around, have the inherent strength to be the source of inspiration for men of literature, artists and the spiritual hearts. Talking from tourism view point, Himalayan System is a destination region par excellence. As such, every part of this Grand Mountain Chain has its unique touristic personality,
Himachal Himalya inherits dramatic diversity in tourism potential on account of being located almost centrally in the long sweep of the Himalayas.

While every part of this huge mountain chain is endowed with all the generic features of Himalya, the study area, on account of its strategic central location in the long

Figure: 3.8
Tourist Map of Himachal Pradesh

Himalayan sweep, is richly studded with towering white and black mountains, snowy slopes and glaciers, gurgling-tubling rivers and streams, shimmering lakes
and springs, lush green forests and unique high altitude wildlife, verdant valleys and flower carpeted meadows, and above all, dramatically changing land architecture all along. Himachal Pradesh is inherently bestowed with tremendous potential for promotion of such widely sought-after tourist pursuits like mountaineering, hard and soft trekking, ice skiing, wildlife watching, river running, aero-sports and eco-tourism beside various other mountain *vis a vis* nature based activities. The scope for cultural tourism in the state is all the more promising on account of the dynamic interplay between the socio-economic and ecological factors over the years which is aptly manifested in the rich treasure of religious centers, monuments and the diversity of colourful cultural-scape in various parts of the study area. The activities of spiritual tourism go to the very yore. Besides, its blossoming orchards, Gurudwaras, Churches, exquisite handicrafts, colourful dances and music, invite spontaneous tourism. Salubrious climate and the yet relatively unspoilt Himalayan grandeur of Himachal Pradesh synergically contribute towards enhancing its *tourism-magnetism*. Himachal, in fact is charming in summer but even more fascinating in autumn; with its terraced fields clear skies and thickly populated forests showing wonderful tints of crimson, green, blue and, of course, the ever charming red. During Winter skating, skiing, invigorating walks amidst stately deodars and pines, and in Spring hustle and bustle of quaint Tibetan bazaars in Shimla, Dharamshala and Mandi, besides golfing, fishing, trekking, hiking, aero & water-sports, picnics and sight-seeing are great attractions all the year round.

In fact, tourism is not a new phenomenon for the state, it is well known for its picturesque landscapes, scenic beauty and healthy climate since time immemorial. Puranas also declare it the Dev Bhoomi, equivalent to Kashi spiritually, and Rishis too built their Ashrams here to offer numerous places of pilgrimages. Despite of having an exhaustive series of enormously rich assets it is quite frequently felt that
the state could have performed better- both on domestic and international front-than its present accomplishments. Alongwith many other factors, ineffective & unplanned tapping and subsequent inept planning concerning the conversion & usages of the potential resources, added with unproductive marketing efforts can be certainly cited as the prime reasons.

In this chapter, the researcher has made a sincere effort to prepare a comprehensive inventory of the existing and potential resources, analyzed their present usages vis-à-vis further untried options and endeavored to plan & propose some new tourism products & attractions based on the resources.

Resource Potential in Himachal Pradesh at a Glance

<table>
<thead>
<tr>
<th>Water Bodies:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Rivers:</strong> Beas, Sutlej, Ravi, Chenab, Yamuna, Pabbar, Giri, Parvati, Baspa.</td>
<td></td>
</tr>
<tr>
<td><strong>Lakes:</strong> Prashar, Khajjiar, Renuka, GobindSagar, Dal, Pongdam, PandoH, Manimahesh, Brighu, Chandratatal.</td>
<td></td>
</tr>
<tr>
<td><strong>Waterfalls:</strong> Rahla Water falls, Satdhara water spring, Dhanchho water falls, Kalika Kund, Chadwick fall, Bhagsunath water falls</td>
<td></td>
</tr>
<tr>
<td><strong>Hot Water Sprigs:</strong> Tattapani, Mani Karan, Kasol, Vashisht, Jeori</td>
<td></td>
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| Phasentry, Kufri and Gopalpur zoo |  |


| Religious Tourism |  |
| Temples: Jwalamukhi, Chamunda, Brajeshwari, Chintpurni, Baijnath, Laxminarayan, Chaursi, Chhatrari, Taranadevi, Rewalsar, Raghunath, BijliMahadev, Dhungr, Bhimakali, HatkoJakhoo, Sankatmochan, Kalibari, Nainadevi and Baba Balaknath, Deothsidh. |  |
| Buddhist Monasteries: Dharamsala Tashizong, Rewalsar, Manali, Kardang, Sashur, Key, Dhankar, Tabo, Nako, Poo, Kanam, Jangi, Murang, Ribba, Reckongpeo. |  |
| Sikh Pilgrimage Centres: Paonta Sahib, Rewalsar, Bhagani Sahib, Badu Sahib and Manikaran. Churches: Christ Church Kasauli, Christ Church Shimla, St. Johns Church,Mcleodgang, St. Francis Dalhousse. |  |

| Para & Hang-gliding: Bir, Manali, Bilaspur and Rohru |  |
| Lake sports: Gobindsagar (Bilaspur), Pongdam (Kangra) |  |
| River Rafting: Sutlej, Beas and Chenab rivers, Shamshi (Kullu), Tattapani, Rampur and Jispa (Lahaul) |  |

| Important Trek routes: Rohru - Chanshal - Dodrakwar - Rupin - Sangla; Sangla - Badrinath; J alori pass; Chandrakhani - Pass (Kullu Manali - Chandratal Manali - Parvati valley Dharamsala - Triuns - Chamba Bharmour - Manimahesh Chamba - Kullar over Sach pass; Bharmour - Baijnath; Bharmour - Lahaul; Chandratal; Barashigri glacier; Kinner - Kailash Bhaba - Pin Valley. |  |

| Fairs: Winter Carnival Manali, (Feb.) Mandi, Shivratri (March), Ladarcha fair, Spiti, (J July) Minjar fair, Chamba, Manimahesh fair, Bharmour and Tribal Festival, Keylong (August) Phulech (festival of flowers), Kinnaur (Sept.) Kullu Dushera (October), Lavi fair, Rampur |  |
TOURISM RESOURCES AND TOURISTIC ACTIVITIES

PEAKS, PASSES and GLACIERS

This part of the Himalayas has been endowed with more than 40 Peaks (Appendix: 4.1) with the diversity of altitudinal spectrum ranging from 3270 to 7025 mts posing variety of challenges, ranging from very soft to hard adventure, to the leisure tourists and adventure seekers thronging the state. Interestingly, all these peaks are clustered in six districts, namely Kullu, Kinnaur, Lahaul & Spiti, Kangra, Chamba and Shimla. A close analysis of the activity oriented touristic and adventurist movement to these peaks reveals the fact that out of more than 40 peaks, there are only a handful which are luring the brave souls. These include Sarcha (3540 mts), Pin Parbati (4800 mts), Hanuman Tibba (5860 mts), Solang (5975 mts) & Deo Tibba [Kullu District]; Pishu (5672 mts), Kinner Kailash (6500 mts), Shipki (6608 mts) & the highest in the state – Shilla (7025 mts) [Kinnaur District]; Lachalung La (5060 mts), Mukar Beh (6070 mts) & Shikar Beh (6200 mts) [Lahaul & Spiti District]; Bara Kanda (5860 mts) & Pir Panjal (5972 mts) [Chamba District]; and Choordhar (3647 mts) [Shimla District]. Once again, majority of these prominent peaks are restricted to the close vicinity of the destinations or districts which are traditionally popular amongst the tourists.
The remote and, obviously, tough areas of the state can be accessed through an array of more than 60 **Passes** and **Jots** (as these are called in local language) ranging from an altitude of 2400 to 5440 mts. (Appendix: 4.2). Nothing much has been done in the study area to promote tourism or to enhance the usefulness of these barren, but gorgeously challenging, land forms, which would not only increase the economic status of these areas & the local population and be instrumental in the maintenance of the passes, but also improve the general civil and civic facilities & amenities that have always ensured better standards of living, in addition to enhancement of touristic appeal of the regions where such experiments have been done. Out of the available reservoir only few are frequented by the tourists, more so either because of their proximity to the known tourist destinations, or by virtue of being located enroute between places of touristic, social or commercial importance. Amongst these are **Sach (4395 mts)** & **Drati Pass** in Chamba; **Shipkila (4500 mts)** & **Kunzam La (4520)** in Lahaul & Spiti; **Shibling (3980 mts)** in Kinnaur; **Jalori (3135 mts)** in Kangra and **Tamsar (4572 mts)** in Kangra, in addition to **Indrahara (4320 mts)**; **Rohtang (3978 mts)** & **Hamtah Jot (4270 mts)**; **Kugti (4961 mts)**; **Barun Ghati/Barua Pass (4578 mts)** & **Rupin Ghati (4625 mts)** connecting Kangra & Chamba; Kullu & Lahaul - Spiti; Lahaul & Bharmaur and Kinnaur & Garhwal in that order.

The Himalayas which have nearly 15,000 **Glaciers**—are one of the largest continental areas under ice. It is estimated that about 33,000 square kilometers constituting about 17 per cent of the Himalayas are ice-clad. Giving way to innumerable rivers, streams and other waterbodies, this ice-clad zone of the
Himalayas has been vitally influencing the ecological, socio-economic and cultural environment of the Central Asia in general and Northern India in particular, all through the evolution of the civilization. Apart from this, the glacier zone of the Himalaya, on account of its dramatic land architecture, complex terrains and captivating natural grandeur, has also been fascinating the naturalists, scholars and adventurers from the worldover. It especially offers unique opportunities for hard and soft trekking. As regards the study area, its Greater Himalayan part is occupied by a series of large and small glaciers. Locally known as *Shigri*, the important glaciers in the study area, particularly from tourism viewpoint, are as under:

**Bara Shigri**, is the largest glacier (approximately 3 km x 25 kms) in Himachal Pradesh, located in the Chandra Valley of Lahaul. Feeding the Chenab, this massive ice mass is surrounded by high mountains from three sides. The entire tract is devoid of vegetative cover. Some other glaciers in Chandra Valley are, *Chhota Shigri, Pacha, Kulti, Shipting, Ding Karmo, Tapn, Gyephang, Shili, Bolunag and Shamundri*. All of them can be conveniently approached with moderate trekking skills.

Two prominent glaciers, **Chandra** and **Bhaga**, located on the slopes of the main Himalaya in the Lahaul-Spiti district of Himachal Pradesh respectively feed **Chandra** and **Bhaga** rivers - the two triburaries of Chenab. Once the part of Bara Shigri, Chandra Glacier also feeds the beautiful Chandratal (lake). *Shilla, Kukti, Lainghar, Doksha* and *Nilkant* in Pattan valley and, *Milang, Mukkila, Lady of Keylong* and *Gangstang* in the Bhaga valley are some others glaciers in this part of Himalaya with inherent potential as trekking destinations.

**Bhadal Glacier** is located on the South-Western slopes of the Pir Panjal range in the Bara Banghal area of Kangra district of Himachal Pradesh. The river Bhadal is fed by this glacier, which is one of the main tributaries of the river Ravi. Trekkers
may frequently come across the huge cattle herds of the migratory graziers. Landscape all through the trek is breathtaking and equally relishing is the fresh milk and butter offered by the graziers.

**Chandra Nahan** glacier, located on the South-Eastern slopes of the main Himalaya in the area to the North-West of Rohru, is surrounded by high rising peaks and ridges with elevation above 6,000 meters. Body of the main glacier is characterized by a huge carved depression where lies the Candra Nahan lake. One of the major rivers of the study area, *Pabbar* is fed by Chandra Nahan and its tributary.

**The lady of Keylong** Glacier is situated at an altitude of about 6061 mts and is particularly popular among visitors. Geological Survey of India has recorded it as the 'Lady of Keylong'. It derives its name since (i) it is visible from Keylong and, (ii) It remains perpetually snow covered but in the middle, there is seen a dark bare patch that looks like the figure of a woman walking with a load on her back.

There are many other small and medium sized glaciers in the state which can be promoted for hard/eco trekking. Some of them are – Sonapani, Gora, Dudhon and Parbati, Perad, Miyar, Beas Kund, Tichu, Sara Umga, South Dakka, Chandi-Ka-Glacier, Sammuder Tapa, Taragiri, Rai Ghar, Bhadal , Tapni Lahuni, Sili Laluni, Shan, Tal and, Shipting etc.

**Prominent Valleys**

Valleys are the important feature of Himachal Pradesh. Physiographically these are the places where human civilization has flourished in this mountainous region.

Some of the important valleys that are important from the point of view of touristic activities are given below:
**Satluj valley:** A long valley has been formed by the Satluj River from Shipki to Bilaspur. The river enters into Indian Territory near Shipki. This river has cut across the Dhauladhar, Pir Panjal, main Himalaya and Zanskar ranges. The valley is popular mainly for water based adventure tourism, alongwith pilgrimage.

**Kiarda-dun valley:** This valley is situated in the South-Eastern corner of the state. It is also known as “Paonta valley” after the town which lies in the valley. This is located in the Markanda and Dharti ranges and is separated from Dehra Dun by Yamuna river.

Paonta, after having been declared as an industrial township, has become a busy centre for business and corporate tourists. Being the location of Gurudwara dedicated to the tenth Guru of Sikh religion, Guru Gobind Singh, Paonta Sahib had been one of the the most visited destination by Sikh pilgrims from all around the world.

**Kullu valley:** This is a broad open valley formed by the Beas River between Mandi and Larji. This valley is famous for the beauty and its majestic hills covered with pine and Deodar forests and sprawling apple orchards. The course of the Beas River presents a succession of magnificent scenery, including cataracts, gorges, precipitous cliffs and mountains; clad with forests of Deodar, towering above trees of Pine on the lower rocky ridges. Naggar Castle, Nehru Kund, Roriech Art Gallery, Hidimba Temple and hot water springs are the main attraction of this valley which is equi-popular amongst researchers, pilgrims & naturalists, as well as cultural, leisure, and adventurous souls.

**Kangra valley:** This is an extensive dun-type valley located between the Dhauladhar range in the North and the Shivalik hills in the South. Cited by many scholars in their writings, Kangra valley has also been important from historical point of view, with the discovery of Palaeolithic hand tools in the area. The
Kangra valley is dotted with places of tourist interest, old forts, ancient temples, picturesque villageside valleys.

**Chamba and Pangi valley:** This is also known as *Ravi valley*. Although this valley is quite unexposed, but now the means of communication have made inroads into the interior parts of this valley. The scenery is of a picturesque and varied character presenting many delightful sights. Small village and hamlets extending over the landscape presents a beautiful picture to the visitor. The Chamba valley is famous for *medicinal herbs* and varieties of *flowers*. From tourism point of view the important townships are *Chamba, Bharmour, Pangi, Dalhousie* and *Khajjiar*.

**Lahaul and Spiti valleys:** The Lahaul valley lies to the North of the Pir Panjal and main Himalayan ranges. It is made up of the rivers Chandra and Bhaga till Tandi and Chenab from Tandi to Udaipur. The Spiti valley has been formed by the Spiti river. It is situated between the main Himalayan and Zanskar ranges. The Lahaul and Spiti valleys are surrounded by mountains with elevations ranging from 3000 to 6500 meters above the mean sea level. The area is quite famous for *Bhuddist monasteries*.

**Baspa valley:** Having been extremely popular amongst tourists in a short span of a bit more than a decade, this is also known as 'Sangla valley' formed by Baspa River in Kinnaur. The altitude of this valley varies from 1830 meters at the confluence of the Baspa River with the Satluj and 3475 meters at the highest village of ‘Chitku’l. This valley is famous for green pastures, flowers and fruit trees. The prominent vegetation found in the Baspa valley is *deodars, blue pines, firs* and *silver birch* in the upper zones.
**Pabbar valley:** This is also known as *Rohru valley,* drained by the river Pabbar which originates from Chansal peak South of Kinnaur and its tributaries. The valley extends from Hatkoti upto Tikri at the base of Chansal. There are a great number of small Khads (streams) passing through this valley and making the zig-zag shape of the valleys at various points. The altitude of the peaks in this valley varies from 1500 meters to 5000 meters.

The following activities have been identified by the researcher that are, at present, being offered at the different locations possessing the above natural resources, or can be further promoted in order to be optimally benefited from touristic pursuits:

**Mountaineering**

Mountaineering, in India, was introduced by the Europeans in the 18th century AD. Adventure Mountaineering Tours in India enable the adventurists to climb some of the highest and beautiful mountain peaks of the world and provide an opportunity for a close encounter with some of the well-preserved ancient Himalayan cultures untouched by modernity and advancement. There are several mountain peaks in the country, ranging from moderate to tough, that can be divided into different categories such as 'Open', 'Virgin', 'Border', 'Trekking' and 'Other Peaks' depending on their altitudes and accessibility.

Himachal Pradesh, by virtue of its topographical and geographical features; as discussed above; offers some of the best options scattered in Lahaul & Spiti, Kullu, Kinnaur, Chamba and Shimla districts. In fact, Mulkila (6517 m), Deo Tibba (6001 m) and Menthosa (6443 m) have become some of the most admirable peaks on international level. The other notable mountaineering destinations in the state consist of Murangla (5,060m), Lachalungla (5,060m), Thamsar (5,080m), Srikhanda (5,182), Shitidhar (5,290), Umasila (5,294), Raldang (5,499), Parangla
(5,579), Gushu (5,607m), Saltu Da Par (5,650m), Kailash (5,660m), Pishu (5,672m), Bara Kanda (5,860m), Hanuman Tibba (5,860m), Maiwa Kandinoo (5,944m), Pir Panjal (5,972m), Solang (5,975m), Gepang Goh (6,050m), Mukar Beh (6,070m), Shikar Beh (6,200m), Indrasan (6,220m), Shigrila (6,230m), Phawarang (6,349m), Gyephang (6,400m), Dibibokri Pyramid (6,400m), Jorkaden (6,473m), Kinner Kailash (6,500m), Manerang (6,597m), Shipki (6,608m), Leo-Pargial (Riwo Phargyul) (6,791m) and Shilla (7,025m).

Though the beauty, vastness, fascination, mystery and challenge of Himachal Himalayas has always been irresistible for the height tamers from all around the world, yet there are number of challenging and accessible options that have not been effectively exposed to the adventure seekers. In addition to this, while the mountaineering season tends to be concentrated around the April-November period, a number of peaks, obviously after careful considerations, can also be proffered in winter (December-March) which, though much colder, allows for clearer climbing days.

**Treking**

There is no denying the fact that Himachal is a trekkers’ paradise due to the panoramic canvas of routes, pleasant & welcoming indigenous rural folks and the professional services & facilities the state offers to the guests. Himachal Tourism with collaboration with the Mountaineering Institute at Manali offers a range of exciting treks. To mention some of these: Chanderkhani-Malana in the Manali region, Baralacha trek across Lahaul through Chandertal, Manali-solang, Manali-Deo Tibba, Keylong-Manali, Keylong-Udaipur, Kaza-Keylong, Tabo-Kaza, Kalpa-Tabo, Sangla-Kalpa, Sarahan-Sangla, around Mani Mahesh and Shimla-Sarahan, Khara
Pathar (Jubbal)- Chanshel Peak, Pul Bahal-Churdhar, Nauradhar-Churdhar and Mashobra-Shalli Peak (near Shimla), the treks through Dhauladhar, Palampur and Shimla Hills are extremely popular amongst tourists. Additionally, Kangra Valley offers numerous mountain ranges for trekking to cross over to Valleys like Kullu, Chamba, Lahaul- Spiti, Kinnaur and Pangi. The Passes from East to West are comparatively unspoilt, unfrequented, rough, difficult and short trekking routes. These include Chauri (3150 m), Bohar (3535 m), Baleni (3730 m), Minkiani (4299 m), Gag (4552 m), Indrahar (4320 m), Toral (4360 m), Talang (4660 m), Singhar (4310 m), Waru (3870 m), Jalsu (3450 m), and Thamsar (4922 m). All these passes are easily accessible from the main Kangra Valley. Besides, peaks like Lantern, Drmbey, Camel, Slab, Mon, Christmas, Toral and Dharamshala Matterhorn provide good training ground for novice mountaineers as well as experienced climbers. Rohru - Chanshal - Dodrakwar - Rupin - Sangla; Sangla - Badrinath; Jalori pass; Chandrakhani - Pass (Kullu), Manali - Chandratal - Manali - Parvati valley; Dharamsala - Triuns - Chamba; Bharmour - Manimahesh; Chamba - Kullar over Sach pass; Bharmour - Baijnath; Bharmour - Lahaul; Chandratal; Barashigri glacier are some of the other popular treks in Himachal.

Kinner Kailash Parikrama Trek
The Parikarma begins from Kalpa via Thangi, Kunnu, Chhitkul and terminates at Kalpa via Sangla valley. Spanning over 8 days (4 days by bus 4 days by Trek). The majestic Mount Kinner Kailash (6050 m) has religious significance and changes colours several times a day with change of weather conditions.
The circuit around the whole range attracts many trekkers and pilgrims every year.

**Bhaba-Pin Valley Trek:**
This trek starts from Kafnoo (Bhaba Nagar) in District Kinnaur and passes through lush green meadows and grazing fields on the bank of river Bhaba and extends to valleys of monasteries i.e. Spiti Divisions of District Lahul Spiti through the picturesque land, high passes, glaciers, wide pastures full of medicinal herbs and seasonal flowers. Geologically and archaeologically, Spiti valley is a living museum. The barren rock mountains are devoid of any vegetation due to erosion by wind, sun and snow over thousand of years.

**Chandigarh-Chur Dhar**
This 3 days soft adventure involves trekking from Naura Dhar to Mount Chur Dhar (11966 Ft). Beginning from and terminating at Chandigarh, this package has gained a lot of popularity.

**Skiing**
Alongside various other adventure activities, there lies immense potential for ice skiing in Himachal Pradesh on account of the fact that most of its higher reaches are either perpetually snow covered, or remain under snow for most time of the year. There are some excellent ski
slopes particularly in district Kullu, Lahaul and Spiti, Kinnaur, Shimla, Chamba, Kangra and Sirmaur, in that order. As of now, Narkanda and Kufri (District Shimla), Solang Nala and Rohtang (Kullu), Pin Valley (Lahaul and Spiti), Kinnar Kailash and Vaspa Valley (Kinnaur), Bharmaur and Pangi (Chaba), Churdhar (Sirmaur) and Indrahara Pass (Kagra) are the sites where skiing is practiced to some scale. However, in all these sites, except Solang Nala, there is no provision of Chair Lift, Ski lift or ropeways. As such, skiing in Himachal is a considerably old recreational activity, introduced by British Army officers as early as 1930 when they explored the Kufri slopes. The state Department of Tourism, aware of the existing potential is in the process of creating requisite support infrastructure at the identified sites alongside exploring the newer ones, as well. An encouraging aspect in this direction is the introduction of The Ski Village in Kullu district, which is being developed by an NGO as a community oriented project with the help of international agencies.

Among the existing popular ski slopes, Manali environ is mainly known for heli-skiing. Deo Tibba, Hanuman Tibba, Rohtang Pass and Chanderkhani Pass are the places in the vicinity of Manali where this sport has been introduced though at a very limited scale. Indeed, it would have become a popular pursuit by now, had it not been stopped at the behest of the environmentalists and local NGOs in early nineties. Thanks to the initiative taken by Rody Mc Anzy - a Newzealander that it could be re-introduced in 2001-02. He offers a seven days skiing package on a tariff of US $ 7000 per person, of which US $ 250 goes to the State. Generally, the package is offered from January
onwards till March-April depending on availability of snows on the slopes. In the process skiers are taken aboard a helicopter up to a height of about 14,000 ft, where they can then get off the copter and ski downhill. It is obviously an exhilarating experience particularly for the highly spirited adventurous souls.

About 13 km from Manali, **Solang Valley** has good skiing slopes equipped with lift, also offering a splendid spectrum of glaciers and snow-capped mountain peaks. Solang also hosts annual skiing competition keenly contested by the professional skiers. January – March is the most ideal season for skiing at **Solang Nala** and closeby located **Gulaba** slopes. The Directorate of Mountaineering and Allied Sports, Manali offers ski courses throughout the winter alongside extending assistance as well as advice on where and how to go for skiing, as also, providing skiing equipment on hire basis.

**Kufri**, as observed in the foregoing, is oldest skiing sites in the state, and perhaps the most easily approachable, as well. Located at a distance of about 10 km from Shimla – the state capital, Kufri is a sauvage small rather a sleepy township located amidst a spectacular natural setting, which transforms into a skiers’ paradise once the snow starts falling. There are also some outstanding slopes along the Mahasu Ridge, just above Kufri. **Narkanda**, about 64 km from Shimla and occupying an average altitude of 8,100 ft is yet another popular ski resort in the state. What’s good about Narkanda is its sylvan, serene and secluded environ dominated by fabulous orchards of apples and
cherries. The best thing about the Narkanda slopes is their strength to extends ideal opportunities both to the beginners to expert skiers.

**Hattu Peak**, 6 km from Narkanda, also has popular ski slopes. Himachal Tourism manages all the skiing facilities at Narkanda including accommodation, transport and provision of equipment on hire. It also conducts training courses in close coordination with the Directorate of Mountaineering and Allied Sports. There is no dearth of alternate ski sites in the state both in terms of span and ideal slope gradient but suffer from lack of support infrastructures on account of the remoteness and complexity of terrain. However, all such stretches can be effectively promoted for cross country skiing, down hill skiing, wilderness skiing and eco and wilderness skiing, if not for traditional type of organized and closely guarded skiing. Indeed, it would require highly professional marketing strategies which could lure those skilled skiers from the worldover who relish the daunting challenges.

With the objective to popularize the sport in Himachal, HPTDC organizes special, all inclusive, packages for the daring beginners at Manali and Narkanda. Planned during January to March every year for a duration of 7 days, these packages cost Rs. 4500/- per person (in addition to a special students’ tariff of
Rs. 2250/-) inclusive of all taxes subject to revision. The training is imparted through qualified instructors and these packages have started attracting youths and middle-aged adventure seekers in large numbers.

**Para-Gliding and Hang Gliding:**

Himachal Tourism is consistently taking initiative to introduce innovative and non-traditional high altitude based adventure sports, particularly helisking, para gliding and hang gliding. Consequently it sponsors training programmes and events at various times of the year at different places. There is an Adventure Sports Hostel at Dharamshala and an Aero Sports Complex at *Bir* (Kangra). The bald peak of *Billing*, above the Buddhist Monastery of *Bir* is said to be among the finest sites for hang gliding in the world. It has been the venue for five national and three international hang-gliding rallies since 1984. The site is perfect for para-gliding too, which is infact a mix of sky-diving and hang-gliding. Places where para-gliding is done regularly are - Bundla Dhar near Bilaspur, in the Kullu valley and at Intkali in the Pabbar valley near Rohru. A fairly recent sport that is steadily gaining popularity, para-gliding can be promoted at multiple sites in almost every part of the study area in view of the availability of splendid valleys effectively complemented with ideal para gliding and hangliding take off venues.

**Golfing**

Golf is variously taken by its ardent practioners from a pleasure pursuit to an adventure sports that requires highest degree of skills, patience, will power and risk taking nerves. No more is it the privilege of the elite class of society as happened to be a few deacades back. Though yet to actually come within the reach of the commoners, this sport has gained comprehensive popularity
over the years. Tourism, to some extent, has been a cause and effect in this context, as provision of golf is now being increasingly taken as a priority area by the destinations both in the country and abroad. Not only this leading hotels and resort properties are vying for provision of golf courses in order to broaden their clientele base. Incidentally golf has been popular in Himachal Pradesh since Raj days when this sport was introduced at Khajjiar, Annadale, Chail and Naldehra. In addition to these destinations there are many more potential sites in the state. It can be introduced even in some of the high altitude meadows like Churdhar and Kalpa where heli-golfing on the lines of heli-skiing can be promoted.

**NATURAL LAKES**

Himachal Pradesh with its beautiful hills, in the lap of lofty snow-clad mountains, has myriad lakes with cool and serene water, which reflect the immense beauty of this Paradise on earth. From the point of view of tourism, few of the well-known lakes in Himachal Pradesh are Govind Sagar, Khajjiar Lake, Lama Lake, Manimahesh Lake, Dal Lake, Rewalsar Lake, Prashar Lake, Renuka Lake, Suraj Tal, Chandra Tal, Pong Lake, Pandoh Lake and Chamera Lake.

**HOT SPRINGS AND WATER FALLS**

The origin of hot spring may be either magmatic—originating from magma, the hot molten crust of the earth or meteoric—ground (meteoric) water meets the magmatic surface and the heated liquid emerges as hot spring. Most of the springs are generally rich in minerals like calcium, silica and sulphur. Himachal Pradesh has been endowed with a number of natural hot springs, majority of these being located in the Satluj and Beas valleys. Generally three types of water springs are found in Himachal Pradesh, viz.
ordinary springs, mineral springs and thermal water springs. The main attraction of springs used to be their mystic curative powers, but over the period these have become very popular amongst the tourists, as well, due to their inherent natural appeal and touristic activities that are being offered around these. All springs have one common feature i.e. there is natural fluctuation in the quantity of water, which is attributed mainly due to climatic conditions in the area. Some of the major water bodies in this category from the point of view of tourism are **Tattapani, Mani Karan, Vashisht, Jeori,** Rahla Water falls near Manali in Kullu district; Satdhara water spring near Panjpulla in Chamba district; Dhanchho water falls, near Bhrarmaur in Chamba district, Kalika Kund at Man in Chamba district, Chadwick falls near Summer Hill in Shimla district and Bhagsunath water falls near Macleodganj in district Kangra. In Kangra valley there are a good number of hot water springs containing a good quantity of salt and iodine. Two springs, one at Kopra (near Nadaun) and other at Jawalamukhi on the bank of river Beas were discovered on 10th Dec. 1854. There is also a spring at Lunani. The Salol spring in the Kangra valley was discovered by the then chief medical officer of Kangra Captain A. Colman.

**RIVER SYSTEM**

The Himalayan mountain chain has a dominant influence on the climatic conditions prevailing over Indian sub-continent. They lie in the path of rain-bearing monsoon winds and thus bring rain to a large part of India. The Himalaya houses a vast reservoir of moisture in the form of ice, fresh-water and underground water. The rivers draining the Himalayas sustain life in the Northern part of the Indian sub-continent. The drainage system of Himalaya is very complex. It is composed both of rivers and glaciers. Himalayan river criss-cross the entire mountain chain. In fact a number of rivers are older
than the mountain system. They have cut across the various mountain ranges.

According to *Rig Veda*, four out of the five rivers which flow through Himachal Pradesh, found mention, viz, Asikni (Chenab), Purushani (Ravi), Arjikiya (Beas) and Sutudri or Shatadru (Satluj). The fifth river Yamuna, which rises from Yamunotri, has mythical relation to the Sun. Today not Punjab, but Himachal Pradesh is to be called the land of five rivers. These are only big rivers systems; in addition to these, numerous small rivers and thousands of waterfalls, streams, rills and rivulets provide water for irrigation and cool drink for weary wayfarers. The drainage systems of the two region peninsular and extra-peninsular India had to accommodate themselves to two very widely divergent topography, necessarily having different character. Himachal Pradesh falls into the drainage system of the extra-peninsular area. One unique distinction of Himachal region is that it provides water both to the Indus and the Ganga basins. Major Rivers in Himachal are Yamuna, Satluj, Beas, Chenab and Ravi.

**Lake sports**

With the amalgam of so many lakes having different topographical characteristics, there is lot of scope for lake sports in the state. Though presently these are being offered only at Gobindsagar (Bilaspur) and Pongdam (Kangra), yet there are many more; like Rewalsar, Parashar, Renuka lake etc. for which water sorts activities can be planned. Further, presently the state Government is involved in these activities, whereas looking at the zeal of the incoming tourists and the willingness of the local people now the private entrepreneurs should be encourage to augment this dimension of tourism, as well.
**River Rafting**

The state is zigzagged by many moderate and big rivers having different grades and almost all types of rapids. Presently river rafting is being practiced in Sutlej, Beas and Chenab rivers. The popular starting points are Shamshi (Kullu), Tattapani, Rampur and Jispa (Lahaul).

**Water Healing/ Natural Spas**

The hot water sulphur and non-sulphur springs, scattered at many places in Kullu, Shimla and Kinnaur districts, are being utilized as natural spas. Though there are excellent facilities at Vashisht Kund, Manikaran and Tatta Pani, Jeori and many other places in Kinnaur district are catering mostly to the localites at not-so-organized level. If properly planned in combination with yoga & meditation, these have potential to become a strong pull factor.

**Angling**

Angling is a source of recreation to innumerable naturists belonging to different strata of the society. In Western Countries, fishing as a sport is being increasingly recognized by the medical authorities and more and more people are coming out of indoors to try their skill for this outdoor hobby. Angling became favorite pursuit of the British’s during ninetieth century and it was mainly for this reason that exotic species viz. brown and rainbow trouts were transplanted in Indian rivers and streams.

Himachal Pradesh is endowed with numbers of fast flowing rivers and streams originating from glaciers, rumbling and swirling along the rugged mountain passing through awesome gorges, canyons, alternating with pools and fiery rapids. The icy-streams harbour
country’s richest cold water fish fauna including world famous mahseer, array of catfishes and trout. Each year a large number of anglers booth from home and abroad visit the State in the pursuit of fishing and practice age-old are of angling with varying degree of success. The literature is replete with records that Himachal Pradesh rivers and streams provided exciting fishing to large number of sport lovers/ anglers and fishermen. Thomas (1897) brought a book “Rod in India” which incorporated his experiences of mahseer fishing in Northern rivers.

The streams of Himachal Pradesh fall under two categories; General waters and Trout waters, with estimated length of 600 and 2400 kms respectively. The major State’s streams include- Beas, Sutlej, Ravi, Tirthan, Sainj, Uhl, Baspa, Pabar, Lambadug, Giri, Rana, Nugal Gai, Baner, Bata, etc. The major fishes available in these streams are Trout, Mahseer, Nemacheilus sp., Barilus sp, Schizothoracids Crossocheilus sp. Glyptothorax spp. etc. Fishing in these streams is regularsied under the state fisheries Act. In trout water licences only for rod and line are permitted while in general water both rod and line as well as cast netting is all allowed. The department has identified the following stretches as potential fishing sports for trout and mahseer:
### Table 3.11
Trout waters

<table>
<thead>
<tr>
<th>Name of river</th>
<th>Stretch</th>
<th>Stream length in (kms.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beas</td>
<td>Katrain to Manali</td>
<td>18</td>
</tr>
<tr>
<td>Tirthan</td>
<td>Largi to Nagni</td>
<td>20</td>
</tr>
<tr>
<td>Sainj</td>
<td>Largi to Ropa</td>
<td>22</td>
</tr>
<tr>
<td>Lambadug</td>
<td>Barit to Lohardi</td>
<td>6</td>
</tr>
<tr>
<td>Uhl</td>
<td>Barot to Kothikhad</td>
<td>10</td>
</tr>
<tr>
<td>Ravi</td>
<td>Holi to Main bridge</td>
<td>5</td>
</tr>
</tbody>
</table>

### Table 3.12
Mahseer waters

<table>
<thead>
<tr>
<th>Name of river</th>
<th>Stretch</th>
<th>Stream length in (kms.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beas</td>
<td>Seri mulag- Confluence of Binwa to Beas.</td>
<td>5</td>
</tr>
<tr>
<td>Beas</td>
<td>Harsipattan- Confluence of Kunha tributary of Beas.</td>
<td>10</td>
</tr>
<tr>
<td>Beas</td>
<td>Chambapattan</td>
<td>5</td>
</tr>
<tr>
<td>Beas</td>
<td>Kuran</td>
<td>5</td>
</tr>
<tr>
<td>Beas</td>
<td>Dehra Gopipur</td>
<td>10</td>
</tr>
<tr>
<td>Beas</td>
<td>Baner</td>
<td>5</td>
</tr>
<tr>
<td>Giri</td>
<td>Bata</td>
<td></td>
</tr>
</tbody>
</table>

**Natural Vegetation/ Flora in Himachal Pradesh**

Owing to a wide range of altitude and climatic conditions, Himachal Pradesh has a diversified and rich flora. Here we come across every type of West Himalayan Flora from Himalayan meadows and high-level birch and rhododendron down to tropical scrub and bamboo forests of the low foothills.
As per the Central Board of Forestry, the forests cover an area of 26,768 km² or about 48% of the total area.

The Forests of Himachal Pradesh known for their grandeur and majesty are like a green pearl in the Himalayan crown. This life supporting systems are presently under great stress due to impact of modern civilization, economic development and growth in human and cattle population.

The richness and diversity of the flora can be estimated from the fact that, out of total 45,000 species found in the country as many as 3,295 species (7.32%) are reported in the State. More than 95% of the species are endemic to Himachal Pradesh, while about 5% (150 species) are exotic, introduced over the last 150 years. The following table enlists the typology and the quantity of flora available in the state:

<table>
<thead>
<tr>
<th>Type of flora</th>
<th>Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flowering Plants</td>
<td>3,120 species</td>
</tr>
<tr>
<td>Conifers</td>
<td>13 species</td>
</tr>
<tr>
<td>Pteriophytes</td>
<td>124 species</td>
</tr>
<tr>
<td>Orchids</td>
<td>38 species</td>
</tr>
</tbody>
</table>

**Wild Life/ Fauna in H P**

Wide altitudinal ranges and varied topography of Himachal Whereas, Snow Leopard, Ibex and Snow Cock have made cold deserts their home, the cold temperate regions of the state form natural habitat of Musk Deer, Himalayan Tahr, Brown Bear, Monal and Western Tragopan. The lower reaches of the state abound with Sambhar Deer, Barking Deer, Wild Boar, Ghoral and Leopard amongst mammals and pheasants including Cheer and White Crested Kaleej. The state has an inventory of more than 3,500 higher plants, many of which are endemic to the region and many form the basis of local health traditions.
Wild Life Sanctuaries and Parks
To conserve the entire range of flora and fauna and rich biodiversity *in situ*, the state has established a network of protected areas, comprising **two national parks and thirty two** Wildlife Sanctuaries. Appropriate legislation related to wildlife conservation has also been put in place. Since 1972, all parks and sanctuaries in the state are being set up under the *Wild Life (Protection) Act, 1972*. Prior to this, areas were declared sanctuaries under the Punjab Wild Birds and Wild Animals Act, 1933 or the Himachal Pradesh Wild Birds and Wild Animals Protection Rules, or under both of these. Ordinarily, all those areas that were set up as National Parks or Sanctuaries under any earlier Act would automatically become national parks or sanctuaries under the *Wild Life (Protection) Act, 1972*, (Section 16(3)). The total area under national parks is 1,29,500 hectares which is 2.33% of the state area. Sanctuaries account for another 2,65,288.65 hectares or 4.77% of the State area. The total area under both categories of protected area is 3,94,788.65 hectares covering 7.10% of the state area. This is over double of the percentage of the area under national parks and sanctuaries in India as a whole (3.3%). Following are the National Parks and some of the sanctuaries in Himachal Pradesh which have enormous potential to attract tourists, obviously in a regulated and controlled manner:

**GREAT HIMALAYAN NATIONAL PARK**
The Great Himalayan National park located in District Kullu (altitude 1500 metres to 5805 metres), consist of the upper catchment areas of the Tirthan, Sainj and Jiwa rivers, which flow westwards and feed the Beas River. The area consists of relatively thick forests and meadows, which support an extremely diverse wild life population. This includes the largest remaining population of Himalayan tahr in Himachal Pradesh. The park is also one of the only two places in India, where
anything more than a remnant population of *western tragopan* is known to survive. Total area occupied by the Great Himalayan National Park is 62,000 hectares (620 sq. km.). Part of the present area (8,396 hectares) was declared sanctuary (Tirthan) on 17th June 1976, while it was declared a national park on 1st March 1984.

**PIN VALLEY NATIONAL PARK**

Lahaul-Spiti, altitude 3,300 to 6,632 metres, temperature 19.7 - 26.8°C, mean annual rainfall 170.3 mm. A high altitude Pin valley National park containing a variety of rare animals such as the woolly hare, Tibetan gazelle and snow Leopard. The entire area is a cold desert, interspersed with a few alpine meadows. There is a heavy pressure on the meadows by the seasonal influx of livestock of migratory grazers. It was declared a National Park on 9th January 1987. It occupied the area of 67,500 hectares (675 sq. km.).

From tourism point of view, some of the important wild life sanctuaries of the state Chail sanctuary (District Solan and Shimla), Churdhar sanctuary (District Sirmaur and Shimla), Govind Sagar sanctuary (District Bilaspur and Mandi), Kalatope Khajjiar sanctuary (District Chamba), Manali sanctuary (District Kullu), Pong lake sanctuary (District Kangra) and Renuka sanctuary (District Sirmaur).

**Wild Life Tourism in Himachal Pradesh**

Though the least explored area yet has tremendous potential keeping in mind the numerous exotic faunal and floral species that are available in abundance throughout the state. It is proposed that the planners should develop softer forms of activities in the protected areas, like trekking, research expeditions etc. in close association with the experts from relevant fields, forest department, environmentalists and the naturalists.
CULTURAL TOURISM RESOURCES POTENTIAL

Fairs & Festivals

Himachal can ideally be called the land of fairs & festivals and the fact that, apart from village or city level celebrations, every year 47 state level fairs and festivals are celebrated every year in this *land of Gods* is a testimony to this (Appendix- 4.3). These fairs are well spread throughout the year, whereas October, with 9 celebrations, tops the list followed by March (5). July is the only month in which only one fair is organized, which might have some relation to the severe monsoons in ten out of twelve districts (Except for Kinnaur and Lahul & Spiti). Majority of the fairs and festivals celebrated in Himachal are the result of cultural values, economic needs and festive time, which have been realized by the inhabitants from time to time and later given the shape of tradition. But there are some of these which have been planned, and organized, to promote tourism in the state. The examples are *summer festivals*, *sporting events* etc. Out of 47 state level fairs & festivals, 13 can be kept in the category of Cultural/ Traditional ones, another 13 can be described as Religious celebrations, 11 are Adventure/ Sports oriented, while remaining 10 are celebrated basically for Leisure/ Fun.

Whatever is the category, the fact remains that all of these provide lots of impetus to the growth & development of tourism in the state.

Some of the most famous out of the list are Dushehra of Kullu and Summer Festival of Shimla (leisure/fun), both of international fame, besides, Shivratri of Mandi, Minjar of Chamba, Holi of Sujanpur Tira, Lavi of Rampur Bushahr (trade), Manimahesh (Yatra) of Chamba (religious), Chaichu fair of Rewalsar (religious), Kaleshwar fair near Jwalamukhi (religious), Summer Festival of Dharamshala (cultural), Nalwari of Bilaspur (trade), Renuka of Sirmaur (religious) Traditional Tribal Divas Fair of Keylong (Independence Day), Winter Carnival Manali (leisure/ fun fair), Salooni fair Solan (cultural), Ladarcha fair at Kaza.
(religious and cultural), Robru fair, Rohru (religious and cultural) and Nalwar, Sundernagar (trade fair). There are 11 District level, fairs in the Pradesh. There are the Winter Fair of Una (cultural), Pouri Fair Triloknath (Lahaul), Tribal Fulaih Fair of Ribba (religious), Kinnaur, Shivratri of Kathgarh, Kangra (religious), Dushehra of Sarahan, Shimla (religious), Nagini Fair of Nurpur (religious), Winter festival, Hamirpur (cultural), Fag Mela Rampur (cultural) Baishakhi of Jawali, Nurpur (religious), Mela Joginder Nagar (cultural) and Baishakhi of Rajgarh, Sirmaur (religious fair).

**ART AND ARCHITECTURE**

The art of Himachal has grown out of its cultural strains and religious beliefs. It represents many-sided realities of the hill man's life. Various cultural streams have enriched the art forms of Himachal in the wake of numerous migrations. A large majority of people in Himachal Pradesh are Hindus. But their Hinduism is quite different from that practised by the people of plains. Each village has its own separate deity, besides faith in the traditional gods of the Hindu pantheon. The early inhabitants of Himachal Pradesh professed some form of Shaivism. But it can't b established conclusively, whether Shiva worship was taken from Mohanjodaro culture or was of local origin. It was probably about 3000 B.C. that the art of the region began to take shape around the fertility symbol of the divine yogi of the Himalaya, the Shiva prototype of the Indus Valley civilisation. Shiva is called by different names such as— Mahasu, Mani Mahesh, Ruldung, Baijnath and others.

**INDIGENOUS ART**

Most ancient architecture of Himachal Pradesh is in local style and the base material used is wood. The copper and silver coins of Audumbaras (2nd century B.C.) have a Dhawaja, a Trishul and a Battle Axe depicted on it. It is the earliest
example of this style, which ascertains the existence of Shaivite temples in those olden days. The vast number of temples scattered all over the middle belt of Himachal Himalayas are all in deodar wood.

**INDO-ARYAN ART**

The term Indo-Aryan art refers to the major tradition of art in India, matured during the period of Guptas and flourished mainly in the Indo-Gangetic belt. Next to Hindu age came the Rajput age and after the death of Harsha in 647 A.D., Rajputs began to play a prominent part in the art and history of Northern India and their period comprised five and half centuries between the death of Harsha and the emergence of the Muslims at the close of the 12th century. Thus, the Rajputs were partly responsible for the introduction of the post-Gupta art forms in this region. With the passing of time, the original inhabitants took over this art from the immigrants and executed it in the form of beautiful temple architecture, sculptures and many other forms of art still found all over the Pradesh.

**INDO-TIBETAN ART**

This art style flourished in Kinnaur and Lahaul & Spiti, the trans-Himalayan regions of Himachal Pradesh. The influence of Buddhism in these areas came to be known the *Vajrayana* (the school of Thunderbolt) and it is to be distinguished from the two major sects of Buddhism, the Hinayana and the Mahayana. They would help in personal spiritual advancement and also to perform magic. The Buddhism with its art style survived in Tibet and exists in Lahaul-Spiti and Kinnaur regions of Himachal Pradesh. It also exists in Himalayan areas of Ladakh, Nepal, Bhutan and Sikkim.

**BUDDHIST SCULPTURE**

In the district of Lahaul-Spiti and Kinnaur, there is strong impact of Buddhism. That is why most of the Buddhist sculptures are found in the monasteries of
Lahaul-Spiti. The part of the Himalayas (Ladakh, Jammu & Kashmir, Lahaul-Spiti and Kinnaur) which borders Tibet is quite under the influence of 'Lamaistic Buddhism' (Northern Buddhism). The architecture here is quite different, from what we understand by the hill architecture. The roofs here are flat, walls have marked inward slope and are made of sun-dried bricks or simple stones, unlike the timber bonded stones. The monasteries found in the Himalayas are of three types. Tak-Phu (monastery lies in a cave), Gompa (which is suggestive of a solitary place) and third is 'La-Khang' (temple near some village). It is also called 'da-Khang' or 'Tsugla-Khang' which means an academy or a meeting room. The monasteries in Kinnaur, Lahaul and Spiti differ radically from one at Rewalsar. 'Thankas' are also seen hanging against the walls. The 'chapel' is situated in the centre.

**PAINTING**

Himachal Pradesh is internationally known for its painting. The origin of the 'Pahari School of painting' has been subject to a great debate and discussion among art historians. But, whatever it is, the excellence achieved by Pahari painters can be attributed to the secluded hills, comparatively undisturbed conditions therein, peace, natural environments, religious mould of life and security and patronage provided to them by the hill chieftains. There are 35 old styles, which flourished in Himachal such as—the Mandi Kalam, the Kangra Kalam the Kullu Kalam, the Bilaspur Kalam, theArki Kalam. There is clear evidence of local school of painting existing in the hills, before the intrusion of Mughal style. Himachali painting can be broadly classified as; first, miniature painting—drawn on stiff handmade paper; second, wall painting—practised in the temples and the palaces of nobles. **Basholi** (1678-94), with **Vaishnavism** as its’ inspiration, is considered to be the earliest known school of Himachali painting. The other prominent names include **Kangra School** (1745-73), **Arki School** (1727-43) and **Chamba Paintings**.
CUSTOMS & COSTTUMES

Customes
A complete idea about the nature of the people, their habits, traits and identity can be acquired only from cultural history of the inhabitants. The life and outlook of the people of Himachal Pradesh are largely conditioned by its climate, flora and fauna. In keeping with the beauty of nature, the men are handsome, generally tall, with sharp, well cut features. The women, particularly of certain areas, have a beauty and charm of their own. But there is a diversity of dress, beliefs and language with in the state.

SOCIAL CUSTOMS

Marriage

Marriage is an important ceremony in Himachal Pradesh. The system generally observed in the upper classes is called ‘Barni’. The other form called ‘Sagai’ or ‘Sotha’ is adopted by the folks of the middle class and the low class. Mainly the following systems of marriages are followed in Himachal:

(a) Polyandry: These forms of marriages are prevalent mostly in district Kinnaur, Lahaul-Spiti and interior parts of Chamba. In this system, the eldest of the brothers in a family marries and the woman becomes the common wife of all the brothers. This is known as fraternal polyandry.

In fact there are socio-economic logics behind this phenomenon, which are:

• The practice is believed to be inherited from Pandavas who supposedly used this route during their agyatwas;
• It ensures non-fragmentation of the people’s none two large holdings inland;
• Property passes intact from generation to generation;
• Because of the nature of their avocations, the men folk have to be away from their homes for long periods and it is necessary that a woman should have
more than one husband to take care of her requirements and

- Percentage of the females to male is much less. So this is the only way to cope with this problem.

With the growing contacts to outside world, polyandrous form of marriage has started diminishing slowly.

(b) Polygamy: In some areas, we do come across instances of polygamy too, i.e. a man marrying more than one woman at a time. But vast majority of people in Himachal follow the practice of ‘monogamy’.

(c) Love marriage and Widow remarriages are permissible, except in the higher castes.

(d) Reet Marriage which takes place when an already married woman wants to leave her husband and marry another man. The husband charges ‘Reet money’ from the husband-to-be and allows her to go with the man of her choice.

(e) The most common system followed is of arranged marriage.

**BIRTH CEREMONY**

Birth ceremonies in Himachal are very picturesque with quite quaint local touch. At the time of childbirth, the mother is housed in a separate room and usually in the lower storey of the house. This is to protect her from the cold and high wind of the hills. In the tribal areas, she is often lodged in a cattlemanor (Khudd). Usually in the initial months, for about a year or six months, mothers avoid taking infant to distant places till some auspicious day, as fixed by the astrologer.

**ORNAMENTS AND JEWELLERY**

Precious or cheap, love for ornaments and jewellery is a universal phenomenon, though it may vary from place to place, nation-to-nation and tribe-to-tribe. The Himalayan ornaments and jewellery have two characteristics about them. Gold being a rare metal, the Himalayan women satisfy their craze with silver and other less costly metals. Secondly, the use of heavy ornaments and jewellery with bold
designs. Excepting a few light gold ornaments, all ornaments are made of silver. The parts of body for which ornaments are commonly made are the head, forehead, ears, nose, neck, arms, waists, fingers, anklets and toes. The ornaments traditionally worn by Himachali women are ‘Chaunk’ or ‘Chak’ (ornament fastened on the head), ‘Chin’ (a silver ornament fastened to the hair by a chain), ‘Clip’ (Silver ornament clipped in the hair), ‘Phers’ are four to five small earrings worn in each ear), ‘Dhol’ - a neck ornament, ‘Balis’ & ‘Jhumkas’ are golden or silver earrings, In the necklace category—Jo-mala, Champa Kali, Chauki, Kapoori Mala, Chandan Har Kantia, Ralu, Manj, Dodmala, Nadi etc. In the garland category, there are some simple ornaments made of silver or gold coins. Popular and widely used bracelets are: Nalians, Toke, Bangas, Kangrus, Gajru and Maridoo.

**FOLK DANCES AND DRAMA**

The folk culture, i.e. art, dances, dramas etc. not only provide wholesome entertainment to the involved parties, but it is a reflection of the social standard, its originality and usefulness. It is believed that folk dances have their origin in the harvest festivals and the rituals of the earliest time, when gods were invoked through music and dance. The people of Himachal have reason to be proud of their rich cultural traditions, which they have preserved for ages despite the outside interference and intrusion. Some of the important dances of Himachal Pradesh are the following:

**THE MUSICAL INSTRUMENTS**

Slowly but surely musical instruments are coming under the influence of modern changes. The true colour of musical instruments can be best seen in the tribal areas. The following types of instruments are found in Himachal Pradesh:

(b) **Stringed Instruments:** ‘Ektara’, ‘Kindari Devatara’, ‘Gramyang’ or ‘Robab’, ‘Sarangi’, ‘Jumang’, ‘Ruman’ and ‘Rumals’ are commonly used in lower and upper areas of the Pradesh.

(c) **Percussion Instruments:** ‘Jhanjh’ (large cymbals), ‘Manjira’ (small cymbals), ‘Chimta’ (tongs). ‘Ghanta’ (gongs), ‘Ghariyal’ (large gongs), ‘Thali’ (platter) etc.

(d) **Bells:** Ghunghru (bells), Kikatha Murchang (a stringed instrument played with a bow with a bell), Wooden Castanets (*kahdtal*) and bells.

In Himachal, a variety of drums are used with the name such as— *Dhol, Dholku, Nagara, Dammama, Damanghat, Nagarth, Gajju, Doru, Hudak* and *Dhaunsa.* Among Gaddis, small round drums known as ‘Dafale’ are played at weddings. In the plains, large drums known as ‘Tamaka’ are played at fairs. People belonging to the ‘Bharai community’ perform the ritual playing of this drum at the fair.

The above-mentioned instruments are played according to the importance of occasion. Education of instrumental music in Himachal Pradesh passes from generation to generation, in the absence of any formal training institute.

**ARCHITECTURE IN HIMACHAL PRADESH**

**NATIVE ARCHITECTURE**

The Himalayas in the past ages has developed its own distinctive architectural style. This form came into prominence where extensive and dense forests were available. So by hill architecture one should understand the stone and wood
structure with a square or rectangular plan and a roof with a concave appearance or superimposed pyramidal roofs, one on the top of the other. The temples with such style lie scattered all over the upper areas of Garhwal, Kumaon, Chamba, Kullu, Mandi and Shimla.

**The Pent-roofed Structure:** These constructions with a pent-roof are simple in structure, the raw materials required are stone and wood.

The architecture that developed along the lower hills (Shivalik hills) where Hinduism is a predominant faith is a simple rectangular construction consisting of a cela raised on a square plinth of heavy timber and covered with a sloping roof of slates or shingles. The roof extends over the covered 'verandah' which serves the purpose of 'Pradakshina' (i.e. circumambulatory) round the shrine. Carvings on the doors, the pillars and the ceiling is a common feature. Some of the shrines which are truly representing the pent-roof structure, generally covered with slates or shingles are Bijli Mahadev (Kullu district), Shirgul (Sirmour district), Hatkoti (district Shimla), Lakshna Devi (Bharmaur), Shakti Devi (Chhatrar in Chamba district) and Kali Devi (at Mrikula in Chamba district).

**The Pagoda Style:** In the pagoda style, the diminishing roofs raise one above the other and the top one. The pagoda style shrines are not much in number in Himachal Pradesh as compared to the pent-roofs style. Some of the well known temples of pagoda style are:

Hidimba Devi or Dungari (at Manali in Kullu district), Tripura Sundari (at Naggar in Kullu district), Bijli Mahadev (Kullu district), Triyug Narayan (at Dayar, opp. Bajaura, Kullu district), Adi Brahma (at Khokan, district Kullu), Prashar and Chhatri (Mandi district) and Sungara Maheshwara (Sungara, district Kinnaur).

**The Domed Temples:** This style is the direct outcome of the Mughal and the Sikh rule. The shrines built in the 18th and 19th centuries by the local rulers are representing the domed style. Some of the important shrines belonging to this
category are—Jawalamukhi (Kangra district), Chintpurni (Una district), Kameshwar (Mandi) and Tarna temple (Mandi).

**The Flat-roofed Temples of Kangra Valley:** In this category shrines have ordinary walls in mud and lime plaster and the remarkable paintings executed in the traditional pahari style round the Ramayana and Mahabharta. Famous among this category include, the shrine of Narbadeshwar Sujanpur-Tira (Hamirpur district), Ramgopal (Domtal in Kangra), Brajraj Swami etc.

**STRUCTURE and SCULPTURE**

Structurally, the temple-complex belongs to the rek-cut technique of the Nagara style of Indian architecture. After surveying the whole rock and preparing the plan of the temples to be built, the architects made two parallel transverse cuttings 11 to 18 feet wide and then quarried a 160 feet long and 105 feet wide piece out of it. Care was taken that the highest point of the rock should be in the centre of this piece so as to be shaped into the main shrine. The whole structure was to revolve round this main shrine which was to be the highest, the biggest and the central part of it. The others were merely to act as side-pieces to enhance its grandeur and effect. In front of the monument to the North is a rectangular tank 155 feet by 85 scooped out of the same rock.

To understand the structural features of the complex, the best way is to begin with the main shrine. When built it was a complete 'vimana' in the early Nagara style. It had the 'ardha-mandapa' (portice), the Jagmohana (audience chamber), the 'garbha griha' (sanctum cella) and the 'shikhara' with its final members - 'the Amalaka' and 'the kalasha'. The height of the shrine from base to the top of the 'shikhara' was 80 feet. Of the portice pillars 11 .6” and of the Jagmohana pillars about 20 feet. Today both 'ardha-mandapa ' and 'Jagmohana' are gone, only the
bases of the pillars of the former and a portion of a pillar of the latter remain. The 'shikhara' is fifteen feet less and without the 'amalaka' and the 'kalasha'.

After crossing through the open courts which formerly formed the 'ardhamandapa' and 'Jagmohana', we reach the doorway. It is a high door with the lower half destroyed. The remaining upper half is luxuriously carved. It leads to the 'garbha griha' which is 13 feet square and 16 feet high. Its walls are uncarved, but the ceiling contains a big lotus in the centre and smaller ones around it. At the centre of the cella is a raised platform apart of the original rock-on which stone images of Rama, Sita and Laxmana rest. The cella is topped by the shikhara referred to above.

Sculpturally, the monument belongs to a mature, but not an elaborate period of Indian plastic ornamentation. Every carvable space—the shikhara faces, niches, door jambs, door lintels with their architraves, friezes and cornices, ceilings, pillars from plinths to capitals—has been moulded into leafy traceries, floral motifs, geometrical designs and animal and divine figures. Carved little consisting of broken animal and divine figures and sliced off shikhara faces and temple parts is everywhere inside the compound of the monument.

**PANCHKARMA**

Panchkarma means 'five therapies'. This is a treatment for the healthy as well as the unhealthy. It forms a curative line of management for all diseases, which are not amendable to palliative management. In these five therapies, 'Panchkarma', always begin with a pre-procedural treatment and eliminative measures such as Snehana (oleation) and Swedna (sudation).
The purpose of the pre-procedures is to prepare the person for the main five therapies. After Panchkarma therapies, the Sansarjana Karma, the past operative procedure is followed to get a complete cure by achieving the well stimulated 'agni' (digestive fire), and to enhance the body resistance of the person.

**THE BENEFITS OF PANCHKARMA**

- Eliminates toxic matter from the body.
- Enhances the power of digestion and metabolism
- Gets rid of disease from the very root of the system
- Restore normal health
- Helps the body gain strength and increase virility
- Gives a clearer complexion
- Increase the power of sense and motor organs

**MAJOR CIRCUITS OF HP**

Himachal Pradesh Tourism Development Corporation has divided the State into four interesting circuits. These circuits pass through different terrains making one feel as if one is trekking through ages at different times.

**SUTLEJ CIRCUIT**

The Sutlej Circuit derives its name from the ancient river Sutlej. It passes through the Shiwalik foot-hills and up and across stone fruit and apple orchards, forests of pine, oak and deodar, majestic monuments of the Raj, snow covered ski slopes and the furious Sutlej river. This circuit covers Delhi- Parwanoo- Kasauli- Barog- Solan- Chail- Hatkoti- Rampur- Sarahan- Narkanda- Naldehra- Tattapani- Shimla- Kiarighat- Delhi. This circuit also includes Renuka, Paonta Sahib and Nahan.

**BEAS CIRCUIT**
The Beas Circuit derives its name from the ancient river Beas. It passes through the highly picturesque Kullu - Mandi Regions. Flower covered meadows, terraced fields of apple, paddy, maize and the sparkling Beas river. This circuit covers Delhi-Swarghat-Bilaspur-Mandi-Rewalsar-Kullu-Manali-Rohtang-Naggar-Manikaran-Delhi (1335 km) (5 nights 6 days).

**TRIBAL CIRCUIT**

Passing through a spectacular terrain of river valleys, cold desert mountains, high passes, snow capped peaks, icy lakes, mighty glaciers, an exotic tribal country dotted by monasteries, yaks and lamas. This circuit covers Delhi- Shimla- Sarahan- Sangla- Kalpa- Nako- Tabo- Dhankar-Pin Vally- Kaza- Losar- Kunzum- Koksar- Sissu- Tandi- Udaipur- Trilokpur-Rohtang- Manali- Delhi.

**DHAULADHAR CIRCUIT**

The Dhauladhar Circuit derives its name from the Dhauladhar peaks of Western Himalaya. It passes in the shadow of the mighty and majestic snow clad Dhauldhar ranges, which dominate the beautiful Kangra valley, dotted by flowerfilled meadows, temples, tea gardens and flocks of sheep. This circuit covers Delhi- Chintpurni- Jwalamukhi- Kangra- Dalhousie-Khajjiar- Chamba- Dharamshala- Chamunda- Palampur- Jogindernagar-Delhi.

Some of the Prominent destinations thronged by domestic and foreign tourist alike are Chamba,Palampur, Kangra, Trilokpur, Dharamsala, Lahaul Valley, Kullu – The Valley of Gods, Manali Picturesque Mountain Resort, Mandi Historic Town, Bilaspur, Solan: The Mushroom City of India, Kinnaur: The Land of Fantasies, Shimla: The Queen of Hill Stations and Nahan etc.
Conclusively, the overall observation and assessment points out to the fact that whether we take into consideration the natural or cultural or built or developed resources, there is tremendous scope of conversion of new and, importantly, geographically wide-spread resources into touristic appeals and introducing innovative products. The new thrust areas could be medical & wellness tourism, spiritual tourism, MICE oriented touristic activities, new forms of high-value adventure tourism, wildlife tourism and, never the less, orchard tourism. The prime need is to motivate and involve the hill community in these noble ventures, which not only fight against the problem of exodus created due to insufficient marginal hill-side farming, but also pave way to better civic amenities & education alongwith higher standards of living.