2.1 Himachal Pradesh

Himachal Pradesh is situated in the heart of Western Himalayas. The state is almost wholly mountainous with altitude varying from 300 meters to 7000 meters. It covers a geographical area of 55673 square kilometers, which is about 1.82 per cent of India's total area.\(^1\) Himachal Pradesh extends between 30° 22' 40" to 30° 12' 20" north latitudes and 75° 45' 55" to 79° 04' 22" east longitudes. As per the 2001 census, its total population is 60,77,248.\(^2\) Himachal Pradesh is flanked by the state of Jammu and Kashmir in the north. Punjab and Haryana surround the state from south and southwest. Towards southeast, the state merges into Uttarakhand and in the north east, it forms India's border with Tibet.\(^3\)

The total scheduled castes population of Himachal Pradesh is 15,02,170 with 7,63,333 Male and 7,38,837 female. Thus about one forth (24.72 per cent) of the total state population is comprised of scheduled castes. According to the census of 2001 the population of Himachal Pradesh has increased by a rate of 17.54 percent over the previous decade. During the same period the growth rate for the SCs was 14.64 percent. Other demographic variables like literacy, occupational structure, in respect of Scheduled Castes for 2001 census were still under process at the time of writing of this report. The above mentioned figures however represent only the state averages and there are marked areas-wise variations at the level of smaller administrative units.
The state is divided into 12 districts, 51 Sub-Divisions, 75 Tehsils and 34 Sub-Tehsils for the administrative purposes. The mainstay of the people in the state is agriculture on which 66.71 percent population still depends. Because of mostly hilly topography the terraced cultivation is usually practiced. Percentage of main workers to total population is 34.41 and the percentage of cultivators to total main workers is 63.35. The percentage of Agricultural laborers to total workers is 2.65 percentage. Out of the total geographical area, 55.67 lakh hectares is the cultivable area in the
state. Out of total cultivable area, an area of 1.80 lakh hectares is
under assured irrigation. In the face of a near absence of railways
and water transport, roads are the only means of communication in
pre-dominantly hill State of Himachal Pradesh.4

2.2 History of Himachal Pradesh

No major empire was ever established in the region now
occupied by the Himachal Pradesh state, which was primarily due to
its complex physiographic, extreme climatic conditions and
inaccessibility. A few small principalities were annexed by various
outside rulers at times, but they failed to keep those territories for
long.5

2.3 History of Himachal Pradesh: Post-Independence Period

After India became free in 1947, there was a demand in some
quarters for the merger of Hill States with the east Punjab but it met
with vehement opposition from the rulers and people. The Praja
Mandal workers and the rulers had different opinions about the
future of these hill states. After a brief spell of hectic negotiations, the
rulers and Praja Mandal workers decided to inform Government of
India to form a union of these small hill states with the name of
Himachal Pradesh. In view of these events, the Central Government
decided to integrate all these principalities into a single unit to be
administered by the Government of India through a Chief
Commissioner. As a result, Himachal Pradesh came into being as a
part 'C' State of the Indian Union on 15th April, 1948 by the merger
of 31 big and small hill states. This newly created state comprised
four districts viz., Chamba, Mahasu, Mandi and Sirmaur and had a
total geographical area of 27,169 square kilometers. In 1954, the
primily neighboring state of Bilaspur was integrated to Himachal
Pradesh, which was formed into a new district with an area of 1167
square kilometers.
Himachal Pradesh continued as a part 'C' State of the Indian Union till 1956 when it was converted into an Indian territory and continued to exist as a union territory till the conferment of statehood on 25th January 1971. In 1960, the bordering Chini tehsil of Mahasu district was carved out as a separate district named Kinnaur thus raising the total number of districts to six. On 1st November, 1966, the then Punjab state was reorganized with the formation of Haryana as a separate state and merger of the then Kullu, Kangra, Shimla and some hilly areas of Hoshiarpur district and Dalhousie of Gurdaspur district into Himachal Pradesh, constituting the four new districts viz., Kullu, Lahaul-Spiti, Kangra, and Shimla in Himachal Pradesh and merging Dalhousie into Chamba district. With this addition, Himachal Pradesh comprised ten districts, covering an area of 55,673 square kilometers and a had population of 28.12 lakhs according to 1961 census.

On 1st September, 1972, two more districts viz., Hamirpur and Una were carved out from the old Kangra district and from the erstwhile Mahasu district were created Solan and Shimla as separate districts of the state.6

Himachal Pradesh is one of the most developed hilly regions in the Himalayan ranges, if per capita income is considered as an index of development. This, however, is partly due to the low density of population. It is worthwhile to point out here that the adjoining most prosperous states of India Haryana and Punjab are smaller in size than Himachal Pradesh. From natural resource point of view, Himachal Pradesh is relatively quite well off. Its small size of population is partly a result of its difficult terrain condition and general inaccessibility that account for its historical neglect by the ruling classes in pre-independence era.7
Fig 2.2: Formation of Himachal Pradesh as a State 1948
HIMACHAL PRADESH
ADMINISTRATIVE 1954

Bilaspur merged into Himachal Pradesh on July 1, 1954

HIMACHAL PRADESH
ADMINISTRATIVE 1961

Kinnaur carved out from Mahasai

Fig. 2.3: Formation of Himachal Pradesh as a State 1954-61
Fig. 2.4: Formation of Himachal Pradesh as a State 1966-1971

Una & Hamirpur districts created from Kangra.
Solan & Shimla created from Mahasu, Mahasu deleted
Total districts = 12
2.4 Economic History of Himachal Pradesh

Mandi and Baijnath have been mentioned as trading centres in Kautilya's *Arthasatra*. Besides, Huien Tsiang's travelogues and Kalhana's *Rajtrangini* refer to rich land controlled by various principalities in these hills. Even during the medieval period, these hill areas exported skins, herbs, timber etc. Though these vague references to richness of lands and crafts, during the sixteenth and the seventh century, are available in various historical sources of these times, yet an objective analysis points to the fact that the material resources of the state were limited during this period. Epigraphical records which have been used for reconstructing the history of this period have a tendency to glorify the state of affairs during the regime of particular kings.

The British started the annexation of these hill areas to their territory in the first quarter of the nineteenth century and this process was completed by the third quarter of the century. The Britishers never felt any need for the development of these regions because of two reasons. Firstly, there was no serious threat to their rule from the northern side and secondly, sea-ports were far away so that drainage of primary goods was not very economical. British used the term "Himalayan Tracts" for the hills of Himachal Pradesh. District Shimla received a special attention from the British Raj due to its geographical position. In 1865, Shimla town became a permanent headquarter of British army. In 1868, it became the summer capital of India and in 1872, it also became the summer capital of Punjab.

2.5 Distribution of Land and Agriculture

Due to its geographical location, the availability of agricultural land was limited in most parts of the hill states, as compared to
adjoining plains. The maximum available agricultural land was in Kangra district. Out of 15,80,387 acres in Kangra district, 4,23,005 acres were cultivated and out of this cultivated land, only 78,112 acres was irrigated. The major crops were wheat, barley, gram, rice, oil seed and maize. The main source of irrigation was 'Kulis'. The average size of holding in Kangra was 4.63 acres. In Kullu cultivated area was 27,515 acres. Mandi and Suket were the only surplus food producing principalities. All other regions were dependent on plains for their food requirement. Mandi was also one of the most important trading centres between hills and plains. Thousands of mules used to pass through Mandi on their way to plains of Punjab to transport food and other items of trade.

In Bilaspur state cropped area accounted for 1,21,985 acres. In Sirmaur district there was 87,604 acres of cultivated land out of which 21,957 acres were irrigated. In Shimla district total cropped area was 10,020 acres out of which 752 acres were irrigated. In Lahaul and Spiti total cultivated area was 2871 acres in 1910-11. The percentage of the cultivated area in all these districts/principalities varied from 10 to 20 per cent of the total area. Due to very meager availability of the irrigational facilities, the agriculture of the state was in a most backward state and was not able to generate sufficient surplus which could help faster economic development of the region.

Progress in agriculture can easily be recognized if we go through the financial allocations for the development of this sector through the four Five-Year Plans. The following table displays these allocations and expenditures:
### Table 2.1: Outlay and Expenditure on Agricultural Programmes

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Plan</th>
<th>Outlay (In Lakhs)</th>
<th>Expenditure</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>First Plan (1951-56)</td>
<td>120.27</td>
<td>73.81</td>
</tr>
<tr>
<td>2.</td>
<td>Second Plan (1956-61)</td>
<td>218.53</td>
<td>251.27</td>
</tr>
<tr>
<td>3.</td>
<td>Third Plan (1961-66)</td>
<td>649</td>
<td>769.15</td>
</tr>
<tr>
<td>4.</td>
<td>Annual Plan (1966-67)</td>
<td>279.16</td>
<td>155.38</td>
</tr>
<tr>
<td>5.</td>
<td>Annual Plan (1967-68)</td>
<td>459</td>
<td>305.16</td>
</tr>
<tr>
<td>6.</td>
<td>Annual Plan (1968-69)</td>
<td>376</td>
<td>278.87</td>
</tr>
<tr>
<td>7.</td>
<td>Fourth Plan (1969-74)</td>
<td>3000</td>
<td>2814.82</td>
</tr>
</tbody>
</table>


The outlay on agricultural programmes during the fifth plan has been set to be Rs 4919 lakhs. The first year of fifth plan i.e., 1974-75, envisages an outlay of Rs 827 lacs for agricultural programmes.

On the basis of the above mentioned financial allocations we may conclude that in each successive plan a great deal of money has been spent for the development of agriculture. This investment has yielded good dividends also. Food grains and cash crops production have gone up. However, the geographical conditions of the Pradesh are such as little scope exists for agricultural development at nominal investment. That is why the State Government has been paying increasing attention to horticulture.\(^\text{13}\)

#### 2.6 Trade and Commerce

Trade is an index of the economic development of a region, its nature and characteristics depend upon the stage of agricultural,
forest, mineral and industrial production. A good network of road is a basic necessity for development and progress of any region. The economy of the hill people during the pre-modern times was not very satisfactory, the inhabitants strived to earn a subsistence livelihood. The agriculture was not very developed and irrigation was possible only in the valleys and in the low lying areas near the *khuds* and streams. The hill tracts produced only that much which met their local requirements of grain and in most of the cases the grain had to be imported from the plains. Almost all the trade was conducted by barter system. The direct trade and commerce of Himachal Pradesh with other regions and plain areas was very negligible.

### 2.7 Means of Communication

During the nineteenth century, the process of development of communication started but it was very slow. First link road was constructed during the year 1822 to 1835 by O.P. Kennedy which linked Pinjore valley with the Shimla district. The construction of Hindustan- Tibet road was started in 1845 and it was completed in 1895. Hindustan- Tibet road linked on the one hand, Kinnaur and Shimla with Punjab and on the other with Tibet. In 1882, Mandi-Jallandhar road was constructed and Mandi-Baijnath road was constructed in 1877. At the end of the century Mandi was linked with Kullu, Shimla and Ropar. In 1900, Sirmaur was linked with Sarahan and Renuka. In the same period Kangra was linked with Pathankot, Jallandhar and Jogindernager.

The first ever railway line was laid in the state in 1903 from Kalka to Shimla and second was laid in 1929 from Pathankot to Jogindernagar. The road links were also used to supply primary goods like timber, blankets, woolen shawls, medicinal herbs, dhoop etc. Different rivers were also used as means of transportation. The growth of the means of transportation was very uneven and it remained limited to a few tourists' resorts and major portion of area and population remained unaffected by it.
2.8 Population and Occupational Structure 1881-1947

Overall trend in the population remained positive, excluding the decade from 1901 to 1911. The major reasons for negative growth rate during 1901 to 1911 were epidemic diseases and earthquake of 1905 in Kangra.

Table 2.2: Trend in Population Growth in Himachal Pradesh, 1881-1947

<table>
<thead>
<tr>
<th>Year</th>
<th>Population (Persons)</th>
<th>Annual Growth Rate (In Percent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1881</td>
<td>15,39,001</td>
<td>--</td>
</tr>
<tr>
<td>1901</td>
<td>19,20,299</td>
<td>1.24</td>
</tr>
<tr>
<td>1911</td>
<td>18,96,944</td>
<td>1.22</td>
</tr>
<tr>
<td>1921</td>
<td>19,28,206</td>
<td>0.16</td>
</tr>
<tr>
<td>1931</td>
<td>20,29,113</td>
<td>0.52</td>
</tr>
<tr>
<td>1941</td>
<td>22,63,245</td>
<td>1.15</td>
</tr>
<tr>
<td>1947</td>
<td>23,35,000</td>
<td>0.33</td>
</tr>
</tbody>
</table>

Source: Census of India 1971, Himachal Pradesh.

The overall growth rate of population was lower in Himachal Pradesh as compared to the other parts of the country. So the pressure of population on land did not increase very rapidly in this hilly tract.

A district-wise analysis for the later half of the Nineteenth century indicates that commodity production had not started in most of the areas. There were extensive waste lands and forests in Kullu district and rice, opium and tobacco were grown mainly for domestic consumption. About 98 per cent population lived in rural areas which were largely organized on the basis of the tribal economy.
Chamba district also had largely the same economic condition. But in order to meet the need for cloth, metals, sugar and salt the people had to trade traditional produce like honey, herbs, potato, dhoop etc. with the adjoining plains. Handicrafts like woolen shawl blankets etc. had started finding their way to the nearby markets in the plains. The real food districts were Mandi and Kangra. The economies of these districts had been integrated more with the neighboring plains of Punjab which had already started experiencing the gains of agricultural boom, triggered by the investments made by the Britishers in public irrigation works. Small manufacturers and mines were also coming up in some parts of Himachal hills. Sirmaur district had started manufacturing sugar, furniture and some textiles, salt and slates were the major mineral resources in Kangra and Mandi districts which could be exploited commercially. The setting up of Shimla as the summer capital of British India also brought the remote hills of Mahasu and Kinnaur district to the mainstream of the limited economic development which had been initiated in India by the British Raj.

Table 2.3: Occupational Structure of Population in Himalayan States in 1921

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Population (persons)</th>
<th>Actual Workers (in Percent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>14,15,088</td>
<td>46</td>
</tr>
<tr>
<td>Industry</td>
<td>1,51,849</td>
<td>47</td>
</tr>
<tr>
<td>Commerce</td>
<td>57,562</td>
<td>50</td>
</tr>
<tr>
<td>Liberal Professional</td>
<td>24,517</td>
<td>48</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>88,585</td>
<td>63</td>
</tr>
</tbody>
</table>

Source: Ibid., 1975.

In the decade of 1940 to 1950, the occupational distribution of the population in the different districts was as under:
In Mahasu district 95 per cent were dependent on agriculture and 5 per cent on non-agricultural activities. In Mandi 92 per cent were dependent on agriculture and 8 per cent on the non-agricultural activities. In Sirmaur district 89 per cent were dependent on agricultural activities and 11 per cent on non-agricultural activities; in Bilaspur these percentages were 91 and 9 per cent respectively. The percentage of cultivators in Kangra district was 73 per cent, in Shimla 86 per cent, in Sirmaur 67 per cent and in Mahasu 89 per cent. This indicates that agriculture was the major occupation of the population till 1950.

The percentage of the tenants was 19 in Sirmaur; 2 in Chamba, 5 in Mandi, 4 in Mahasu and in Kangra it was 9. The percentage of the agricultural labourers was: Kangra 2 per cent; Chamba, 0.37 per cent; Mahasu, 0.96 per cent and for Mandi it was 1 per cent. This indicates that owner-cultivators were dominating and very insignificant number of tenant cultivators was existing in Himachal Pradesh. Thus Himachal Pradesh was largely a peasant economy.

The percentage of those who were receiving rent in kind or cash was 2 in Kangra and Mandi, 0.47 in Mahasu, 9.47 in Sirmaur 0.95 in Chamba and 1 per cent in Bilaspur. Other occupations such as industry were not popular. The district-wise percentage of population engaged in industry is as follows: Kangra 4 per cent, Shimla 8 per cent, Sirmaur 4 per cent, Mandi 5 per cent, Mahasu 1 per cent and in Chamba 1 per cent. Commerce also employed very few persons i.e., 2 per cent in Kangra, 17 per cent in Shimla, 2 per cent in Sirmaur, 2 per cent in Mandi, 1 per cent in Mahasu and 2 per cent in Chamba.

Transport was providing employment to 1.7 per cent in Shimla district; 0.21 per cent in Kangra, 0.56 per cent in Sirmaur, 0.38 per
cent in Mandi, 0.13 per cent in Mahasu and 2 per cent in Chamba.¹⁹

2.9 The State of the Development at the Eve of Independence

To sum up, the pre-independence picture of present Himachal Pradesh did not warrant rapid development due to the following factors:

1. Due to the subsistence nature of farming and in egalitarian agrarian structure surplus accruing from agriculture sector was not significant.

2. Whatever little surplus accrued it was appropriated by the ruling families and landlords for meeting their unproductive expenditure.

3. Even in trading, no worthwhile local enterprising community was emerging because trade was mainly controlled by traders from plains.

4. Even a small stratum of well to do traders of Sood community had not diversified their interests beyond usury and money-lending.

5. The existence of village community and tribal formations were a fetter on commodity production in the region.

6. The levels of skills of people were low due to non availability of industrial opportunities and lesser social overheads were allocated by the state to the hills.

7. Infrastructural facilities were completely lacking. The road mileage, railways and power availability was far below the national average.

8. Due to poor state of agriculture and low density of population very few urban centers for promoting commodity markets had come into being.²⁰
2.10 People of Himachal Pradesh

Scores of races, communities and cultures have intermingled in Himachal. Their faiths are simple, beliefs primitive and myths difficult to fathom. A birth, a fair, a community gathering, a marriage, a festival all provide them opportunity for song and dance. Their has been relatively a closed society. They firmly believe that entire acts whether good or bad are recorded in heaven that eventually decide their next birth.

Ninety three percent of the state populations are engaged in agriculture. Most of the land is owned by Rajputs, Brahmins and Mahajans (the high caste) who dominate the economic and political life of the state. They dominate in rituals also. The scheduled castes who form about 24.72 per cent of the population are mostly artisans. They depend on the high castes for their livelihood and serve as their subservient. This relationship, however, is gradually changing to interdependence with the implementation of social and agrarian reforms.

Himachal Pradesh is rightly called as the melting pot of different cultures. Numerous racial communities and cultures have intermingled here. The areas close to the international border are the home to the bulk of the tribal population who are Buddhist by faith.21

The mid altitudinal zone is the abode of the bulk of the indigenous Himachal population and a mixed population of diverse faith inhabits the lower altitudinal zone.

The diversity in the proportion of different communities is evident from the fact that schedule tribes comprise 4.22 per cent and scheduled caste about 24.7 per cent of the state population. The people speak a number of languages and dialects. It is believed that
when the people of the Indus valley spread through the Sarswati and the Gangetic plains, they pushed back the Munda-speaking Kolarian into the forests and valleys of Himachal Pradesh. During the Rig-Vedic period, these people were called Dasas, Dasyu, Nashad etc. Literary sources also refer to Kinnars, Nag and Yaksha who migrated to the hills of Himachal Pradesh during the Post-Vedic period. Today the descendants of these hill people can be found in the Kols who are considered to be the original inhabitants of this area and possibly the Kolis, Halis, Doms and Dagis. Similarly the Damang of Kinnaur and Lahaul Spiti are believed to be the remnants of the original inhabitants of Himachal Pradesh.

The caste system is believed to have emerged in the 2nd century B.C. and was based on the 4 classes of society, which came to be recognized on the basis of their occupation. This tradition is still reflected in many ways in our society today. Caste played an important role in influencing human settlement, house type, use of land, mobility of population and style of living. The schedule caste population forms 24.72 per cent of the state's population comprising of a number of sub castes.

The Rajput forms the largest chunk of state's population. They are the descendents of immigrant Rajputs who were either driven to the hills by the Muslim invaders or who came here and are established small princely states. They are mostly the land owners and engaged in agriculture. The Brahmins, a priestly class form the second largest group followed by the Ghirath, Khatries, Soods and Mahajans who form the business communities.

The tribal population constitutes about 4.0 per cent of the state’s population. They belong to different ethnic, linguistic and religious groups and have some unique socio-cultural and economic characteristics. The tribal population is concentrated mainly in three
districts of the state viz Chamba (28.35 per cent), Kinnaur (55.58 per cent) and Lahaul-Spiti (76.97 per cent). These districts together are commonly known as the tribal area of Himachal Pradesh. The Kinnaurs, Lahulies, Spitians, Pangiwalls, Gaddies and Gujjars are the main tribes of the state.

The traditional economy of this high mountain tribal belt was based on agriculture trade with Tibet and animal herding. The meager resources of this region have given rise to some unique social practices like polyandry and joining monasteries as monks and nuns. Hinduism is the dominant religion of the tribal population of Kinnaur but Buddhism is more important in Lahaul and Spiti.

The state has a predominantly Hindu population and minority communities like Buddhists, Sikhs, Muslims and Christians constitute only the small share of the state’s population. Hindi is the state language but the location of the state along the Indo-Tibetan border and the Physical isolation imposed by the mountains have allowed a variety of languages and dialects to flourish in the state which have their origin in the Indo-Aryan and the Sino-Tibetan languages. Western Pahari is the major language spoken by nearly 90 per cent of the people of the state.22

Tankri was the script of western pahari in the earlier days, but today it is written in Devnagri. The various dialects of Pahari language spoken in the state are Mandiyali, Kullavi, Kehluri, Hindduri and Mahasuvi which are spoken in Mandi, Kullu, Bilaspur, Solan and Shimla districts respectively. Besides these dialects of Sino-Tibetans languages like Kinnauri, Lahauli and Spitian are also spoken in the northern tribal belt.23

2.11 Administrative Structure

Himachal Pradesh covers an area of 55,673 km² and is inhabited by 60.77 lakh persons. The Pradesh is divided into 12 districts of varying sizes for administrative purpose. Lahaul-Spiti is
the biggest district and accounts for 24.85 per cent of the Pradesh's geographical area. Hamirpur is the smallest district accounting for only 2.01 per cent of the Pradesh's area.

Similarly, the distribution of population among the districts is highly varied. Kangra is the most populous district of the state claiming 22.02 per cent population of the state. Mandi (14.82 per cent) and Shimla (11.85 per cent) stand second and third respectively. These three districts together account for about 50 per cent of the total population of the state. Lahaul-Spiti has the lowest share in the state's population (0.55 per cent). Kinnaur district has 1.38 per cent share in state's population and rank second lowest after Lahaul and Spiti.

These 12 districts, have further been subdivided into 52 subdivisions; 109 Tehsils/Sub Tehsils and 75 Development Blocks. As per 2001 census, there were a total of 17495 inhabited villages and 57 towns accommodating 60.77 lakhs population of the state. The state has the dubious distinction of being the least urbanized state of India as less then 10 per cent of its population was residing in urban areas in 2001.  

2.12 Physiographic Region of Himachal Pradesh

Physiographically Himachal Pradesh is divided into four well defined parallel zones from South to North. These differ from one another not only in term of relief but also in climate and vegetation. they are:

1. The Shivalik Range-(Outer Himalaya or Sub-Himalaya)
2. The Lesser Himalayas-(Middle Himalaya)
3. The Great Himalayas-(Inner Himalaya)
4. Trans-Himalayas-(Tibetan Himalaya)
1. The Shivalik Range

It forms a continuous chain, parallel to the principal Himalayas and forms the southern part of the state, which ranges from 600 meters to 1200 meters. This area is also known as the outer Himalayas. These ranges are the youngest of the Himalayan ranges and are made up of tertiary sediments consisting of sand, clays and boulder conglomerates brought down by the rivers from the main Himalayan ranges situated farther north. Shivaliks have been highly deforested and eroded resulting in the formation of *chos* or *gullis* that are common in Una district. Some of the important towns which are located in the Shivalik hills are Paonta sahib, Nahan, Sarhan, Nalagarh, Kunihar, Hamirpur, Una and Nurpur.

This range in Himachal Pradesh is known by several local names like Dhog Dhar in Sirmaur, Ram Garh Dhar in Una, Chaumukti range, Dharti Dhar, Sikander Dhar and Naina Devi Dhar in Bilaspur district.

2. The Middle Himalaya

This portion of the Himalayas is also known as middle Himalayas or the Central Zone. It occupies the Central part of Himachal Pradesh. The middle or lesser Himalayas are located to the north of Shivalik range. They form an intricate and rugged mountain system about 60-80 km. wide and 1000-4000 meters high. Several peaks rise to nearly 5000 meters and remain snow-covered throughout the year. The prominent ranges comprising The lesser Himalayas are dhauladhar and pir panjal.

(i) Dhaulahhar 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". It breaks off from the Great Himalayan range near Badrinath.

It is intercepted by Satluj at Rampur Bushahr by Beas at Larji and by Ravi at South-West of Chamba. The beautiful Kangra Valley is background by Dhauladhar range. The outer Himalayas or Shivaliks are marked by a gradual change in elevation towards the Dhauladhar.

Dhauladhar forms the Southern boundary of Chamba district that separates it from Kangra district. This range in the Chamba district forms a mountain barrier with high peaks.

In Kinnaur district, it constitutes the south-western part of the district and forms a longitudinal belt along the boundary line between Kinnaur and Shimla and Uttrakhand in its south. Dhauladhar in its Western half runs parallel to Sutloj river and its Eastern half runs parallel to Baspa river which is one of the main tributaries of Sutloj river. This range in Kinnaur districts gives origin to some streams and rivulets like Zupkia gad and Mukta gad which join Baspa river.

(II) Pir- Panjal Range

The Lesser Himalayas rise gradually in elevation towards Pir Panjal. The northern flank of the Dhauladhar range impinges against the southern flank of the Pir Panjal range reaching an average elevation of 4600 m. at the mountain knot of Bara Bhangal. The Pir Panjal, the largest and most impressive of the lesser Himalayan ranges bifurcates from the Great Himalayan range near the Bank of Sutloj, forming the water divide between Chenab on one side, and Beas and Ravi on the other. It bends towards the Dhauladhar range near the source of Ravi river. Most of the famous
passes are located across this range and many of which remain closed from December to March.

3. **The Great Himalayas**

The Inner of the Great Himalayas is the highest mountain range that runs along the northeastern border of Himachal passing, through the Lahul-Spiti and Kinnaur districts. The Great Himalayan range has a mean elevation of 5500 meters with several peaks rising over 6000 meters. The Great Himalayan range remains snow covered throughout the year because of the high altitude and the presence of glaciers are found in large numbers on the slopes. These glaciers are a source of water to many important rivers like Chandra and Bhaga, Baspa, Spiti etc.

The range also has several important passes which are all above 4500 meters height. Important among them are Pin Parvati pass (4802 meters), Bara Lachhala (4512 meters), Kunzama (4551 meters), Kangla (5246 meters) and Parnag (5548 meters). The Great Himalayan range in Himachal Predesh is the extension of the mighty Great Himalayas starting from Nanga Parvat in the west. The Pir Panjal range also joins this range at Deo Tibba. This mountain range plays an important role in influencing the climate of the state. It acts as a climatic barrier saving moisture laden monsoons from getting into kinnaur and Lahul and Spiti districts. Most of the major rivers of the state originate from this range with a sole exception of Sutloj, which rises in Tibet.26

4. **Trans Himalayas**

This is a zone of an average elevation of over 3000 meters to 4300 meters above the mean sea level. This region is cold and arid
because the monsoon winds are unable to cross the Greater Himalayan range. Zasker range is the most prominent range of the Trans Himalayas that separates Spiti and Kinnaur from Tibet.

It has peaks rising over an elevation of 6500 meters. Shilla (7026 meters) and Rivo Phargul (6769 meters) are among its prominent peaks. The Zasker range is the first range cut by Sutloj River when it enters the state at Shipki-La. The other important ranges of this zone are Kinner-Kailash and Kalpa range. The Trans Himalayas largely lack vegetation and monotony of the bare landscape is broken by vegetation only at lower elevation along streams and river valleys.

2.13 Drainage

The state is drained by a number of rivers and streams. Most important among them are Cheneb, Ravi, Beas and Sutloj that are fed by vast glaciers and snowfields located in the middle and Great Himalayan ranges. The Sutloj river that rises in Tibet is a typical example of antecedent drainage. All these four rivers join the Indus river system. A small south eastern section east of Satluj river is drained by Giri, Pabbar and Tons which drain into the Yamuna and ultimately into the Ganga river system.

2.14 Lakes

The state has numerous lakes both man made and natural. All lakes in Himachal Predesh are freshwater lakes. Most of the lakes in the lower Himalayas are either oxbow lakes like the Renuka Lake (Sirmaur district) which is formed in an abandoned course of Giri river or they are talus dammed lakes like Khajjiyar and Rewalsar. Man made lakes like Govind-Sagar, Pong and Pandoh dam reservoirs
are also located in the lower Himalayas. In the Greater Himalayas glaciated lakes are more common. Chandra tal, Surajtal and Manimahesh lakes are good examples of glaciated lakes. The Govind-Sagar Lake and Pong Dam reservoirs called Maha Rana Pratap Sagar are the largest artificial lakes. Manimahesh lake in Chamba district and Surajtal in Lahaul district are considered as sacred by Hindus and are the most important high altitude lakes of the state. The Parashar Lake in Mandi district and Khajjiyar in Chamba are important lakes of the middle Himalayan region while the sacred lakes of Rewalsar near Mandi and Renuka in Sirmaur districts are located at the lower altitude. In addition, there are a number of smaller lakes scattered throughout the state.

2.15 Seasons

Unlike the tropical climate of the rest of the country, Himachal Pradesh enjoys a more temperate type of climate and experiences four well-defined seasons: spring, summer, autumn and winter. The fifth, the rainy season, however, is a local addition. Spring marks the transition from winter to summer and it commences from mid-march to mid-April. Spring is followed by the summer season, which stretches from mid-April to June. From mid-April temperature generally begins to rise and in the outer hill zone temperature over 35°C is very common. In the higher and inner zone temperature however rarely exceeds 25°C. The rainy season starts from July and continues till the end of September. Bulk of the rainfall in the state comes during this season. Rainfall is heavy on the slopes of the Dhauladhar and moderate in the south and middle zone. The arid zone beyond Greater Himalayan and the Trans-Himalayan region remains dry even during the rainy season.
The rainy season gives way to the autumn which lasts till November during which the sky remains generally clear. But occasional showers are also common. The winter season begins in December and lasts till mid-March. Winter is severe in the inner and middle zone where snowfall is common. Temperature drops to below zero in many parts of the state. Western disturbances are responsible for most of the precipitation during the winter season.

2.16 Climate

There is much diversification in the climate of Himachal Pradesh. Differences in aspect and elevation give rise to various micro-climates. The climate varies from sub-tropical at an elevation of (450m.-900 m.) to warm temperate (900 -1800 meters). The cool temperate (1800m-2400 meters) prevails at height of turning into cold at high mountains (2400 -4000) meters. At an elevation of beyond 4000 meters it becomes snowy frigid. The climate of Lahaul, Spiti and Kinnaur is semi-arid highland type. Compared to the Punjab plains, the climate of the region is less severe hot weather, with somewhat higher precipitation and colder and more prolonged winter. The great diversity in relief, variation in elevation and the geographical location has given diverse climatic conditions to the state.

Geographically, the state is located roughly within the latitudinal expanse (North latitudes) which corresponds to the warm temperate zone of Mediterranean region, but the high Himalayan Mountain range and southwest monsoons play an important role in modifying the climate.

2.17 Soils

Soil is an important single factor, besides water, that determines locating human settlements. It is especially more true of
a human in this fragile mountainous region like Himachal Pradesh. In the higher Himalayan region, glacial action has played an important role in soil formation. Fluvo-glacial soils cover the terraces, while boulder clay and outwash soils are found in pockets in the valleys. In the higher reaches, soils are thin and immature. In the sub-Himalayas, alluvial soil with local red loam is found along the river courses while in the other parts, soil mainly consists of deposits of gravel and course sand. The soils of Himachal Pradesh are greatly subjected to gully and sheet erosion. Of late, large scale deforestation and unscientific cultivation on the slopes have been mainly responsible for large scale erosion.30

Table 2.4: Soil Classification (Based on Altitude and Climate)

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Soil Zone</th>
<th>Altitude</th>
<th>Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Low Hill Soil Zone</td>
<td>400-900 m</td>
<td>Red or Brownish Grey</td>
</tr>
<tr>
<td>2.</td>
<td>Mid Hill Soil Zone</td>
<td>900-1500 m</td>
<td>Mostly Sandy Loams, Loamy sand, Sandy Clays and Silt loam</td>
</tr>
<tr>
<td>3.</td>
<td>High Hill Soil Zone</td>
<td>1500-2000 m</td>
<td>Silt Loam to Clay Loam, Light to Brown Colour</td>
</tr>
<tr>
<td>4.</td>
<td>Mountain Soil Zone</td>
<td>2100-3000 m</td>
<td>Pale Brown, Shallow Soils</td>
</tr>
<tr>
<td>5.</td>
<td>Cold Arid Soil Zone</td>
<td>2400-3650 m</td>
<td>Moraine Soils</td>
</tr>
</tbody>
</table>

Source: Environmental Report, Department of Science and Technology, GOHP, 2000, Shimla.

Himachal Pradesh has a wide variety of soils found in its valleys and tracts. Soil changes from place to place and with it changes the nature and type of vegetation it supports. Soils found in Himachal Pradesh vary from rich deep alluvial soils of the Doon type valleys to the thin and bare soils of the high mountains and almost deserts like soils of the cold desert of lahul and Spiti and Kinnaur districts.
The types of soils found in the state are:

(a) Himalayan Alluvial soils
(b) Red and Black soils
(c) Ferruginous Red soils
(d) Brown soils
(e) Forest soils
(f) Podsolc soil
(g) Himalayan foothill/Terai soils
(h) Mountain and hill soils
(i) High altitude meadow soils

2.18 Rainfall

There is also a great degree of variation in the distribution of rainfall in the state. It varies from 500 mm to 3400 mm. Dharamsala town in Kangra district is the rainiest place. The exceptionally heavy rainfall, measuring 3400 mm in Dharamsala located in the foothill of Dhauladhar range is due to the orographic effect of monsoon winds due to the particular alignment of Dhauladhar range.

Dalliousie, Dharamsala, Kangra, Palampur and Jogindernagar lie in the zone of rainfall exceeding 2000 mm. Beyond this zone of maximum rainfall there is gradual decline towards northeastern parts of the State. Most of Lahaul and Spiti receives less than 500 mm of precipitation. The average number of rainy days varies from 48.6 at Keylong to 99.3 at Dharamsala.

Most of the rainfall comes from southwest monsoon but the state also receives rainfall during the winter season from the western disturbances, which are steered into the state by the Winter Easterlies.31
Fig. 2.5: Annual rainfall of Himachal Pradesh

Source: Environmental Report, Department of Science and Technology, GOHP, 2000, Shimla.

Fig. 2.6: Monthly rainfall in Himachal Pradesh

Source: IMD Climatological table (1951-1980)
Table 2.5: Annual Rainfall in Himachal Pradesh

<table>
<thead>
<tr>
<th>S.No</th>
<th>District</th>
<th>Rainfall in cm.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Hamirpur</td>
<td>165.4</td>
</tr>
<tr>
<td>2</td>
<td>Bilaspur</td>
<td>194</td>
</tr>
<tr>
<td>3</td>
<td>Una</td>
<td>133.6</td>
</tr>
<tr>
<td>4</td>
<td>Solan</td>
<td>123.3</td>
</tr>
<tr>
<td>5</td>
<td>Kangra</td>
<td>230.8</td>
</tr>
<tr>
<td>6</td>
<td>Mandi</td>
<td>205.8</td>
</tr>
<tr>
<td>7</td>
<td>Sirmaur</td>
<td>153.8</td>
</tr>
<tr>
<td>8</td>
<td>Shimla</td>
<td>124.2</td>
</tr>
<tr>
<td>9</td>
<td>Chamba</td>
<td>235.6</td>
</tr>
<tr>
<td>10</td>
<td>Kullu</td>
<td>105.2</td>
</tr>
<tr>
<td>11</td>
<td>Kinnaur</td>
<td>61.2</td>
</tr>
<tr>
<td>12</td>
<td>Lahaul-Spiti</td>
<td>24.3</td>
</tr>
</tbody>
</table>

Stak Average: 146.9


Table 2.6: Climatic Distribution in Himachal

<table>
<thead>
<tr>
<th>Attitude</th>
<th>Climatic type</th>
<th>Districts/Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to 900 meters</td>
<td>Sub-tropical</td>
<td>Kangra, Una, Hamirpur, Bilaspur, Solan and Sirmour.</td>
</tr>
<tr>
<td>900 to 1500 meters</td>
<td>A blend of sub-tropical and temperate type</td>
<td>Kangra, Mandi Solan and Sirmour.</td>
</tr>
<tr>
<td>1500 to 2100 meters</td>
<td>Cool temperate type</td>
<td>Shimla, Kullu and Chamba</td>
</tr>
<tr>
<td>2100 to 3100 meters</td>
<td>Cold temperate type</td>
<td>Parts of Chamba, Kullu, Shimla and Lower kinnaur</td>
</tr>
<tr>
<td>Beyond 3100 meters</td>
<td>Tibetan type of Alpine</td>
<td>Lahaul-Spiti and Chamba District</td>
</tr>
</tbody>
</table>

Source: Geography of Himachal Pradesh, 2005
On the basis of temperature and rainfall distribution, the state can be divided into four broad climatic zones. These are:

1. The Wast sub-tropical zone covering parts of Kangra, Mandi, Sirmaur and Solan districts and almost the entire districts of Hamirpur, Una and Bilaspur.

2. The cool humid temperate zone covering parts of Chamba, Kullu, Solan and Shimla districts higher areas of Kangra (Dharamsala and Palampur) and Mandi (Karsog) district.

3. The cool moist temperate zone covering the inner parts of the Lesser Himalayas including the Pangi, Brahmour, Manali, Rampur and Kalpa region.

4. The cold dry temperate zone covering most of Lahaul-Spiti and Kinnaur districts.\(^3^2\)
REFERENCES AND NOTES


9. *Himalayan Tract* included- Chamba, Mandi, Suket, Nahan, Bushahr, and twenty smaller states which were under the charge of Superintendent of hill state of Shimla, Kangra, Kullu, and Lahaul-Spiti.


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23. Manoj Jreat, (2005), *Geography of Himachal Pradesh*, Institute of integrated Himalayan Studies (UGC), Centre of Excellence) Himachal Pradesh University, Shimla -5,p.2

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27. Manoj Jreat, (2005), *Geography of Himachal Pradesh*, Institute of integrated Himalayan Studies (UGC), Centre of Excellence) Himachal Pradesh University, Shimla -5, p. 6


