CHAPTER V
ECONOMIC DEVELOPMENT

The hilly areas in India exist in the periphery of the country both in geographical as well as in the economic sense, although majority of these areas lie in the lap of the mighty Himalayas. The mountain ranges which greatly influence the climate of the Indian sub-continent, and the rivers originating in these mountain ranges nourish agriculture and industries in the plains. Yet the people and the economic systems of the hilly regions of the country have never counted for much in the Indian political and economic scene, mainly for the reason that numerically the hill population forms a mere drop in the ocean of humanity of India.

The region of Himachal Pradesh consists of five distinct topographical sub-regions. 1 Valley areas (with elevations up to 1000 meters), 2 Low hills (1000 to 2000 meters), 3 High hills (2000 to 3500 meters), 4 Alpine zone (above 3500 meters) and 5. Land of perpetual snow. The three climate zones which have been identified are the Outer Himalayas, the Inner Himalayas and the Alpine zone. The climate varies between hot and humid in the valley areas to freezing cold in the areas of the perennial snow. The Alpine zone remains under snow for about five to six months in a year. To understand the uneven economic development of Himachal Pradesh, it is necessary to understand its geography.

Himachal Pradesh presents a picture of rough and rugged terrain. Some areas are densely populated so there is an imbalance in production areas, with heavy concentration of labour in certain parts. As there is lot of climate variation, agriculture is also concentrated in some areas and these areas are densely populated.

272 Sharma, L.R., 1987, The Economy of Himachal Pradesh: Growth and Structure, Delhi: Mittal Publishing House, p 1
273 Ibid, p 1,2
As far as Kullu district is concerned it is characterized by a varied topographical diversity. The altitude ranges from less than 1,220 meters to 6,000 meters in great Himalayan ranges of the district. The varied agro-climatic conditions, caused by difference in rainfall, climate, and altitude are the most important assets of district Kullu, since these make for a diversified production potential. For instance, in the matter of fruit culture alone, there are vast possibilities of growing different varieties of nuts and fruits at different altitudes and temperatures. The diversity in geographical features also holds out promise for the development of animal husbandry not merely as a complementary activity to agriculture and horticulture, but in certain areas even as an independent sector.

AGRICULTURE

District Kullu is predominantly an agricultural area. The economic prosperity of the people is, therefore, dependent upon farm produce. Like other hilly areas, the district economy has undergone numerous changes. The basic structure of the agrarian economy has experienced a revolutionary change. The change has been accelerated by the economic planning in the post independence period. The policies regarding production, marketing, supplies, transport, have helped improve the economic condition. The economy was geared up by the five year plans and the impact resulted in development which brought economic improvement of the population. The livelihood pattern showed a change, from being based almost solely on the age old agriculture to other vocations like horticulture, tourism etc.

The Kullu peasants have managed to succeed to a large degree in getting a fair return from the steep hill slopes. The work is distributed

---

277 ibid, p 246
among men and women. Men do the ploughing and repairs of the retaining walls of terraces and fencing, women do the manuring, weeding and also reaping. In the monsoon season, the men look after the flocks and do the heavier work on the roads or in forest, but hay making is generally done by women. For two months in the spring there is little farm work to do. But in agriculture, women bear heavier share of work.

The main crops grown in district Kullu are following.

Rice

The climate in Kullu district is unfavourable to the finer quality of rice. The Begami and Basmati are only grown in one or two places in lower parts of the Beas and Sutlej valleys. In Kullu, most common varieties of rice are Matai, Jatu and Mahuri. Matai and Jatu are sown mixed, and the mixture is called Gargal. These are sown throughout the valley up to an elevation of a little under 6,000 feet. Some varieties are grown without irrigation. The chief among them are Rachhera, the husk of which is of dark colour. Lal Mahuri is distinguished by a red husk and Dhan Basahru with a yellow husk. The land is manured is either a coating of farmyard manure or sheep being left in the fields for the sake of their droppings.

Each farmer has his appointed day for receiving water for his rice planting and when his turn comes all the people of his village - men, women and children turn out to help him, and are fed at his expense. Men plough the fields, repair the ridges made at the foot of field terraces for retaining the water, turn on the irrigation channels and drive the bullocks. The women pull up the plants from nursery and plant them in the fields, working in rows. Harvest time is in October when the grain is cut and

---

278 Retaining wall is the boundary, made up of mud, given around the field to restore or retain water, so that the water doesn’t flow out of the field.
280 Hay making is drying of the grass in the sun. This is given as a feed to the animals in the winter season.
281 Kangra District Gazetteer: Kullu and Seraj, 1917, 2003 (reprint), Published by Himachal Academy of Arts, Culture and Language, p 28.
allowed to lie on the field to dry for a few days. In Inner Seraj and Outer Seraj area of Kullu district, the rice land is not as large as in other areas of the district. Here people do not turn out to help each other with their rice planting. In these areas each family prepares and plants its own bit of land.

It is common in Kullu district to sow mash on the small ridges at the foot of the field terrace for retaining the water, both to give it solidity and also to utilize the entire possible cultivable area. The Agriculture Department since it has come in the district in 1978, has been experimenting with various varieties of rice. In order to find out a variety which is superior both in yield and quality has been the endeavour of the department.

One reason for poor quality of rice in Kullu is because good variety is usually late to ripen and the farmers in Kullu do not want to wait as they want their fields to be clear of the Kharif crop in September in order to make the best use of the soil moisture for Rabi sowing. There is generally a belief that the earlier the Rabi crops are sown, better the yield will be.

Out of the course varieties, the department has found Ram Jawaih, Phul Plash, Lal Nikanda No.14 and Bangoa as superior both in yield and quality to the local rice. Himalaya 741, Himalaya 799, Himalaya 2216, RP 2421 and Nagar Dhan Kasturi Basmati varieties have been developed and released by the Himachal Pradesh Agriculture University, Naggar. Dhan is a cold tolerant variety for areas especially above 1400 meter altitude.

Graph 5.1 shows the decrease in the area of rice cultivation in district Kullu. In 1966-67, rice was cultivated in 3,607 hectares but in

---

282 Ibid, 388.
2001-02 it was sown in 1,618 hectares. This sharp decrease in the production of rice is due to the increase in the production of *Apple*. After 1970, the people of Kullu district started growing apple trees on their best land which are fully irrigated because it gave them more return per hectare than rice.

**Graph 5.1 showing area under Rice crop from 1966 to 2001.**

![Graph showing area under Rice crop from 1966 to 2001.](image)


**Maize**

The fertility of rice and of maize fields had been reduced in the British period due to operation of Forest Rule (1891) which forbade Gaddis\(^{285}\) to stop in the valley. When they were allowed to stop their flocks provided abundant manure.\(^{286}\) The cultivation of maize in Kullu district increased

\(^{285}\) Gaddis are a semi-pastoral and semi-agricultural race found in the hills of Himalayas.

with the coming of British. An American variety became popular inspite of
the much longer time it took to ripen. Maize is sown at the end of May or in
June, in fallow land or in succession to barely. The produce is excellent and
collected at the end of September or in the beginning of October before they
are quite ripe and are laid on the house roof to ripen, as they can be
guarded better there.

The maize cobs are laid on the house roofs to dry. The bright orange
hue thus lent to the house tops is a striking feature of the Kullu autumn
landscape. During the year 1992-93 about 20,977 hectares of land was
under maize cultivation. In some areas, cultivators have taken up the
cultivation of Soya bean mixed with maize which has resulted in increased
product on not only of the maize but also the additional yield of Soya bean
from the same area. After 1996 the cultivators have also taken up hybrid
maize which had higher yield than local varieties. Two composite varieties
namely, Early composite and Parbati were developed at Regional Research
Station, Bajaura and released during 1980 and 1987 respectively.

Among hybrid Sartaj has been released in 1966, VL-42 has been
found most suitable for baby corn production. RH 34, 38, Kanchan 101,
Kanchan 51, Him 123 are various varieties of maize which have been
suggested for cultivation.

There was no sharp increase or decrease in the maize crop in district
Kullu. In 1966-67 maize was grown in 11,102 hectares of land and in
2001-02 its area increased up to 16,738 hectares. The area increased in
proportion. As maize was never irrigated so people grew it in their field,
secondly, maize being the staple food of the people.
Graph 5.2 showing area under Maize crop from 1966 to 2001.


Wheat and Barley

Sowing of wheat and barley begins in September in the highest elevations and towards the end of November in intermediate elevations. Both benefit in the higher lands by being under snow for short duration, each root putting out more stems in consequence. Wheat was more important before independence as revenue paying crop, and occupied more than half of the area cropped in the Rabi harvest.

The Department of Agriculture has been trying to introduce various varieties of wheat and barley in this valley. The varieties tried and recommended are S-308, HD-2380, HPW-42, HS-240, HS-295 of wheat and Dolma varieties of KB-71 barley but k.13-71 is a superior variety. Out of wheat varieties, Dwarf (hybrid variety) is widely becoming popular with the
farmers as it is a good yielder. Two varieties of wheat HPW-89 (Surbhi) and HPW-42 (Aradhana) have been developed at Regional Research Centre, Bajaura and released for cultivators. HPW-42 can be sown up to third week of January. Both the varieties are resistant to yellow and brown rust.287

**Graph 5.3 showing area under Wheat crop from 1966 to 2001.**

![Graph showing area under Wheat crop from 1966 to 2001.](image)


In Kullu district one third of total cropped area is under wheat. The area under wheat in 1966-67 was 16,352 hectares and in 2001-02 it reached up to 21,326 hectares. Wheat is grown in winter and is the only crop that is grown in winter in the Kullu.

287 Ibid, p 32
Graph 5.4 Showing area under Barley crop from 1966 to 2001.

Total area under Barely crop (Hectares)


In recent decades, the percentage area under barley has declined to a great extent in district Kullu. The reason for shift has mostly followed the economic consideration such as high return and better yield from Orchard and wheat and maize crop than barley.

Other Kharif crops in Kullu are Kodra (Eleusine corocana) Orgal or Bhresa (Fagopyrum Emarginatum) Khangni (Pennisetum Italicum) China (Pamcum miliaceum) Sariara (Amaranthus Anardana) are also sown towards the end of the May in the fallows, in the higher lands, and in June in succession to barley in lower lands.288

Tobacco is grown as kharif crop in Kullu generally in richly manured plots close to houses. It is sown in small nurseries and afterwards planted.

288 Ibid, p 42.
The leaves are dried and rolled up into thin tubes in which form tobacco is sold. It is grown for home consumption, but in some places for the market as well, and is a lucrative crop.

Hemp is grown extensively in the high lying villages, in the slopes on both side of Jalori ridge where excessive rainfall is favourable to the development of excellent fibre. It is sown in the richly manured plots close to the hamlets, and also in thatches.289 Most of the fibre is however manufactured, where it is grown into ropes and grass shoes. (Pula)290

The more paying produce in rabi harvest was opium before independence. But its cultivation and manufacturing is laborious. The cultivator generally sows several plots and takes more than one crop.

Sarson in largely grown as rabi crop, it is also sown late and reaped towards end of April. The seed fetches good price and is exported to other states like Punjab and Haryana.291

Graph 5.5 showing area under Pulses from 1966 to 2001.

<table>
<thead>
<tr>
<th>Year*</th>
<th>Area (Hectares)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1966-77</td>
<td>3,360</td>
</tr>
<tr>
<td>1976-77</td>
<td>3,333</td>
</tr>
<tr>
<td>1986-77</td>
<td>2,909</td>
</tr>
<tr>
<td>1996-97</td>
<td>3,260</td>
</tr>
<tr>
<td>2001-02</td>
<td>3,128</td>
</tr>
</tbody>
</table>


289 Thatches-where sheep are regularly penned.
290 Pula-Grass shoes-worn by high and low class women and men.
Potatoes

This crop has become quite popular and important amongst the farmers because it gives them a handsome income in cash with comparatively less labour. Potato cultivation is also changing from flat to ridge sowing which is being practiced elsewhere also. Seed potato is grown in Potato Development Station at Hamta in Manali.\(^{292}\)

Graph 5.6 showing area under Potatoes from 1966 to 2001.


The graph shows that earlier in 1966-1977 the area under the potato cultivation was 1,430 hectares and the variety which was grown was ‘Kangra local’. This variety was introduced by Kangra district Agriculture Department in the beginning and used to be extensively sown by the farmers. Now other high yielding and disease resistant varieties like Kufri, Chandermukhi, and Kufri Jyoti supplied by Agriculture Department are being grown. In 1986-87 the area under cultivation was 1,148 hectares and

\(^{292}\) Ibid, p 33.
in 2001-02 it was increased up to 1430 hectares. The reason behind this increase was its demand. Due to high price prevailing in the market, its cultivation has stepped up considerably and it is grown profusely.

**Tea Cultivation**

The cultivation of tea spread into Kullu from Kangra when in 1856 Major Hay, Assistant Commissioner, planted few tea plants in the rich soil of Naggar. By 1860, six acres were covered under tea plantation. Later on it was planted at Bajaura, Dwara Dobhi, Aramgarh and Raison. The tea grown in Kullu was of excellent aroma and flavour. In good soil and suitable area, Kullu tea plants grew into bushes producing flushes of leaf, as fast as in Kangra but the yield in Kullu was much less owing to the irregularities of the rainfall.293

There is in fact not much land in Kullu well suited for tea cultivation and since it could not be expanded, cultivation has since been abandoned. Moreover, with the rise in the prices of fruits, the attention of the cultivators has shifted towards the cultivation of fruits. Besides, the cultivation of tea involved use of skilled labour in comparison to fruit.294

**Vegetables**

With the encouragement and extensive services of the Agriculture Department, the farmers have undertaken the work of vegetable growing seriously, particularly since 1980’s.295 A small vegetable garden at Kullu was set up where seeds of all the vegetables, both Kharif and Rabi were produced and distributed to the farmers free of cost in order to make them interested in vegetables as essential part of their daily diet. This produced good results. They started growing vegetables in their kitchen gardens from where they could produce sufficient seeds, to make them self-reliant.

---

294 Ibid, p 95.
Vegetable growing was not only maintained but stepped up as is evident from the fact that some progressive farmers have taken up large scale vegetables and seed production. Cabbage, tomatoes, peas, cauliflowers, raddish and turnips are grown. With better transport and market facility the vegetables are sent to Punjab, Haryana, Delhi and there is supply of out of season vegetables which earns good price in Delhi Market.  

**Manures and fertilizers**

Farm yard manure is preferred and abundantly utilized. It is improved by the addition of pine needles or topping. The cow dung is put in the open or placed in the pits and allowed to rot. The manure obtained finally after decomposition is powdery, with the scattered fields, it is difficult for a farmer to manure all the fields himself. All the farmers of the village join hands for manuring. Days are fixed by rotation for manuring the land of all the villagers. The farmers who ask for the help provide meals. The use of chemical fertilizer is on increase.

Besides natural conditions, modern production technology measures and methods are most important factors influencing increased food production. Manures and fertilizers are the imperative commodities used for higher production and high yield. Organic manure was previously more in use. Till the introduction of high yield varieties which consumes more fertilizer, the use of chemical fertilizers has increased, thus replacing traditional agriculture by modern cultivation which uses fertilizer and pesticides.

---

ANIMAL HUSBANDRY

The number of buffaloes in Kullu district is much 'smaller' (to the plains, because they are heavier and cannot stand the physical and climatic conditions of the hills. However cattle, goats and sheep are relatively in a large number compared to the plains. Sheep is a very useful animal for the local people as it provides wool and mutton. Cattle and goats provide milk to the people. The following table shows the number of livestock in the Kullu district.

Table 5.1: Showing the number of livestock in Kullu district from 1966-2001.

<table>
<thead>
<tr>
<th>Year</th>
<th>Cattle</th>
<th>Buffaloes</th>
<th>Sheep</th>
<th>Goats</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1966</td>
<td>1,46,865</td>
<td>1,120</td>
<td>1,10,170</td>
<td>51,630</td>
<td>3,09,785</td>
</tr>
<tr>
<td>1970</td>
<td>1,60,770</td>
<td>1,330</td>
<td>1,10,579</td>
<td>56,109</td>
<td>3,28,788</td>
</tr>
<tr>
<td>1975</td>
<td>1,57,961</td>
<td>1,560</td>
<td>1,20,964</td>
<td>56,711</td>
<td>3,37,196</td>
</tr>
<tr>
<td>1980</td>
<td>1,53,425</td>
<td>1,896</td>
<td>1,21,719</td>
<td>63,032</td>
<td>3,40,072</td>
</tr>
<tr>
<td>1985</td>
<td>1,57,234</td>
<td>1,591</td>
<td>1,09,747</td>
<td>56,348</td>
<td>3,24,920</td>
</tr>
<tr>
<td>1990</td>
<td>1,58,010</td>
<td>1,211</td>
<td>1,10,669</td>
<td>56,615</td>
<td>3,26,505</td>
</tr>
<tr>
<td>1995</td>
<td>1,59,725</td>
<td>1,883</td>
<td>1,11,910</td>
<td>57,922</td>
<td>3,30,440</td>
</tr>
<tr>
<td>2001</td>
<td>1,60,112</td>
<td>912</td>
<td>1,12,415</td>
<td>58,411</td>
<td>3,31,840</td>
</tr>
</tbody>
</table>


With the increase in elevation, the number of working animals tends to increase. This is because the holdings are very small and each cultivator likes to keep a pair of bullock for his farm however small it is. This resulted in heavy under utilization of bullock power. The quality of animal is very poor. The bullocks are much smaller in size and their power of draught is low.

298 Survey of Hilly and Backward areas of Punjab (1966), NCAER, New Delhi, p 43.
Animal Husbandry: Development Programme

Animal Husbandry, if developed on proper lines, can really serve as an important source of supplementary income in hilly areas. The main items of the programme should be the improvement of the existing breeds, extension of veterinary facilities and increasing the feed supply and reducing useless cattle so that scanty fodder can be given to productive animals.

In the hilly areas, the pure improved cattle breed of the plains can not do well because of the topographical and climatic conditions. Therefore, cross breeding of the improved pure breed with the local hardy breeds of the hills is necessary. 299

The actual percentage of the blood of the indigenous breed in the cross breeds animals, most suitable for this region has yet to be determined by further research. The work done in this field so far indicates that the 50 percent first progeny of pure jersey breed with the indigenous breed of the cow in the hills has proved to be quite successful. 300 The daily milk yield of this progeny has increased about six times. (From 31 lbs 301 for local breed to 181 lbs for the cross breed). The Jersey cow has the quality of higher milk yield and shorter calving intervals as compared to the indigenous breed while latter is purely a draught animal. The cross breed of two has good quality of both. 302

The milk produced from the livestock is sold in the market to the private companies like Milkfed. Live animals and livestock products are marketed mainly through private trading channels. Live animal markets are held regularly in the main centers and in seasonal markets, moving from the lowlands to the higher valleys in the summer. Milk sales by households located away from the road are nil.

299 ibid, p 87.
301 lbs is a measure of weight. 1 lb is equal to 0.45359237 kilograms.
302 Ibid, p 213.
In Kullu district, one 2,000-litre capacity chilling plant exists at Mohol near Kullu town. This plant supports three main collection routes covering 200 km in the Kullu and nearby valleys, collecting up to 900 litres of milk a day in the summer. The plant supplies liquid milk to the hotel and urban markets in the Kullu Valley (there is no packaging facility). Excess milk is sent to the Mandi milk plant.

The Third five year Plan originally envisaged having about additional 430 breeding centers of various types. This included the centrally sponsored project which proposed to establish one bull center, 5 Base Artificial Insemination centers, 50 Foothill centers and 378 Subsidiary Centers.\(^{303}\) Later on it was found that semen of the Jersey bulls was not available in the required quantity to take up the program on an extension scale. Accordingly the scheme to open 50 foothill centers and 378 subsidiary centers was dropped while the number of Artificial Insemination (sub-Centers was raised to 16. To make the subsidiary centers work more economically, the coverage of each center should be increased to cover 300 cows.\(^{304}\) At present, there are 57 Artificial Insemination Centers in Kullu district.

**Veterinary Services**

Veterinary aid is being provided to the livestock owners of the state by a network of 2070 veterinary institutions. Following services are being provided by these Veterinary aid institutions.

1. Treatment of Ailing animals in the institution as well as at the door step of the farmer.

2. Prophylactic vaccination of the animals against contagious disease like Foot and Mouth Disease, Haemorragic septicemia, Black quarter etc

---


\(^{304}\) Ibid, pp 14 – 16.
3. Dipping and drenching of animals against ectoparasites and endoparasites

4. In the event of any outbreak of disease, two fully equipped Disease Investigation Laboratories undertake disease diagnosis work promptly. These Laboratories are located at Kamand (Mandi) and Shimla. This disease diagnosis work helps to render effective treatment based upon Modern Scientific lines and save farmers from huge economic losses.

5. Epidemiological unit of the State, located at Shimla carries out disease surveillance work in the State. This unit keeps close watch on outbreaks of diseases and takes timely action to combat further spread of disease.

At present there are about 16 Veterinary hospitals and 81 dispensaries in district Kullu. They cover about 10,000 animals per center. There are 57 Artificial Insemination Centers at present. The table below gives the data of Veterinary services provided by the government from 1966 to 2001.

Table 5.2: Showing the number of Veterinary aid Institutions from 1966 to 2001.

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Veterinary Hospitals</th>
<th>Number of Veterinary Dispensaries</th>
<th>Artificial Insemination Centers</th>
</tr>
</thead>
<tbody>
<tr>
<td>1966</td>
<td>5</td>
<td>12</td>
<td>13</td>
</tr>
<tr>
<td>1970</td>
<td>6</td>
<td>16</td>
<td>14</td>
</tr>
<tr>
<td>1975</td>
<td>6</td>
<td>22</td>
<td>16</td>
</tr>
<tr>
<td>1980</td>
<td>8</td>
<td>25</td>
<td>19</td>
</tr>
<tr>
<td>1985</td>
<td>10</td>
<td>35</td>
<td>31</td>
</tr>
<tr>
<td>1990</td>
<td>12</td>
<td>44</td>
<td>41</td>
</tr>
<tr>
<td>1995</td>
<td>15</td>
<td>67</td>
<td>49</td>
</tr>
<tr>
<td>2001</td>
<td>16</td>
<td>81</td>
<td>57</td>
</tr>
</tbody>
</table>


305 Ibid, p 29.
The above table shows that in 1966, there were 5 Veterinary hospitals, 12 Veterinary dispensaries, and 13 Artificial Insemination Centers in Kullu district. In 1970, the number of Veterinary hospitals was increased to 6, and the number of Veterinary dispensaries was rose to 16, and the number of Artificial Insemination Centers was 14. In 1975, there was no change in the number of Veterinary hospitals, but six more dispensaries were opened in 1975 and the number rose to 22. The number of Artificial Insemination Centers was rose to 16. In 1980, there were 8 Veterinary hospitals, 25 Veterinary dispensaries, and 19 Artificial Insemination Centers. In 1985, 1990 and 1995, there was a constant increase in the number of Veterinary hospitals, Veterinary dispensaries and Artificial Insemination Centers. In 2001, the number of Veterinary hospitals was increased to 16, and number of Veterinary dispensaries was increased to 81 and number of Artificial Insemination Centers was rose to 57.

**Poultry**

In 1961, poultry population was 61,000 in the Himachal Pradesh. During the second plan, increase in poultry is very less, i.e. 10 percent only. Poultry up to recent was unorganized. The birds were of the local type and were inadequately fed. The egg yields were very low. It averaged 50 eggs per hen year. The incidence of disease was heavy and quality of egg was very poor.  

It was in the third Five Year Plan that the state government has started taking serious interest in poultry development in the hilly area. The poultry centre is started at Patlikuhl in district Kullu which has now been upgraded in poultry farm. Equipments such as egg layers, incubators and refrigerators for storing vaccine-vitamins and other essential drugs are also being set up at these farms. Co-operative poultry societies, which advance interest free loans to their members, have also been organized at Palampur.

---

306 Kang a District Gazetteer: Kullu and Seraj, 1917, 2003 (reprint), op.cit., p. 44.
Sheep and goats

Sheep rearing plays an important role in the economy of the hilly region. It provides occupation to thousands of flock owners, wool to rural artisans and mutton as an important item of diet to the hilly people. The quality of wool obtained per sheep varies from 1.5 to 3 lbs and the weight of the sheep ranges from 45 to 55 lbs in ewes and 75 to 95 lbs in raw.308

The number of sheep in 1960 – 61 was 1, 10,000 in district Kullu. Most of the sheep population was of indigenous type. The sheep rearers were uneducated and did not know the modern methods of rearing and shearing and they did not take steps to improve the sheep by selective breeding.309 In hilly area, the sheep improvement measures were started mainly in the third 5 year plan. In addition to the eleven sheep and wool extension centers established during the second plan, 16 centers were set up in the third Plan period.310

The research substation of the Central government has already been established in Gadisa in Kullu valley, another sheep cross breeding station of the state government has opened in Sainj valley in Kullu district. The yield of wool per sheep can be double by the improvement of better breeding, the present steps are inadequate. The Rams of the indigenous breed should be castrated and replaced by improved exotic Rams as speedily as possible. In order to meet the demand for improved Rams, more improved sheep farms should be established. The number of sheep and wool extension centers should be increased (at least doubled) to provide technical advice and aid to the sheep weaver in method of sheep rearing and wool production. To improve the supply position of Rams’ artificial insemination method should also be tried.311

---

308 Ibid., p 46.
311 Ibid, p 19.
Beside improvement in the breed of animal, adequate feeding of the sheep is also necessary for better wool and mutton. The goats are good source of meat but due to very limited yield of milk by them it is uneconomic as a domestic animal. Moreover goat due to their voracious eating habits, cause considerable damage to the foliage and young trees. Since a forestation in the hills is very necessary and goats cause great damage to the plants, their number should be reduced gradually. 312

FORESTRY SYSTEM

Since time immemorial, forests have evoked the finest poetry and enhanced the aesthetic sensibilities of man. They have also provided social, cultural and economic support to human race. The most striking feature of the forests of Himachal Pradesh is the enormous diversity of woody plant species which range from soft wood Conifers to hardwood Deciduous flowering plant species. These species owe their origin to the larger Holarctic Floristic Kingdom313 (the area that extends from Europe to North America) and its Boreal and Tehthyan sub-kingdom.

The forests in Himachal Pradesh especially in temperate climate zone are in various stages of consolidation which are reflected by different forest types and by prominent tree associations. The Deciduous and mixed Deciduous forests harbour species and rich flora and fauna are of immense ecological and economic significance. These forests perform three distinct ecological functions, which are

i) They act as efficient carbon dioxide sinkers.

ii) They control the bio-geochemical cycle, streams. Apart from these, they also have great economic, social and cultural importance for the country and the region as a whole.314

iii) They influence the hydrology of streams.

313 The Boreal Kingdom or Holarctic Kingdom (Holarctis) is a floristic kingdom identified by botanist Ronald Good (and later by Armen Takhtajan), which includes the temperate-to-arctic portions of North America and Eurasia.
Forest Cover: Status and Changes

The National Forest Policy of 1980 states that at least two third or 66 per cent of the geographical area should be under forests in hill states like Himachal Pradesh. The area classified as “Area Under Forest” in Himachal Pradesh, is 63.60 per cent of the total geographical area. However, the effective forest cover is much lower than this primarily on account of the fact that a large proportion of this area forms either Alpine meadows, or is above the tree line. The area under Alpine meadows is 16,375 sq.km, which forms 29.41 per cent of the geographical area of the state. This leaves only 21,215 sq km or 38.11 per cent of the geographical area under forest cover, which is much less than prescribed standard.315

The forests of the state can be divided into Reserved Forests, Protected Forests and Unclassified Forests as per the legal classification system of forest. Out of total geographical area of 55,673 sq. km, 35,407 sq. km (63.60 per cent) is recorded as forest area whereas, the actual forest cover in the state is 12,521 sq. km. (22.49 per cent).316

Table 5.3: Legal status of forest in Himachal Pradesh in 2001.

<table>
<thead>
<tr>
<th></th>
<th>Recorded forest area</th>
<th>35,407 sq.km,</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.</td>
<td>Reserved forests</td>
<td>1896 sq. km.</td>
</tr>
<tr>
<td>3.</td>
<td>Protected forest</td>
<td>31,475 sq. km.</td>
</tr>
<tr>
<td>4.</td>
<td>Un-classified forest</td>
<td>2,038 sq. km.</td>
</tr>
</tbody>
</table>


---

315 Ibid, p 207.
316 The difference between recorded and actual cover is on account of the fact that the actual forest takes into account only such areas which bear tree cover and ignores those areas which may legally have the status of forest but bear no tree cover.
Forestry System in Kullu

Forests are not merely land of standing trees. They are complex environments where soil, water and climate determine the type of vegetation. Vegetation cover decides the type of human land use. Applicable importance of forest is not determined by their being a resource base for various products and services, but also their eminent significance in protection of watersheds and soil conservation of genetic resources, support for grazing provision, of clean water and other multiple land use.\textsuperscript{317}

The forests of Kullu resemble those of the adjacent parts of the Himalayas, and the chief factor influencing the distribution of the species is the elevation and aspect in so far as they affect the temperature. At the lower elevation there are the Chil, Pine, which however extends to over 6,000 feet in the area of Parbati valley. It is found on quartzite rock, and on Parbati and Tirthan valley and in Outer Seraj area.\textsuperscript{318} These trees are however of slow growth and reach a great age. They form pure forests of the usual type. Shisham is found growing to a small size at the lowest levels, so also Wild Olive and Mulberry.

Above the Chil zone, Kail or Blue Pine and the Deodar are found, usually associated, often also as pure forests. The Kail ascends higher than the Deodar and in the upper Parbati valley is mixed with the Spruce and Silver fir, over 9,000 feet. In the forest of upper Beas, Deodar does not grow above 7000 feet and its mean elevation is 6,000 feet. Deodar is found in two quite different type of forest, mixed with Kail at medium elevation on easy ground in the neighbourhood of villages, and also on rocky precipices in cold and remote areas, where it grows with Spruce and Silver Fir and reaches up to 9,000 feet.\textsuperscript{319}

\textsuperscript{319} Ibid, p 29.
Extensive forests of common Himalayan Oak are found chiefly in the Hurla valley of district Kullu. Other species found in this area are the Holly Oak, Alder, Birch, Hill Tun, Elm with Symlocos Crataegoides, Viburnum, Cornus, Rhamnus, Flaeagnus and other shrubs. A special feature of Beas valley is afforded by the fine older woods, growing on every piece of freshly deposited alluvium or moist landslips. This tree however does not regenerated naturally under its own shade. It is used for buildings and firewood.320

Above the Deodar and Kail forests, from 8,000 to 11,000 thousand feet are forests of Spruce and Silver Fir generally mixed, which at higher elevation become pure Silver Fir. These species mostly grow in second class forests, remote from villages, with them are associated the Indian Horse Chestnut, Maple, Walnut and Ash, frequently forming woods of broad leaved trees in moist ravines. Other trees of less importance are Box, Yew, Bird Cherry, Hazel, Horn Beam, with higher growing variety of Elm.321

Towards its upper limit of elevation the Silver Fir is associated with the Brown Oak, or this Oak may be found practically pure. At 12,000 feet only Birch and the Manvel Rhododendron occur in large quantity, but with them are willows mountain Alsh, Wild Apple and some species of Viburnum. Finally Juniper with Rhodocendron (Lepidotum and Anthopogon) is only woody species and tree growth is replaced by Alpine pasture, ascending to the limit of vegetation and the line of perpetual snow.322

320 Ibid., p 30.
Following list contains most of the principle trees and shrubs:

<table>
<thead>
<tr>
<th>Natural order and species</th>
<th>English name</th>
<th>Vernacular Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Berberidae Berberies</td>
<td>Barbery</td>
<td>Kashambal</td>
</tr>
<tr>
<td>Lycium and (other species)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Meliaceae Cedrela</td>
<td>Hill tun</td>
<td>Darl</td>
</tr>
<tr>
<td>Serrata</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Sapindaceae Aesculus</td>
<td>Indian horse</td>
<td>Khanor</td>
</tr>
<tr>
<td>Indica. Acer caesium</td>
<td>chestunut</td>
<td></td>
</tr>
<tr>
<td>4. a) Anacardiaceae Rhus</td>
<td>Venetain sumach (A poisonous tree)</td>
<td>Tung rikhal, arkhal</td>
</tr>
<tr>
<td>cotinus.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Anacardiaceae Rhus wallichil</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Pistacia integerrima</td>
<td>Kakar</td>
<td>Kakar</td>
</tr>
<tr>
<td>6. Leguminosae Dalbergia</td>
<td>Shisham</td>
<td>Shih, Shishu</td>
</tr>
<tr>
<td>Sissoo</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Rosaceae (Besides</td>
<td>Wild red cherry</td>
<td>Paja</td>
</tr>
<tr>
<td>Grafted variety of fruit)</td>
<td>Himalayan Bird</td>
<td>Jaman</td>
</tr>
<tr>
<td>prunus puddum</td>
<td>Cherry</td>
<td>Shari</td>
</tr>
<tr>
<td>prunus padues</td>
<td>Himalayan Apricot</td>
<td>Aru, malaru</td>
</tr>
<tr>
<td>prunus armeniaca</td>
<td>Peach</td>
<td></td>
</tr>
<tr>
<td>prunas persica.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. pyrus pashia</td>
<td>Wild Pear</td>
<td>Shegal, Pala</td>
</tr>
<tr>
<td>pyrus lanata</td>
<td>wild Apple</td>
<td></td>
</tr>
<tr>
<td>pyrus aucuparia</td>
<td>Mountain ash</td>
<td></td>
</tr>
<tr>
<td>9. cotoneaster</td>
<td>Cotoneaster</td>
<td>Reunsh</td>
</tr>
<tr>
<td>Bacillaris</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Prinsepia utilis</td>
<td>A Shrub</td>
<td>Bhekhal</td>
</tr>
<tr>
<td>11. Rutus ellipticus</td>
<td>Yellow</td>
<td>Anchu, achla, ellipticus Rutus pankutatus</td>
</tr>
<tr>
<td>rutus paniculatus.</td>
<td>Raspberry</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Himalayan</td>
<td></td>
</tr>
<tr>
<td></td>
<td>raspberry .</td>
<td></td>
</tr>
<tr>
<td>12. Ericaceae pieris</td>
<td>Aran</td>
<td></td>
</tr>
<tr>
<td>ovalifolia</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. Oleaceae Olea</td>
<td>Wild olive</td>
<td>Kahu</td>
</tr>
</tbody>
</table>

184
<table>
<thead>
<tr>
<th>No.</th>
<th>Family</th>
<th>Scientific Name</th>
<th>Common Names</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.</td>
<td>Fraxinus floribunda</td>
<td>Ash</td>
<td>Angu</td>
</tr>
<tr>
<td>15.</td>
<td>Euphorbiaceae Buxus Sempervirens</td>
<td>Box</td>
<td>Shamshad</td>
</tr>
<tr>
<td>16.</td>
<td>Urticaceae Ulmus Villosa</td>
<td>Elm</td>
<td>Maran</td>
</tr>
<tr>
<td>17.</td>
<td>Celtis Australis</td>
<td>Celtis</td>
<td>Khirk</td>
</tr>
<tr>
<td>18.</td>
<td>Morus serrata</td>
<td>Mulberry</td>
<td>Churn, chimo</td>
</tr>
<tr>
<td>19.</td>
<td>Ficus Palmata</td>
<td>Wild Fig</td>
<td>Phagra</td>
</tr>
<tr>
<td>20.</td>
<td>Ficus Roxburghii</td>
<td>Broad Leaved Fig</td>
<td>Trimul</td>
</tr>
<tr>
<td>21.</td>
<td>Salicinaeae Populus Ciliate</td>
<td>Poplar</td>
<td>Phalsh</td>
</tr>
<tr>
<td>22.</td>
<td>Juglandae juglans regia</td>
<td>Walnut</td>
<td>Khor, Akhrot</td>
</tr>
<tr>
<td>23.</td>
<td>Cupuliferae Betula utilis, Cupulilerae alnoides</td>
<td>Birch</td>
<td>Bhruj</td>
</tr>
<tr>
<td>24.</td>
<td>Alnus Nepalensis Alnus Nitida</td>
<td>Alder</td>
<td>Kosh</td>
</tr>
<tr>
<td>25.</td>
<td>Quercus incana, Quercus incana semecarpifolia, Quercus incana dilatata</td>
<td>common himalayan oak, brown oak, Holly oak</td>
<td>Ban, Kharshu, Morhu</td>
</tr>
<tr>
<td>26.</td>
<td>Bambuseae Arundinaria Falcata</td>
<td>Hill Bamboo</td>
<td>Nirgal</td>
</tr>
<tr>
<td>27.</td>
<td>Coniferae Cupressus Torulosa</td>
<td>Cypress</td>
<td>Devidiar</td>
</tr>
<tr>
<td>28.</td>
<td>Taxus Baccata</td>
<td>Yew</td>
<td>Rakhal</td>
</tr>
<tr>
<td>29.</td>
<td>Pinus excelsa</td>
<td>Blue pine</td>
<td>Kail</td>
</tr>
<tr>
<td>30.</td>
<td>Pinus Longifolia</td>
<td>Chil</td>
<td>Chil</td>
</tr>
<tr>
<td>31.</td>
<td>Cedrus Libani, Deodar</td>
<td>Deodar</td>
<td>Kelo</td>
</tr>
<tr>
<td>32.</td>
<td>Picea Morinda</td>
<td>Spruce</td>
<td>Rai</td>
</tr>
<tr>
<td>33.</td>
<td>Abies Pindrow</td>
<td>Silver Fir</td>
<td>Tos</td>
</tr>
</tbody>
</table>
Forest Rights

Forest rights of the local people in Himachal Pradesh and in most parts of India, are based on colonial forest settlements conducted by British forest and revenue officers in the last century. When the colonial forest department was established it became necessary to enumerate and to specify all rights in forests that now were the property of the colonial state. This was undertaken through a process called forest settlement, where officers attempted to record existing rights of the people in the forests and legalise them under colonial law. The main objective of the forest settlement was the appropriation of forests for the commercial use of the British government. Through a series of local regulations culminating in the Indian Government Forests Act of 1865 and then 1878, the government asserted its property right over large areas of forests. 323

In 1881, a Forest Settlement, in accordance with the provisions of the Act of 1878, was commenced by Mr. A. Anderson, the then Forest Settlement Officer, who completed his work in 1886, and submitted a detailed report on the subject to government after demarcating a large number of forests. When he completed his work in 1886, there was a considerable debate within the forest department over the local rights and the demarcation of the forests as protected and reserved forests. After considerable debate, the bulk of Kullu forests were classified in such way that allows for much more leniency in local people’s use of forests. Only small and special areas were constituted as reserves.

The area of different classes of forest according to the Act of 1878, is given below.

Table 5.4 The area of different classes of forest according to the Act of 1878.

<table>
<thead>
<tr>
<th>Range</th>
<th>Reserved forests</th>
<th>Class I Demarcated</th>
<th>Class II demarcated</th>
<th>Undemarcated</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Area in acres</td>
<td>Area in acres</td>
<td>Area in acres</td>
<td>Area in acres</td>
</tr>
<tr>
<td>Kullu</td>
<td>3,692</td>
<td>10,912</td>
<td>113,985</td>
<td>-</td>
</tr>
<tr>
<td>Rupi</td>
<td>19,821</td>
<td>35,041</td>
<td>429,788</td>
<td>-</td>
</tr>
<tr>
<td>Inner Seraj</td>
<td>11,357</td>
<td>11,005</td>
<td>77,814</td>
<td>-</td>
</tr>
<tr>
<td>Outer Seraj</td>
<td>5,009</td>
<td>16,037</td>
<td>42,586</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td>39,879</td>
<td>72,995</td>
<td>664,173</td>
<td>538,781</td>
</tr>
</tbody>
</table>

Source: Kullu and Seraj, Kangra District Gazetteer, 1917.

The local land owners were allowed the following rights under the Act of 1878.

1. Grazing cattle, sheep and goats on government land.
2. Timber for building purposes.
3. Grass and leaves for fodder.
4. Leaves and humus for manure.
5. Woods for agricultural and domestic implements.
6. Wood for fuel, torches, charcoal, and for funerals etc.
7. Medicinal roots, flowers, fruits, dry fallen wood (except Deodar, Walnut) can be removed without the permission of the forest department.

All these rights were appended to agricultural land and anyone who paid the land revenue was eligible for these rights. The rights were recorded by the village and the rights of landowners were specified in particular forests.324

324 Ibid p 34
The Indian Forest Act was revised in 1927. The Indian Forest Act, 1927 was largely based on previous Indian Forest Acts implemented under the British. The first and most famous was the Indian Forest Act of 1878. Both the 1878 act and the 1927 one sought to consolidate and reserve the areas having forest cover, or significant wildlife, to regulate movement and transit of forest produce, and duty leviable on timber and other forest produce. The Indian Forest Act, 1927, initiated the development of village forests for sustainable use by villagers dwelling in or on the fringes of the forest. It also defines the procedure to be followed for declaring an area to be a Reserved Forest, a Protected Forest or a Village Forest.

The Van Panchayat Act of 1931 further expanded the idea of local administration and management of forests. Following the independence of India in 1947, the Government of India instituted the National Forest Policy, 1952 which classified forested areas into: Protected forests areas, National forests, Village forests. Laws regarding village forests were based on the state legislature.

Forest development and management came to the forefront only after the National Forest Policy, 1988. The National Forest Policy strongly suggested the idea of empowering and involving local communities in the protection and development of forests. A direct outcome of the National Forest Policy, 1988 was the Joint Forest Management Program (JFM or JFMP) instituted in 1990 by the Government of India. It was started on a pilot project basis in Kullu and Mandi district.

---

325 *Reserved Forest* is an area or mass of land duly notified under section 20 of the Indian Forest Act, 1927 or under the reservation provisions of the Forest acts of the State Governments of the Indian Union.

326 *Protected Forest* is an area or mass of land, which is not a reserved forest, and over which the Government has property rights, declared to be so by a State Government under the provisions of the section 29 of the Indian Forest Act, 1927.

327 *Village Forest* is constituted under section 28 of the Indian Forest Act, 1927. The Government may assign to any village community the rights over a land which may be a part of a reserved forest for use of the community.


Table 5.5: Division of forest area in Kullu in Hectares from 1966 to 2001.

<table>
<thead>
<tr>
<th>Year</th>
<th>Reserved forest</th>
<th>Protected forest</th>
<th>Village forest</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1966-67</td>
<td>16,052</td>
<td>2,99,928</td>
<td>1,78,082</td>
<td>4,94,062</td>
</tr>
<tr>
<td>1976-77</td>
<td>16,052</td>
<td>2,99,928</td>
<td>1,69,256</td>
<td>4,85,236</td>
</tr>
<tr>
<td>1986-87</td>
<td>16,052</td>
<td>2,99,928</td>
<td>1,67,448</td>
<td>4,83,428</td>
</tr>
<tr>
<td>1996-97</td>
<td>16,053</td>
<td>3,21,184</td>
<td>1,63,739</td>
<td>5,00,976</td>
</tr>
<tr>
<td>2000-01</td>
<td>16,053</td>
<td>3,21,184</td>
<td>1,58,315</td>
<td>4,95,552</td>
</tr>
</tbody>
</table>


**Graph 5.7 showing division of forest area in Kullu in Hectares from 1966 to 2001.**

The colonial forest settlements in most parts of Himachal Pradesh have recognized and recorded many local forest rights. These settlements completed a century ago and are still the legal documents that provide
rights to local people. They provide village land owners with extensive user rights to graze cattle, collect fuel wood, and most non timber products for their personal use. Most villagers have the right to harvest one or two trees every five years for house construction. Apart from these user rights, many villagers also have the right to sell some of the non-timber forest products like medicinal herbs, some wild fruits, grazing grass etc. and thereby benefit financially from what are today state forests. Non-timber forest produce has a direct bearing on the livelihood of the rural poor who depend heavily on the forests for earning their meals. Thus although almost all the forests in the state belong to the state in terms of ownership, villagers enjoy extensive user rights to forests near their villages.

**Community Forest Management**

There has been a significant change in the recognition given to local communities in the management of forests. Since the eighties, the forest management in Himachal Pradesh has increasingly focused on the role of local people in the sustainable management of forest resources. Several projects and programmes have focused on involving local people in managing forests. Social Forestry, Eco-development, Van Panchayats, Joint Forest Management (JFM) are some of the various experiments that have been and are based on the concept of cooperation between local people and the forest department for the management of the forests. 330

The national programme of Joint Forest Management was initiated in 1990, through a Central government order encouraging state governments to involve village communities in the protection and management of forests by creating Village Forest Protection Committees (VFPCs). It envisages the creation of Village Forest Management Committees to manage degraded state forests in cooperation with the State Forest Departments. In 1993, Himachal Pradesh instituted this programme

---

at the state level, with initial funding of six million pounds from Department For International Development (DFID), UK. It started as a pilot project in Kullu and Mandi districts and resulted in the formation of 155 Village Forest Development Committees (VFDC). The general body of the VFDC includes members from all the households of the Kothi\textsuperscript{331} consisting of several villages which often have rights in a particular forest. An executive body is elected from this general body to manage the forest.

In 1998, the Himachal Pradesh government decided to extend this model of cooperation with local communities in forest management. They announced a similar scheme for the entire state called Sanjhi Van Yojana (Joint Forest Scheme). Under Sanjhi Van Yojana, committees of village groups are registered with the Divisional Forest Officer under the Societies Registration Act as Village Forest Development Societies.\textsuperscript{332}

Joint Forest Management has been a progressive movement with the explicit recognition of the importance of local people’s role in forest management. Villagers agree to assist in the safeguarding of forest resources through protection from fire, grazing, and illegal harvesting in exchange for which they receive non-timber forest products and a share of the revenue from the sale of timber products.\textsuperscript{333}

**Forest Economy**

The last two decades have seen a phenomenal revolution in the way we view forests. In colonial times forests were the timber resource, a productive factor in development that could and should be converted into cash for the development of the nation as a whole. The most efficient way to do this was for the state to own the forest and engage in large scale clear felling as and when timber was required. With this notion colonial forest

\textsuperscript{331} Kothi is a group of villages.
\textsuperscript{332} Ibid, p 35.
\textsuperscript{333} Ibid, p 36.
department was set up in India to scientifically manage this resource for the benefit of the nation. Forests were protected and local use was curtailed so that they could be harvested and could be converted into cash.\textsuperscript{334}

This notion of the forest as a cash crop continued after independence, where the same forest was seen as a cash-bank for the development of the independent nation. The forests were considered as the main source of income of the state up to 1980's. In the last two decades, however, a new value for forests has emerged. Now the stress has shifted from exploitation to conservation. Forests are now viewed as a natural reserve, which is valued more for its environmental products alone. Forests have been completely nationalized. Falling of trees and sale of timber is now conducted by the State Forest Corporation which came in to being in 1974. The Forest Department now mostly concerns itself with planting and conservation of forests.\textsuperscript{335}

The table below shows the timber sold by the State Forest Corporation, and its value per thousand rupees.

**Table 5.6: Outturn and Value of timber from 1965 to 2001:**

<table>
<thead>
<tr>
<th>Year</th>
<th>Timber (Quantity in cubic metres)</th>
<th>Value of Timber ('000 Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1965</td>
<td>40,326</td>
<td>6,215</td>
</tr>
<tr>
<td>1975</td>
<td>52,237</td>
<td>14,194</td>
</tr>
<tr>
<td>1985</td>
<td>72,766</td>
<td>51,800</td>
</tr>
<tr>
<td>1995</td>
<td>23,652</td>
<td>61,700</td>
</tr>
<tr>
<td>2001</td>
<td>21,729</td>
<td>71,244</td>
</tr>
</tbody>
</table>


\textsuperscript{334} Ibid, p 33
\textsuperscript{335} www.wikipedia.org/wiki/Indian Forest Act 1927.html

In 1965, the Forest Department sold 40,326 cubic meters timber, the value of timber was 6,215 thousand rupees. In 1974, the selling of the timber was taken by the State Forest Corporation. In 1975, the State Forest Corporation sold 52,237 cubic meters of timber whose value was 14,194 thousand rupees. In 1985, 72,766 cubic meters timber was sold by the State Forest Corporation, whose value was 51,800 thousand rupees. In 80’s the concentration of the government shifted towards the conservation and preservation of the forests. In 1990, with the formation of the Joint Forest Management, more attention is being paid to the conservation of the forests with the help of local community. Therefore, in 1995, less timber was sold as compared to the timber sold in 1985. But the market value of timber was increasing with time due to the demand of timber in hills as well as in the plains. In 1995, 23,652 cubic meters of timber was sold by the Corporation, whose market value was 61,700 thousand rupees. In 2001, 21,729 cubic meters of timber was sold whose value was 71,244.

The State Forest Corporation opened four Depots in Kullu district, from where people can buy timber for the commercial as well as personal use at market price. The State Forest Corporation buys the trees from Forest Department and sells them in their Depots.336

TOURISM IN HIMACHAL PRADESH

Tourism in the modern age has become an important source of economic activity. With better transport facilities, communication, spirit of adventure, people travel much more. Governments encourage travelling, there is in-country travelling, as well as overseas travelling. The scope of tourism is different in different regions according to the geographical conditions, infrastructural development, and political will. Each state has its own idea of the nature, scope, objective and implication of tourism.

336 www.himachal.nic.in
Modern tourism in India started with the advent of European colonizers, merchants and administrators, soldiers, adventurers and scholars who either for fun or for exploring unknown natural beauty, or academic pursuit, for better climate, travelled to different parts of the country.

Himachal Pradesh or the hill areas have become a summer retreat, a place to get away from the suffocating heat of Indian plains. The region being endowed with natural beauty became a region which had great tourism potential.

The establishment of hill towns of Shimla, Dalhousie, Kasuali and cantonment at Dagsai, Nainital, Darjeeling and Mussorie and many other places are result of the exploration of such wandering Europeans in Himalayas. With the establishment of these hill stations, people started patronizing and visiting them during the scorching heat of summer months. These seasonal movements had a great impact on infrastructure and life style of this town which evolved all features of modern tourism activities. Gradually, those of the Indians, particularly princes, feudal, chiefs, bureaucrats and rich professionals started emulating British people living in India and patronizing the hill resorts.

Some of the visitors to these places went further to explore the valley of glaciers, mountain peaks jungles and origins of the rivers of the Himalayas. These activities laid down the tough tourist activities which included the hiking, rock-climbing, mountaineering, skiing, trekking etc.

India abounds in tourism potential in all spheres, be it historical places, hills, forests, places of scenic beauty, wild life, hot springs or fairs and festivals and colourful people. India is a vast country, rich and diverse in beauty of nature, rich and varied in its cultural traditions, yet presenting an enchanting blend and a synthesis of diverse trends.

337 Pirazzy, A.A., op.cit., p 221.
As far as Indians were concerned, religious or sacred places have been a reason for development of tourism. Shankaracharya laid the foundation of domestic tourism by establishing four matts in four corners of the country and commanded all the Hindus to visit all these places. Indians believe salvation comes by paying homage to these places, which lead to domestic tourism even when there was lack of modern transport.\footnote{ibid, p 25.}

**Main factors in growth of Tourism.**

The construction of roads opened the doors for tourist flux into the valley. The pre-motor days were marked by “No Tourism” as handful of British class or their clansmen passed through the valley and residents began to serve them wily nitly and sometimes under stress. Tourism in Himachal Pradesh firmly established in the 60’s.\footnote{Begar- Bounded labour : they have to work for the Britishers without salary or some times very few of money was given.}

**Figure 5.1 showing the factors responsible for tourist influx**

\begin{figure}
\centering
\begin{tikzpicture}
\node (1) {Increased Transport System} ;
\node (2) [below left = 1cm and 2cm of 1] {Organized Publicity and Information System} ;
\node (3) [below right = 1cm and 2cm of 1] {Construction of Hotel Hosted and Truism Bungalows} ;
\draw [->] (1) -- (2);
\draw [->] (1) -- (3);
\end{tikzpicture}
\end{figure}
The Himachal Tourism Development Corporation took up tourism activity more ambitiously and tried to offer alternative tourism\(^{340}\) in the Kullu valley than what was being offered in other region of the Himalayas. As political situation in adjoining Jammu and Kashmir and Punjab grew unstable, Himachal Tourism especially the valley tourism, had fair chance to flourish.

More and more tourist flocked to Kullu valley in 1980's. The phenomenal growth of tourism created a gap in resources and in demand and supply. While there were 10,270 tourists in the valley in 1964-65, the number increased to about 40,000 in 1975 and in 1988 it touched to 1,40,000.

Due to increase in the number of tourists coming to the valley, more construction of hotels was done to accommodate the tourists. Government encouraged the private sector i.e. the local people of the valley to enter the tourism industry by providing subsidies and loan facilities. On the recommendation of the government, Finance Corporation, Scheduled Banks provided loan facility to the extent of Rs 1 crore for construction of hotels. The entrepreneurs were required to invest from their sources 10 percent (minimum) of the total capital investment of the hotel and 65 percent was given as loan and 25 percent as subsidy. The industry department also provided a 25 percent subsidy to the extent of Rs. 25 lakhs on the capital investment released through Himachal Finance Corporation/Scheduled Banks. The department of tourism also gave 25 percent subsidy subject to a maximum of Rs. 1 crore. \(^{341}\)

\(^{340}\) Alternative tourism means emerging of companies, small or medium created by families and friends and providing more contacts with the communities, respect and sensitivity towards nature but mainly its ideas of philosophy concentrating on outdoor activities. It also permits a positive relation between locals and tourists.

Tourist arrivals in Kullu-Manali

Visitors prefer summer months of April, May and June. There are few tourists in Manali in rainy months of July and August and winter season. However autumn (September, October) is favoured for the good weather, colourful valley and specially Dussehra festival of Kullu. Thus, it is easy to discover that Kullu has two tourist peak seasons, one to get away from the heat and the other because of religious and cultural reasons.³⁴²

Table 5.7: Tourist Arrivals in the Kullu Valley (1965-2001)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>January</td>
<td>176</td>
<td>994</td>
<td>1124</td>
<td>10,738</td>
<td>33,040</td>
</tr>
<tr>
<td>February</td>
<td>284</td>
<td>1029</td>
<td>1590</td>
<td>12,414</td>
<td>30,918</td>
</tr>
<tr>
<td>March</td>
<td>812</td>
<td>1690</td>
<td>3746</td>
<td>27,509</td>
<td>66,655</td>
</tr>
<tr>
<td>April</td>
<td>1346</td>
<td>4375</td>
<td>21,094</td>
<td>44,763</td>
<td>91,087</td>
</tr>
<tr>
<td>May</td>
<td>2018</td>
<td>8326</td>
<td>2,85,90</td>
<td>1,00,519</td>
<td>1,46,582</td>
</tr>
<tr>
<td>June</td>
<td>2675</td>
<td>1,690</td>
<td>3,52,85</td>
<td>1,23,015</td>
<td>1,52,943</td>
</tr>
<tr>
<td>July</td>
<td>1360</td>
<td>3514</td>
<td>15319</td>
<td>31966</td>
<td>63624</td>
</tr>
<tr>
<td>August</td>
<td>289</td>
<td>619</td>
<td>2134</td>
<td>8637</td>
<td>42111</td>
</tr>
<tr>
<td>September</td>
<td>129</td>
<td>729</td>
<td>4290</td>
<td>5774</td>
<td>68918</td>
</tr>
<tr>
<td>October</td>
<td>86</td>
<td>1191</td>
<td>23412</td>
<td>25761</td>
<td>121289</td>
</tr>
<tr>
<td>November</td>
<td>196</td>
<td>338</td>
<td>2916</td>
<td>15125</td>
<td>33146</td>
</tr>
<tr>
<td>December</td>
<td>99</td>
<td>215</td>
<td>1115</td>
<td>19657</td>
<td>44493</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>10,250</strong></td>
<td><strong>33,710</strong></td>
<td><strong>1,40,616</strong></td>
<td><strong>4,25,878</strong></td>
<td><strong>8,94,806</strong></td>
</tr>
</tbody>
</table>

**Source:** Statistical Abstracts from 1965 to 2001, Department of Tourism, Kullu, Government of Himachal Pradesh.

Above table shows the number of tourists arriving in Kullu in different months (from 1965 to 2001). The data shows that maximum number of tourists come to Kullu in the month of May and June and then in the month of October. The data also shows the increase in the number of tourists from 10,250 in 1966 to 8,94,806 in 2001. This increase shows that the tourism is actually developing in Kullu district, boosting the economy of the State.

The Kullu valley, for its major insularity, creates its own micro-climate with optimum comfort to visitors. The general climate is very equable and enjoyable all through its seasonal rhythms of winters, summer, and rainy season.

Table 5.8: Total Indian and foreign tourist arrival in Manali from 1966 to 2001.

<table>
<thead>
<tr>
<th>Year</th>
<th>Indian</th>
<th>Foreigners</th>
</tr>
</thead>
<tbody>
<tr>
<td>1965-66</td>
<td>8,270</td>
<td>2000</td>
</tr>
<tr>
<td>1975-76</td>
<td>30,495</td>
<td>3,215</td>
</tr>
<tr>
<td>1985-86</td>
<td>1,32,780</td>
<td>7,410</td>
</tr>
<tr>
<td>1995-96</td>
<td>4,25,878</td>
<td>13,856</td>
</tr>
<tr>
<td>2000-01</td>
<td>8,94,806</td>
<td>33,244</td>
</tr>
</tbody>
</table>

**Transportation**

The peripheral Kullu valley and Manali remained isolated for centuries for their limited accessibility. Only a few people had the endurance to reach there through the passes of Jalori or Dulchi. As the first road entered the valley in 30’s through the Larji gorge, tourism stepped in, though on a leisurely pace. For many British settlers this was the beginning of the end of the peace and serenity of the valley. The final boost came up with the construction of national highway that could take a visitor to Kullu and Manali.

With Bhuntar as air connection, the valley developed an integration of transport system, increasing catchment area regionally, nationally, and internationally which gave a spurt to growth of tourism. Following are the transportation networks that connect Kullu-Manali with the plains.
**By Air:** The airport at Bhuntar is the common base that feeds these towns. This is 10 km from Kullu and 50 km from Manali. Public transport buses and taxis are available for transfer.

**By Road:** Kullu and Manali are connected by an extensive network of road with the northern region. Air-conditioned and non air-conditioned deluxe coaches are run by the HRTC (Himachal Roadways Transport Corporation), the HPTDC (Himachal Pradesh Tourism Department Corporation) and by private sector operators. National Highway No. 21 runs through the valley and connects Chandigarh and Delhi.

**By Railways:** There is no direct railway track to Kullu-Manali. The nearest railway station from Kullu-Manali is at Chandigarh and Ambala.

**Government and Private Hotels**

Tourism in Kullu Manali initially was government oriented. The old Himachal government offered most of their accommodations i.e. Forest Rest Houses, Log Huts, Public Works Department (P.W.D.) Inspection Houses, Circuit Houses, besides constructing two Tourist Bungalows. Private sector in the valley has remained historically indifferent to tourism since the British time. In 1968, the Department of Hospitality was merged with the Department of Tourism, and entrusted with the function of entertaining the state guests, besides the promotion of tourism in the State was under the supervision and control of Director, Tourism and Hospitality.

Due to heavy influx of tourist into the state it was difficult for the Department of Tourism and Hospitality to cope up with enhanced volume of work consequently. Therefore, Himachal Pradesh Tourism Development Corporation (HPTDC) was established under the state act of 1956 on September 1972.343

---

The Banon family in Manali was the foremost to show the way by setting up Guest houses for the tourists which inspired local people to enter this field. The Central government also set up Indian Tourism Development Corporation (I.T.D.C) Travellor’s Lodges in Kullu and Manali. By 1968, Kullu had 134 beds and Manali had 234 beds for tourists.

In 1975, there were 230 rooms available for the tourists. In 1983, the number of rooms available for the tourists increased up to 401. In 80’s due to the disturbances in Jammu and Kashmir, more and more tourists turned to Kullu and Manali. The influx of tourists suddenly increased during this decade. Due to the increased demand of the accommodations, the government opened more hotels in the valley and in 1985, there were 574 rooms available for the tourists in the valley. In 1990, the number of rooms available for the tourists rose to 623. In 1995, there were 1806 rooms available for the tourists. The inflow of the tourist was much more than expected, and the number of accommodation available in the valley was at shortage. Therefore, during these two decades, there was mass construction of hotels in the valley. Government also gave subsidy of 25 per cent on the total investment for the construction of hotels, which encouraged private people to construct guest houses and hotels for tourists. In 2001, there were more than 350 hotels (both government and private) with over 6000 bed capacity in Manali.

**Government’s earning from tourism**

The main income of the government comes from the Luxury tax that the government charges from every owner of the private hotels. The owner of the hotel and guest house has to take the approval from the DTDO (District Tourism Department Office) for the fixation of the rent per room. Whatever is the rent of the room, the tourism department charges 10 per cent Luxury tax on that.
Another source of income of the government from tourism is the Sales tax (12 per cent) and VAT (Value Added Tax) (12 per cent) on the eatables served by the restaurants.

Another tax that the government charges is the Green tax. Every vehicle that is not registered in Himachal Pradesh, has to pay this tax to the government while entering Manali. Every taxi, or personal car/jeep has to pay 400 Rs to the Himachal Government. All these taxes directly go to the Excise and taxation Department, Himachal Pradesh.

HORTICULTURE DEVELOPMENT

William Moorcroft in his famous travelogue published in 1837 on noticing various fruit trees made the following observations. “The vicinity of Kullu abounds with Walnut, Quince and Apricot trees. The two former were not yet ripe, the crop of the latter was over; and oil is distilled from the kernels of the Apricot, and is general use.”344 Kullu gazetteer published in 1897 contains following comments “If the climate of Kullu is unfavorable to tea it is eminently suited for the production of all kinds of European fruits and vegetables. The orchards planted by Captain R.C. Lee at Bundrol and by M: W.H. Donald at Dobhi, yield large and very fine Pears and Apples, which find a ready sale in Shimla and in other big European stations, both in hills and in the plains. Small orchards were owned by Captain A. Banon and by Mr. J.S. Mackay at Manali. The fruit trade promises to develop still further but its prospects would be better if communications between Kullu and Shimla on the one hand and the railway on the other were improved. At present, a great part of the yield of Apples and Pears remain unsold on account of unfitness to bear a journey of many days duration, and for same

reason there is no market for vegetables or for more perishable fruits like Peaches, Plums, Apricots and Cherries which are produced in Kullu of a quality scarcely surpassed even in England. The fruit planter's greatest enemies are Flying Foxes, which invade the Beas valley in immense numbers in August, devour large quantities of fruit and knock down still more from the trees by sitting on them; birds and insects pests of sorts have also to be contended with."345

The pioneer of apple growing in Kullu was Captain R.C. Lee who started the apple plantation in 1870 at Bandrol. He introduced English varieties of fruit plants from England. Lee's initiative was followed with success by several other Britishers. Theodore established an orchard at Dobhi and Captain Banon successfully raised an orchard at Manali. Colonel Rennick and Duff had their Orchards at Bajaura and Dhungri respectively. Mr. Mackey raised orchard at Raison. Mr. Minniken had his orchard at Naggar. The apple variety introduced by them was mainly Cox's Orange and Newton.346

After independence, the growing of fruit trees for improving the economic conditions was realized by the Himachal Pradesh Government. A separate Department of Horticulture was established in 1970. The Department provided guidance at the door steps of the farmers for the raising of orchards. The fruit plants were provided from the government nurseries.347

---

346 Ibid. p 88
Table 5.9: The Progeny cum demonstration orchards functioning in the district.

<table>
<thead>
<tr>
<th>Name</th>
<th>Variable</th>
</tr>
</thead>
<tbody>
<tr>
<td>4. Progeny-cum-demonstration orchard, Sagot</td>
<td>Apple, Plum and Apricot</td>
</tr>
<tr>
<td>5. Progeny-cum-demonstration orchard, Chawai</td>
<td>Apple and Pear.</td>
</tr>
</tbody>
</table>

Source: District Horticulture Department, Kullu. Government of Himachal Pradesh.

Horticulture in Himachal Pradesh today contributes towards the achievement of major national objectives of development by increasing productivity, generating employment, utilization of available land stock, alleviating poverty and helping in maintaining the ecological balance.\(^ {348}\)

The old varieties of fruits have been replaced. The apple varieties now grown are Royal, Richard and Golden. The dwarf varieties which ripen early are also being adopted. The apple spur varieties with heavy warring, like Red Chief, Red Spur, Valley Spur, Handy Spur, Organ Spur, are grown. New Stock roots like M. Series, M – 9, 106, 111, are introduced.

Next to power generation sector, horticulture is the only sector in the state which has emerged as an enterprise worth five hundred crore rupees per annum. Keeping in view, the potential of growth of horticulture in

\(^ {348}\) Swarup et al., 1987, 'Production and Marketing of Apples' (An Economic study in Himachal Pradesh), Delhi, Mittal Publications, p 78.
achieving the desired economic growth, the state government has been the main initiator.\textsuperscript{349} In the past three decades horticulture has made tremendous progress as a consequence of which the state has emerged as the “Fruit Bowl of India.”\textsuperscript{350}

There has been a growth rate of about 8.25 percent for the area under fruits. The temperate fruits faced increase in area by twenty six fold from 4,147 hectares during 1965-66 to 25,964 hectares during (1986-87) and 33161 hectares in 2001-02.

\textbf{Area under fruit crop in Himachal Pradesh.}

\begin{center}
\begin{tabular}{ll}
1965-66 & - 4,147 Hectares \\
1986-87 & - 25,964 Hectares \\
2000-01 & - 33,161 Hectares \\
\end{tabular}
\end{center}


Himachal Pradesh is known for Apple production and the area under the Apple crop increased tremendously as seen by the figures below.

\textbf{Area under cultivation of apple in Himachal Pradesh.}

\begin{center}
\begin{tabular}{ll}
1960-61 & - 900 Hectares \\
1965-66 & - 1,2,711 Hectares \\
1986-87 & - 52,399 Hectares \\
2000-01 & - 92,820 Hectares \\
\end{tabular}
\end{center}


\textsuperscript{350} Ibid, p 8.
Apple is mainly grown in the middle zone of Chamba, Kullu and Shimla district.

Table 5.10: Area under different fruits orchards in Kullu District (In Hectares)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Apple</td>
<td>6,033</td>
<td>10,135</td>
<td>12,221</td>
<td>18,503</td>
<td>19,863</td>
</tr>
<tr>
<td>Temperate nuts and other dry fruit</td>
<td>-</td>
<td>-</td>
<td>2,954</td>
<td>2,235</td>
<td>2,529</td>
</tr>
<tr>
<td>Total</td>
<td>6033</td>
<td>10,135</td>
<td>15,175</td>
<td>20,738</td>
<td>22,392</td>
</tr>
</tbody>
</table>


**Graph 5.8 showing area in hectares under fruit cultivation -district Kullu**

![Graph showing area in hectares under fruit cultivation in Kullu district](image-url)
Table 5.11: Production of Apples (Metric tonnes) in Kullu district.

<table>
<thead>
<tr>
<th>Year</th>
<th>Apple Production (M.T)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1965-66</td>
<td>23,975</td>
</tr>
<tr>
<td>1976-77</td>
<td>45,975</td>
</tr>
<tr>
<td>1986-87</td>
<td>80,423</td>
</tr>
<tr>
<td>1996-97</td>
<td>1,10,875</td>
</tr>
<tr>
<td>2000-01</td>
<td>63,154</td>
</tr>
</tbody>
</table>

M.T.: Metric Tonnes


The above table shows the increase in Apple production from 1966 and 2007. In 1965-66 the apple production was 23,975 Metric Tonnes and in 1986-87 it further increased to 80,423 Metric tones. In 1996-97 there was record productions of about 1,10,875 (Metric Tonnes in Kullu district. But in 2000-01 it decreased to 63,154 (Metric Tonnes). This was due to untimely rain and a fungal disease which struck the orchards.

Horticulture development and extension work is one of the important activities of the department particularly among the cultivators in the interior areas who may not be well versed with the various operations leading to economical orchard growing. Horticultural extension mainly aims at dissemination of advice to the growers on various aspects of fruit growing, orchard management, plant protection, handling and marketing of fruits. The purpose of this extension work is to keep the farmers/horticulturists of the area being informed about the latest scientific techniques of fruit culture. Latest developments on the subject are conveyed to the growers through various extension agencies to keep them vigilant and in touch with new techniques of management. Short

---

duration training courses are a regular feature of the department. Such courses are held in rotation every year at various places in the district. With the increased production of fruits, the quality of non marketable/surplus fruits has also increased. Nearly 20 percent of the total fruits remain behind due to one reason or the other. Similarly, some fruits like Pears, Peaches have short life and cannot be marketed early. With a view to utilize and preserve the surplus produce, a canning unit at Shamshi in Kullu district was opened\textsuperscript{352}

**Bee keeping**

Bee keeping is closely associated with the development of Horticulture as the Bees do the pollination effectively. The department at Kullu extends every possible help to the growers for rearing bees and the scheme for supplying bees at the time of pollination is also in operation.\textsuperscript{353} Much work in this regard has also been done by the Himachal Pradesh Khadi and Village Industries Board. The Board provided loan at 4 percent interest with subsidies. This has generated good quantity of honey which is also sold.

**Initiatives taken by the Government**

Horticulture Department gave various subsidies to the horticulturists. 50 per cent subsidy was given on fertilizers, pesticides and insecticides and on horticultural tools to the horticulturists. Five bigha of land was given free of cost to the landless people for planting various fruits and encouraging horticulture.

For further development of horticulture and to provide suitable marketing facilities to the horticulturists, the government of Himachal Pradesh has undertaken setting up of chain of cold storages, packing


\textsuperscript{353} Ibid, p 40.
houses collection centers and cable-ways in the state under the World Bank Project. Consequently, packing, grading and collection center was established at Patlikuhal in the Kullu district in 1978 which is still functioning.\textsuperscript{354}

During the year 1994, sale of apple and other fruit crops was undertaken by the Himachal Pradesh Horticulture Produce Marketing and Processing Corporation. Approximately 10,13,552 boxes of apple from the district were sent to various sale centers as Bombay, Delhi, Madras and Calcutta.

\textbf{Diversification of Horticulture}

The plantation of Kiwi fruit has met with success. The department is encouraging the Horticulturists to take up kiwi production. Secondly the nectarine a new variety of plum was introduced, which came to be very successful. There's another variety of plum called frontier plum which is also very successful.

\textbf{Floriculture}

The climate of Kullu is also suitable for the growing of flowers. The growing of flowers for marketing is also being undertaken in the district. The climate is especially suitable for Gladiolus, Tulips, Carnations, Tuberoses and Roses. The department of horticulture imparts training to those interested in adopting this as a profession.\textsuperscript{355}

\textbf{Industries}

Kullu district being surrounded by hills on all sides was approachable through mountain passes till the second decade of 20\textsuperscript{th} century. It kept the district devoid of any medium or small scale industries.

\textsuperscript{354} Janaratha, T.C., 2000, op.cit., p 165.
\textsuperscript{355} Ibid, p 166.
Inhabitants, mostly farmers, engaged themselves in craftsmanship in their spare time. The only industries worth the name were village or cottage industries, important of which were Wool spinning and weaving, Basket making and Poolas\textsuperscript{356} making. Kullu valley was known for the production of Woolen blankets, Pattus\textsuperscript{357}, Tweeds and similar other articles but the artisans were not properly organized and the artisans had a lot of difficulty in getting their goods marketed, although local artisans knew the art very well. It was only in 1925 that a motorable road was constructed from Mandi to Kullu.\textsuperscript{358} In order to revive the indigenous industry and to exploit further potential for the industrial development, an Inspector of Industries was posted at Kullu in 1955.\textsuperscript{359}

The spinning and weaving of woollen fabric formed the subsidiary occupation of the majority of the inhabitants of the valley and this was not confined to any particular caste or village or required by their landlords as a condition of tenancy in lieu of rent. The looms were of the primitive type and the cloth produced was so narrow that the strips were sown together to increase the width. These fabrics had stereotyped check design. Seraj area and Rupi area were renowned for their spinning and weaving workmanship. The other item of woolen production was Blanket making throughout the district. These fabrics found a ready market in the plains but there were hardly any surplus, because Pattu was the common dress of hill women, being worn round the shoulders and fastened there by two pins forming a kind of brooch. Surplus, if any, was disposed of at fairs, important of them was Dussehra fair of Sultanpur (Kullu). On the occasion of Dussehra fair, merchants from plains made purchases of raw wool. The sheep generally bred in this area, produced deshkar type of wool, fifty percent of which was consumed locally and the rest, being surplus was sold or sent to other

\textsuperscript{356} Pool is are local made footwears.  
\textsuperscript{357} Pattu is a woolen shawl worn by hilly women.  
\textsuperscript{358} Janarthu, T. C., 2000, op.cit., p 187.  
\textsuperscript{359} Ibid, p 188.
places. Raw Pashmina, Biang and Amboo wool were imported from Tibet through Lahul.  

The raw wool produced in this area was utilized only for manufacture of Course blanket, Shawls, Pattu and Patties. The Pashmina superior in quality was used for the manufacture of good quality of fabrics. Though much of imported Tibetan wool was transmitted further to plains to be used in factories, Kullu retained a small proportion of Kullu floral design shawls which were popular. These were woven on primitive handlooms. To give the necessary stimulus and improve the quality of cloth, the department of Industries established an industrial middle school at Kullu, with weaving as one of the subjects in the curriculum in 1926. The school imparted training in weaving besides producing quality shawls. There was increase in price of Pashmina due to its non-availability. On account of this, the Kullu shawl industry switched over to the use of imported woolen yarn locally known as Raffal. New looms, two meters long and one meter wide were adopted. The shawls on these looms were produced at cheaper rates, well within the reach of common man.

**Industry Development in Kullu**

In November, 1956, an Assistant District Industries Officer was appointed to look after the Industrial expansion of the district. At present General Manager, Industries is looking after the industrial development of the district. He is assisted by two Managers, two Industry Promotion Officers, two Economic Investigators and five Extension Officers. Besides, the old time industries of Wool spinning and Weaving, Basket making and Poolas making, the Iron implements manufactured were numerous. All bolts and locks were procured from the plains and even for shoeing of horses Kullu was dependent on Kangra blacksmiths. The art of carpentry was in its infancy though in the formation of Sangha bridges (Crude

---

wooden bridges). The people were expert, the structures, strongly put together were pleasing in appearance.362

**Shawl making Industry**

Hand-woven Kullu shawls are known for the unique process and techniques that give them significant value addition. Traditionally Kullu shawls have three borders at the end (Bansal et al. 1997). Kullu shawls own its origin to the Kinnauri shawls. The Kulvi designs and motifs woven today have originally been derived from intricate Kinnauri designs that have been enlarged enormously and simplified with the passage of time. This has been resulted into a reduction of the labour and the time involved – thereby reducing and making them more commercially viable. Mill spun yarn dyed in various colours is used for the ground, while a vast range of acrylic colours are used for patterning the borders. These shawls are available in Wool, Angora, Pashmina and handspun materials. The yarn used may be chemically dyed or naturally dyed and of size 2 meters x 1 meter.363

During the pre-independence era clothes from industrialized regions couldn’t reach the valley due to lack of transportation facilities. As Kullu Valley falls under temperate Himalayan region, the cold climate prevalent is suitable for sheep and goat rearing, which also fulfills the necessity for woollens.

Initially, the people of Kullu used to weave Patti which is 18", 20" or 22" wide, and having an appropriate length. They wove it to fulfill the bare necessity of covering their body and protecting themselves of severe cold. Menfolk wore Patti for coats and suthan (pyjamas) and women used it as Pattus for themselves. Men also made caps out of Patti, which was originally, woven in natural colors of wool i.e. black, white and grey.

---

363 www.kullunet/handicraft.html
Until 1936, Pattus were made on the pitloom, but after that handloom came into way, this probably happened because of British influence. When weavers from Bushehar (Shimla) came to the valley in early 1940’s their craft influenced the people of Kullu Valley. The weavers of Bushehar were acquainted with the geometrical designs, which they successfully used on Pattus. \[364\]

The advent of synthetic threads in Kullu too dates back to 1940’s when Busheheras came to the valley. As there weren’t any spinning mills in the valley, weavers started importing yarn from Ludhiana (Punjab) and used them in Pattus and Shawls. Most of these are being imported even today.

The government opened a Shawl Improvement Centre in August 1957 in Kullu. This school provided designs, arranged the distribution of raw material among craftsmen besides producing quality shawls. The woolen Pattu, Patties and Blankets with stereotype designs did not fetch remunerative prices in modern times. They had to compete with mill made articles. The Department of Industries opened demonstration center which supplied good quality raw material at cheaper rates. Improved spinning wheels and other implements were distributed on hire purchase basis and on subsidized rates. The yarn was also supplied on wages. The fabric thus obtained was properly finished in the government institution and marketed through emporium and other government agencies. Technical aid was given to the spinners and weavers for producing better type of cloth and yarn. \[365\]

Woolen Industries Department Center, Kullu and Wool Carding Center, Banjar were opened in 1940 and 1956, respectively to provide technical assistance to spinners and weavers who were engaged in teasing and carding against wages. \[366\]

\[364\] Ibid.

\[365\] S Final settlement Report of Kullu Sub-divisions: Kangra district, 1913, op.cit. p 152.

\[366\] Ibid, p 190.
To provide incentive towards production of quality goods, to make the artisans quality conscious, the government opened a quality making center for textile goods at Kullu in 1962. The center also provided technical guidance for the improvement of quality.

In 1965-66, there were 150 units engaged in the production of woolen fabrics and their total production was worth Rs 2,60,000. In 1995, there were 403 units in the production of woolen fabrics and their total production was worth 6.80 lakhs.

There are 300 co-operative units at present in Kullu. And there are about 20000 to 22000 weavers in Kullu district of which 50 per cent to 60 per cent are regular weavers. The rest weave independently at home. Organized sector as handloom weaving co-operatives and big societies employ nearly 10000 weavers directly or indirectly. It has developed as a major cottage industry in the valley. Till now, 25 crores have been invested in shawl industry. 367

**Government’s Initiatives**

Government has various schemes for the handloom sector. These schemes take care of various activities such as training weavers, supplying equipments, product development, institutional support, infrastructure and marketing support etc. in an integrated and coordinated manner. The main objective of these schemes is to ensure overall development of the handloom sector and to benefit the handloom weavers. These schemes are an attempt to provide such facilities which would enable the weavers to take up production as per the demands of the market.

These schemes attempt to look after the needs of the weavers for working capital, basic inputs, creating awareness and attempt to support quality fabric production through appropriate design intervention,

---

alongwith increase in productivity, provision of publicity, and marketing incentive.

With time shawls are now being manufactured in a wide variety of patterns and the use of vegetable dyes, which augment an exotic array of subdued colors in apricots, ochre, rusts, browns, olives and many more, is in vogue.

**HYDRO-ELECTRIC POWER**

Energy has a special role to play in the development process of any economy. The development of infrastructure and industries cannot be accomplished without using energy as an input. The path of development followed even by the developed countries has an inherent orientation towards intensive energy use and this has been used in attaining higher growth rates and higher levels of development.

Ready availability, flexibility in utilization and pollution free production combined with the comparative advantage that the state has in its production make hydel power the most attractive source of energy. Himachal Pradesh has 20.65 per cent of total available potential of hydel power generation in the country.  

NHPC Limited (National Hydroelectric Power Corporation Limited) is serving the nation by developing hydro-power projects throughout the country in general and in Himachal Pradesh in particular. Himachal Pradesh has vast hydroelectric potential of 11647 MW at 60 per cent load factor as assessed by Central Electricity Authority (CEA). NHPC Limited is surging ahead in developing hydro power in Himachal Pradesh, thereby changing the socio-economic conditions and augmenting overall development of the region. NHPC Limited has already commissioned three projects, viz. Baira Siul (180 MW), Chamera Stage – I (540 MW) and

---

Chamera Stage – II (300 MW). Three more projects, viz. Parbati Stage – II (800 MW), Parbati Stage – III (520 MW) and Chamera Stage – III (231 MW) are under active construction stage.369

The hydel power potential of the state can play a major role in power development programme in northern region, which in return could provide revenue to the state. The hydel power generation got priority only after sixth five year plan. During the tenth five year plan, besides completing the ongoing projects as soon as possible, the state government also prepared an ambitious plan to accelerate hydro generation to meet needs of north Indian states and to earn income from these projects.

Table 5.12: Total available potential of Hydel Power in Himachal Pradesh:

<table>
<thead>
<tr>
<th>River Basin</th>
<th>Total identified Potential (MW)</th>
<th>Potential already tapped(MW)</th>
<th>Percent of total</th>
<th>Projected contribution (MW)</th>
<th>Percent of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Satluj</td>
<td>94000</td>
<td>1327</td>
<td>6.59</td>
<td>3599</td>
<td>17.87</td>
</tr>
<tr>
<td>Beas</td>
<td>4300</td>
<td>1550</td>
<td>7.70</td>
<td>2567</td>
<td>12.75</td>
</tr>
<tr>
<td>Chierab</td>
<td>3300</td>
<td>5</td>
<td>0.02</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>Ravi</td>
<td>2180</td>
<td>738</td>
<td>3.66</td>
<td>239</td>
<td>1.19</td>
</tr>
<tr>
<td>Yamuna</td>
<td>960</td>
<td>315</td>
<td>1.56</td>
<td>40</td>
<td>0.20</td>
</tr>
<tr>
<td>Total</td>
<td>20140</td>
<td>4219</td>
<td>19.54</td>
<td>6445</td>
<td>32.00</td>
</tr>
</tbody>
</table>

Source: [http://www.himachal.com](http://www.himachal.com)

Kullu district has a vast hydel potential and through preliminary hydrological, topographical and geological investigations, it has been estimated that about 4300 MW of hydel power can be generated in the district by constructing various major, medium, small and micro hydel projects.

369 Ibid., p 213
NHPC in Kullu district has taken up following major projects in the district i.e. three stages of the Parbati project, which has 1,900 MW potential in total; three stages of the Larji project (1,200 MW in total), which involves a 6 km tunnel to an underground power plant; and 86 MW Malana project. In addition to these larger projects, there are 24 micro scale hydro projects ranging in size from 200 to 1,000 KW that are either under construction or proposed for the Kullu District. These micro scale hydro projects which are less than 100 MW are sanctioned by HIMURJA (Himachal Pradesh Energy Development Agency).

**Government’s Income from the Hydel Projects**

Private hydel projects in the state are sanctioned by the government for 40 years to private firms/companies/individuals. From every hydel project Himachal Pradesh will get 12 per cent free of cost and 18 per cent at generation cost from these projects. The state government sells this energy to the other states. This is the major income of the state.

The state government has also decided that all private power producers generating hydroelectricity up to 100 KW will have to provide three percent of the income generated from the project to the local gram panchayat for the first 12 years and six percent thereafter, to be spent for developmental activities.

These hydel projects also generate employment for the local people. About 80 per cent of the class three and four employees of the project would be recruited from within the state, which will also contribute 30 per cent of executives and engineers.

---

370 www.nhpcindia.com
371 www.webindial23.com/himachal/economy/power.html
NHPC and private firms and companies involved in these hydel projects pay adequate compensation to those whose land will be acquired for the project. One member from each displaced family will be given employment by NHPC and private firms and companies.372

In the field of rural electrification, the state has made remarkable achievements. Despite of the fact that Himachal Pradesh was a late starter in the field of rural electrification and also because of very difficult and mountainous terrain it is a matter of satisfaction that almost all the inhabited villages have been electrified in the state. Intensive electrification schemes are also in operation for electrification of left out houses and further improvement in the availability and reliability of electric supply in the state.

The use of energy has been extensively used for attaining development and for economic reasons even at the cost of the environment. In fact, there has to be a trade between the level of development and environment quality which, has an established connection with sustainable energy use.373 Given the facts that energy is required for quickening the pace of development in Himachal Pradesh and that the state's topography comprises of the relatively younger and fragile Himalayas, a fine balance needs to be achieved and maintained between environment and development.374

---

372 coe.rise.ac.in/th.html
373 Sharna, L.R., 1987, op.cit., p 92
374 Ibid, p 93.