No. Peak Name	Altitude	<b>Location of the Peak</b>
		(in meters)
1. Shilla	7,025	Kinnaur
2. Leo Pargial	6,791	Kinnaur
3. Shipki	6,068	Kinnaur
4. Manerang	6,597	Spiti
5. Mulkila	6,520	Lahaul – Spiti
6. Kinner Kailash	6,500	Kinnaur
7. Jorkaden	6,473	Kinnaur
8. Dibibokri Pyramid	6,400	Kullu
9. Gyephang	6,400	Lahaul - Spiti
10. Phawarang	6,350	Kinnaur
11. Shigrila	6,230	Lahaul - Spiti
12. Indrasan	6,220	Kullu - Manali
13. Shikhar Beh	6,200	Lahaul - Spiti
14. Mukar Beh	6,070	Lahaul - Spiti
15. Gepang Goh	6,050	Lahaul - Spiti
16. Deo Tibba	6,001	Kullu
17. Solang	5,975	Kullu
18. Pir Panjal	5,972	Chamba
19. Maiwa Kandinoo	5,944	Kullu
20. Hanuman Tibba	5,860	Kullu - Kangra
21. Bara Kanda	5,860	Bharmaur ( Chamba )
22. Pishu	5,672	Kinnaur
23. Kailash	5,660	Bharmaur ( Chamba )
24. Saltu-Da-Par	5,650	Lahaul - Spiti
25. Gushu	5,607	Kinnaur
26. Raldang	5,499	Kinnaur
27. Shitindhar	5,290	Kullu
28. Srikhanda	5,182	Kullu
29. Thamsar	5,080	Chamba
30. Lachalunga	5,060	Lahaul - Spiti
31. Murangla	5,060	Lahaul - Spiti
32. Shringla	4,999	Lahaul - Spiti
33. Inder Kila	4,940	Kullu
34. Pin Parbati	4,800	Kullu
35. Ghoralantinu	4,760	Kullu - Kangra
36. Patalsu	4,470	Kullu
37. Gauri Devi Ka Tibba	4,030	Chamba
38. Hargaran	3,850	Lahaul Spiti
39. Narshing Tibba	3,730	Chamba
40. Choordhar	3,647	Shimla
41. Shacha	3,540	Kullu
42. Cholang	3,270	Dhauladhar Range ( Kangra )
-	•	

# Famous Passes and Jots in Himachal Pradesh:

No.	Name of the Pass	Altitude	<b>Location of the Pass</b>	
		(in meters)		
1.	Basodan	2,400	Chamba - Bhatiyat	
2.	Dulchi	2,788	Mandi - Kullu	
3.	Bhabu	2,895	JoginderNagar - Kullu	
4.	Padri	3,050	Chamba - Jammu	
5.	Jalori	3,135	Inner & Outer Seraj in Kullu	
6.	Chauri	3,150	Chamba - Kangra	
7.	Rashol Jot	3,230	Kullu	
8.	Pajanund Galu	3,280	Mandi - Kullu	
9.	Khauli Galu	3,440	Kullu	
10.	Jalsu Ka Jot	3,450	Kangra - Chamba	
11.	Chanderkhani Galu	3,600	Kullu	
12.	Tainti Galu	3,600	Kullu	
13.	Baleni Jot	3,730	Kangra - Chamba	
14.	Gharhu Jot	3,735	Kullu	
15.	Sari Galu	3,745	Kullu - Kangra	
16.	Waru Pass	3,870	Kangra - Chamba	
17.	Shibaling Pass	3,980	Kinnaur	
18.	Rohtang Pass	3,978	Kullu - Lahaul	
19.	Bherianga Pass	4,140	Kullu - Kangra	
20.	Hamtah Jot Pass	4,270	Pir Panjal - Kullu - Spiti	
21.	Singoor Pass	4,310	Kangra - Bharmaur	
22.	Indrahar Pass	4,320	Kangra - Bharmaur	
23.	Tori Jot	4,360	Kangra - Chamba	
24.	Sach Pass	4,395	Chamba - Pangi	
25.	Ranjcha Pass	4,400	Lahaul - Spiti	
26.	Shipkila	4,500	Lahaul - Spiti	
27.	Kunzum Pass	4,520	Lahaul - Spiti	
28.	Shi Jot	4,530	Kullu	
29.	Rangchi Galu	4,540	Kullu	
30.	Tamsar Pass	4,572	Kangra - Bara Banghal ( Dhauladhar	
30.	Tallisal Tass	4,372	Range)	
31.	Shinka Pass	4,575	Kinnaur - Gharwal	
32.	Burua Pass	4,578	Kinnaur - Gharwal	
33.	Rupin Ghati	4,625	Kinnaur - Gharwal	
34.	Talang Pass	4,640	Kangra - Chamba	
35.	Kathikukri	4,645	Kullu - Kangra	
36.	Gairu Jot	4,662	Kangra	
37.	Drati Pass	4,720	Chamba - Pangi	
38.	Kalicho	4,730	Lahaul - Bharmaur	

39.	Khidala Galu	4,750	Chamba
40.	Nikora Pass	4,755	Kangra - Bharmaur
41.	Animal Pass	4,880	Kullu
42.	Manali Pass	4,880	Manali - Kangra
43.	Baralacha La	4,890	Pangi-Range, Lahaul, Bharmaur
44.	Tempo La	4,930	Lahaul - Spiti
45.	Chabia Pass	4,934	Pangi-Range, Lahaul, Bharmaur
46.	Mulari Jot	4,960	Lahaul
47.	Kugti Pass	4,961	Lahaul - Bharmaur
48.	Shipting	4,980	Bharmaur - Lahaul
49.	Taintu Ka Jot	5,050	Kullu - Kangra
50.	Sara Umga Pass	5,010	Kullu - Spiti
51.	Shakarof	5,025	Lahaul - Spiti
52.	Asha Gali	5,030	Kangra - Lahaul - Spiti
53.	Nalgaon Pass	5,035	Kinnaur - Gharwal
54.	Duggi Jot	5,060	Bharmaur - Lahaul
55.	Kamilaga Pass	5,151	Kinnaur - Gharwal
56.	Makori Jot	5,190	Kangra
57.	Lamkhaga Pass	5,284	Kinnaur - Gharwal
58.	Charang Pass	5,266	Kinnaur - Gharwal
59.	Pin Parbati	5,320	Kullu - Spiti
60.	Borsa Pass	5,360	Kinnaur - Gharwal
61.	Laluni Jot	5,440	Lahaul - Spiti

#### Glaciers in Himachal Pradesh :

Himalayas have nearly 15,000 glaciers and it is one of the largest continental area under ice. It is estimated that about 34,000 sq. km., about 18 % of the Himalayas is always covered with ice. An average Himalayan glacier has the capacity of nearly an 11th of a cubic km. But to form a large dam, even a medium glacier can provide enough water. And large glaciers like Gangotri can even fill dams like Bhakhra dam the three times.

But there is not much known about the Himalayan glaciers. There is a very little information about the exact volume of water that is recieved by the Indian rivers in the form of rain, undergroung water, snow and water from the melting of glaciers. Generally glaciers start melting in the monsoon season. So this system provides water to those areas or rivers where monsoon is weak, thus maintain the balance very well. This system also provides many rivers a tremendous boost in water level in monsoon season and causes floods. Glaciers are called 'Shigri' in local language. Some of the important glaciers are as under.

#### **Important Glaciers in Himachal Pradesh:**

**Bara Shigri**: Bada Shigri is the largest glacier in Himachal Pradesh. It is located in the Chandra valley of Lahaul and it feeds the river <u>Chenab</u>. Bada Shigri glacier is more than 25 km. long and about 3 km. wide. It lies on the middle slopes of the main Himalayan range. It is also aided by many small tributary glaciers. It is surrounded by high mountains from three sides. It is said that this glacier formed Chandertal lake by causing a major havoc in Chadra valley in 1936. Bada Shigri glacier was conquered by all women mountaineers in 1956. It was further successfully trekked by Stephenson in 1956. There are number of prominent glaciers in Chandra valley in Lahaul. Some of them are Chhota Shigri (means Small Glacier), Kulti, Shpting, Pacha, Ding Karmo, Tapn, Gyephang, Bolunag, Shili and Shamundri. Gyephang is the chief deity of Lahaul valley and the Gyephang glacier is named after him. It is full of snow all the year. It is considered as the Manimahesh of Lahaul.

**Chandra Glacier:** It falls in the Lahaul - Spiti district of Himachal Pradesh. It is located on the slopes of the main Himalaya. It has been separated from Bara Shigri glacier. This glacier reason behind the formation of Chandertal lake. Chandertal lake is surrounded by snows and acres of scree. This deep blue-water lake has a circumference of 2.5 km. It is also called the 'Lake of the moon'. It remains completely frozen during winter. Chandertal lake is the source of the river Chandra.

**Chandra Nahan Glacier**: It is located on the South-Eastern slopes of the main Himalaya in the area to the North-West of Rohru in Himachal Pradesh. Chandra Nahan Glacier is also aided by various small tributary glaciers. The famous Chandra Nahan lake lies in it and it feeds the river Pabbar. Chandra Nahan lake is accessible only to experienced trekkers and fed by a series of springs. Chandra Nahan glacier is surrounded by high rising peaks. The elevation of Chandra Nahan glacier is more than 6,000 meters.

**Bhadal Glacier**: Bhadal glacier is located on the South-Western slopes of the Pir Panjal range in the Bara Banghal area of Kangra district. It feeds the river Bhadal. Bhadal river rises from the snowy range of the area lying between the Pir Panjal and Dhauladhar ranges. Bhadal river's catchment is made up of U shaped valleys, waterfalls, moraines, cirques and towering peaks. This river is one of the main tributaries of the river Ravi. The size of Bhadal glacier suddenly grows up because of rapid and heavy snowfall.

**Bhaga Glacier**:- It is located on the slopes of the main Himalayan range in Lahaul area. This glacier feeds the river Bhaga. U shaped valleys, waterfalls, glaciers and moraines characterises the upper catchment of the Bhaga river. The entire tract is devoid of a vegetative cover. The discharge of this river increases during the summer months, when the snow on the high mountains start melting. Bhaga Glacier is surrounded by high snowclad peaks from all sides. Bhaga glacier is 25 km. long. The other important glaciers of Bhaga valley are Lady of Keylong, Mukkila, Milang and Gangstang.

The Lady of Keylong: The Lady of Keylong glacier is very popular among visitors. The name 'Lady of Keylong' was given by 'Lady Elashainghday' about a century ago during British ruling. The glacier is situated at an altitude of about 6,061 meters and it can be seen clearly from Keylong. It remains covered with snow throughout the year. But in the middle, there is seen a dark bare patch that looks like the figure of a womam, walking with a load on her back. It is also recorded as 'Lady of Keylong' by the geological survey team of India.

#### Other Glaciers :

**Mukkila Glacier:-** It is situated at the height of about 6,478 meters. It is located in Bhaga valley. Its impression is awesome.

**Sonapani:** It was first surveyed by Walker and Pascoe in 1906. It is visible from the

Rohtang Pass. It is about 6 km. from the confluence of Kulti Nala.

Gora Glacier:- It has receded in the recent past due to a unstable mass balance. It lies in the

South facing slopes of the main Himalayan range.

**Perad Glacier:** The Perad glacier is small and easily accessible and it is near Putiruni. It also

has a nice cave.

Parbati and Dudhon: These glaciers are located in district Kullu. Both glaciers are 15 km. long.

They feed the Parbati river.

Beas Kund:- It feeds the river Beas and is located on the South facing slopes of the

towering Pir Panjal near the world famous Rohtang Pass.

## Hot Springs in Himachal Pradesh:

Nature has blessed Himachal pradesh with a number of Hot Springs. Hot Springs in Himachal Pradesh have become very popular because of their medicinal properties. Most of these springs are located in the Beas and Satluj valleys. Generally found in Himachal Pradesh are three types of Hot Springs - Simple Springs, Mineral Springs and Thermal Springs. Simple Springs are just like any ordinary springs coming out from an underground source to surface. Mineral Springs contain water with some mineral dissolved in it. Thermal Springs are very hot. The famous Hot Springs in Himachal Pradesh are as follows:

## Important Hot Springs in Himachal Pradesh :

Hot Springs at Manikaran (District Kullu): Manikaran is 45 km. from Kullu. Manikaran lies in the Parvati valley of Kullu district. The spring are situated near the bank of Parbati river. These are confined to several groups of hot water springs emerging at various locations spreading upto a distance of about 1.3 kms. along the river from the old bridge to Brahmaganga. The springs at Manikaran come out to surface with pressure and are very hot. There is no sulphur or iron mixed in the waters, but it is said to be radio active. The water of these springs is so much hot that pulses (dal), rice, vegetables etc. can be boiled and cooked in it. There is a Gurudwara here serving visitors and provides night stay. In the Gurudwara, the dal, rice and vegetables are boiled in the hot water and served to the visitors after cooking them fine and surprisingly the meal is tasty. Vegetables etc. are cooked in a pan resting on the hot water. Usually the meal is

cooked fine in 20 minutes. Even 'chapatis' are cooked by immersion. The heat near the boiling place, where the meal is cooked, is so high that inhabitual persons can not even stand and tolerate the heat for some minutes.

The healing properties of the Manikaran Springs are well known all over the country. Pigrims from far come here and for the cure of their ailments. Rheumatism and muscular pains are said to cured very fast by taking bath in this water. According to a legend, Manikaran is associated with Lord Shiva and his consort Parvati. Mani Karan means Ear Rings - it is said that once, while taking bath here, Maa Parvati lost her ear rings in the Kund (pond). When she told it to Lord Shiva, he became furious and looked at the water of the kund with great anger and then thousands of ear rings flowed out from the boiling water and since then the water of the spring is boiling. The rocks surroundings the springs are also very hot.

Hot Springs at Vashisht (District Kullu): Vashisht is 6 km. from Manali (in district Kullu). It is located well above the river Beas. The hot water springs emerge through granitic gnessies which, in this part of the Himalaya, cover a very large area. Vashisht hot water springs have made this low profile village famous around the world. The village is 3 km. from Manali on the left bank of the river Beas, at the foot of a laterite and conglomerate rock hill covered with majestic Deodar and pines. The water kunds (ponds) are in the centre of the village. The temperature of the water varies from 110°F to 123°F. Almost 3,000 people take a dip in the tanks each day. There is also a tank reserved for females. Himachal Pradesh Tourism Development Corporation has also built 'Turkish type baths' about 500 meters below Vashisht village to tap the springs curative potential. The hot water is brought through pipe and stored in a huge water tank. from where the water is channeled through pipes to the bathrooms of the HPTDC.

Hot Springs at Tattapani (District Mandi):- Tattapani is 51 km. from Shimla and 29 km. from Naldera. It is a famous tourist resort. It is located in district Mandi. It is located on the right bank of river Satluj at an altitude of 656 meters. This natural sulphur spring is pure and has curative power for various kings of bodily ailments. The water level of the spring keeps changing with the fluctuation in the water level of the river. Tatta-pani means hot water.

**Hot Springs at Kasol ( District Kullu ) :-** It is 32 km. from Bhuntar ( Kullu air port site ). It can be approached by footpath and is about 1 km. further up stream Manikaran, opposite Nikhthan village. Hot water emerges only at one location at Kasol. The temperature of the water here is much lower than that of ManiKaran.

Another Hot Spring site is Khirganga. It is 26 km. from Kullu and 10 km. from Pulga. It is also famous for hot water springs. Here, the temperature of the water is much lower than that of ManiKaran.

## Chamba Valley:

Chamba Valley: Also known as Ravi valley is quite unexposed. But now the means of communication have made inroads into the interior parts of this valley. The scenery is charming and varied character presenting many delightful sights. In the lower parts, the trees grown are wild olive, pomegranate and fig trees mingling with the acacia, Shisham, Pipal and some other trees. Visitors get a good picture of small villages and hamlets extending over the landscape. On the mountain slopes, the fields are usually small in size and are arranged in terraces, the lower border of each being formed by a rough wall to make the ground more level for ploughing. In most part of the Chamba valley, under 2,550 meters, only two crops are reaped per year.

There are rich fields in the lower level, with maize, wheat, barley and other cereals high up. Northern mountain slopes are covered with forests, while Southern are often quite bare. The Chamba valley is famous for medical herbs and varities of flowers. This valley is fairly populated. The people here are very handsome, hardworking and honest. The important towns located in this valley are Chamba, Bharmaur, Dalhausie and Khajjiar. Adjoining to the Chamba valley is the Pangi valley, extending along the Chenab river as it cuts through the Pir Panjal range and off-shoots of the main Himalayan ranges. This is one of the remotest and most beautiful tracts of the Western Himalayas.

## Kangra Valley :

**Kangra Valley:** Kangra is one of the most picturesque low altitude valleys in the Himalayas. This is an extensive dun-type valley located between the Dhauladhar range in the North and the Shivalik hills in the South. It ranges from West to East rising gradually from Shahpur to Baijnath and Palampur. People

of this valley are beautiful. Here in the Kangra valley, coupled with the beauty of the landscape is the beauty of humanity. The surface is covered with the richest cultivation, irrigated by the lovely streams which descend from perennial snows. Turning from this scene of peaceful beauty, the stern and majestic hills confronts us. In the mysterious forests of Dhauladhar wander the lovely Gaddi maidens, unconscious of their beauty, living a life of pastoral simplicity.

In this valley, we do find the Kangra paintings known for their ageless beauty, in which human love has been represented in line and colour with great delicacy and which continue to throb with passion even after the passing of two centuries. The Kangra valley has also been found important from historical point of view, with the discovery of Palaeolithic hand tools in the area. The Kangra valley is full of of places of tourist interest, old forts, ancient temples, picturesque villages and side valleys. The important towns of this valley are Baijnath, Palampur, Kangra and world famous Dharamshala.



## Kullu Valley :

The Kullu valley is famous for the beauty of its majestic hills, covered with pine and deodar forests and sprawling apple orchards. This is a broad open valley formed by the Beas river between Mandi and Larji. The course of the Beas river presents a succession of magnificent scenery, including cataracts, gorges, precipitous cliffs and mountains, clad with forests of Deodar, towering above trees of Pine on the lower rocky ridges. Hot water springs occur in various places much resorted to as places of pilgrimages. The valley changes its appearance and complexion with each change of season. The Kullu valley has an abundance of wild flowers. Nested in the heart of the Himalayas, this valley is 75 km. long and 2 to 4 km. wide. It eands near the famous Rohtang Pass. Beyond it, in the midst of higher Himalayan ranges lie the valleys of Lahaul and Spiti. The principal of the valley is Kullu which is situated at a height of 1,200 meters. It has a delightful and healthy climate and gets no snowfall. Kullu is a centre of considerable commercial and social activities. Across the Beas river, lies the pretty town of Naggar which is cooler than Kullu. The main attraction of the Naggar are the Naggar castle, Boerich Art Gallery and some temples. Manali at an altitude of almost 2,000 meters, situated at the head of the Kullu valley

is an important Himalayan resort and trade centre, particularly in Manali are Hadimba Devi temple - built in 1553 AD., Vashisht and Rohtang Pass. In the Parvati valley lie the hot springs of Manikaran. The springs are believed to have healing properties. The people of Kullu are generally of the same type as those of Mandi and Shimla hills. They have a naturally happy temprament, and their hilarity and fun have a free play, especially during religious festivals like Dushehra. The women folk come out with bright multicoloured clothes and heavy jewellery on festival times.

#### Baspa or Sangla Valley :

The Baspa, also known as Sangla valley is the most beautiful and romantic in Kinnaur district. The altitude of this valley varies from 1,830 meters at the confluence of the Baspa river with the Satluj and 3,475 meters at the highest village of Chitkul. The Baspa river flows in this valley for approximately ninety five kms. The valley is richly cultivated. The valley is famous for green pastures, flowers and fruit trees. At the head of the valley lies the lofty Chung Shakhago Pass. Due to heavy snowfall, the upper ranges of this valley remain snow covered and so hardly any vegetation is grown. There are barren ranges covered with snow all the year round. From Chitkul to Satluj lies the inhabited part of the valley. The prominent vegetation found in the Baspa valley is Deodars, blue pines, firs and silver birch in the upper zones. Baspa valley gets fair amount of monsoon rains and so she has very good grassy land and alpine pastures. It opens into Satluj valley down stream of Tshong-Tong owing to the excellent climate and fertile landscape, the people in this valley are quite rich and prosperous. The gushing rivers of Kinnaur abound in Trout-the angler's prize catch, their waters have over the centuries chiseled beautiful gorges across this picturesque land and nurtured one of the most unique societies on their banks. In the lush land live the descendants of the Kinners-the demi gods of the Hindu pantheon, whose deeds have been immortalized in epics and the poems of ancient Sanskrit poets. It is no wonder that a local tradition maintains that Kinnaur with all its beauty fell from the clouds as a gift from the gods.

#### Satluj Valley :

It is a long valley has been formed by the Satluj river from Shipki to Bilaspur. The river enters into Indian teritory near Shipki. This river has cut across the Dhauladhar, Pir Panjal, main Himalaya and Zanskar ranges. The towns Bilaspur, Rampur and Bhaba are located along the Satluj river in this valley

#### Pabbar or Rohru Valley :

The Pabbar or Rohru valley consists of the area drained by the river Pabbar which originates from Chansal peak - south of Kinnaur and its tributaries. The valley extends from Hatkoti upto Tikri at the base of Chansal. There are a great number of small Khads (streams) passing through this valley and making the zig-zag shape of the valley at various points. The important streams passing through this valley are Andhra Khad, Pejore and Shhikri streams. The altitude of the peaks in this valley varies from 1,500 meters to 5,000 meters. The common trees grown in this valley are blue pine at lower elevations, while spruce and silver-fair at the higher. During summer, the Pabbar valley is quite hot. The people of Pabbar valley are simple, hard working and contended, fond of fairs and festivals, singing and dancing. Main crops grown in the valley are maize, barley, wheat, pulses, rice, potatoes and millets. Pabbar river is famous for trout fish, which was introduced in this river by Mr. Glover, a British Chief Conservators of forests in 1938-39.

## Lahaul and Spiti Valley :

The **Lahaul valley** lies to the North of the Pir Panjal and main Himalayan ranges. It is made up of the rivers Chandra and Bhaga till Tandi and river Chenab from Tandi to Udaipur, downstreams of which lies the famous Pangi valley. The **Spiti valley** has been formed by the Spiti river. It is situated between the main Himalayan and Zanskar ranges. Kaza, a small town is located in the Spiti valley. The Lahaul and Spiti valley are surrounded by mountains with elevations ranging from 3,000 to 6,500 meters above the mean sea level. This valley is famous for high snowfall and severe winter. The people of Lahaul valley are cheerful and of kind disposition. They are superstitious, credulous, industrious and honest. The land in Lahaul valley is quite fertile and extensively used for off season vegetables and seed potatoes. In comparison to Spiti, Lahaul valley has better irrigation facilities. The crops grown here are barley and buck wheat. The area is quite famous for Buddhist Monasteries. Pin valley is the tributary of Spiti valley in the Trans Himalayan zone.

## Balh Valley:

The Balh valley lies in Mandi district at an average elevation of 800 meters. This is also known as Sundernagar valley and is broad open dun type valley between an off shoot of the Shimla Ridge in the North and Shivalik hills in the South. The valley stretches from Gutker in the North to Sundernagar in the South, Baggi in the East and Gumma in the West. Suketi stream divides this valley roughly into two

parts. The soil found in this valley is loam in texture and light grey to brown in colour. The main crops are wheat, maize, sugarcane, ginger and paddy. To promote mixed farming, dairying, animal husbandry, vegetable cultivation and horticulture, manuring and soil conservation Indo-German Agriculture Project was started in this valley in November 1962.

#### Paonta or Kirda Dun Valley :

The Paonta or Kirda Dun valley of Sirmaur lies between the Eastern extremities of Markanda and the Dharti ranges. It falls in the South-Eastern corner of the State. Jamuna river separates it from Dehra Dun. For the sake of ease, the valley may be further divided into three distinct tracts:

- 1. The Dun proper which lies between the Yamuna and the lower parts of Dharti range and Poka hills and is partially watered by the Giri and the Bata streams.

  The Par Dun tract, which is surrounded by hills lies near Majro village. This is a natural fortress,
- 2. only accessible by one road and now a deserted Waste forest, though the terrain shows that it was once cultivated and was a fertile tract.
  - The tract which consists the Neli Khera and the adjoining hills of the lower Dharti on the North of
- 3. the Bata, East of Jamun Khala, West of Tila Gharib Nath and South of Rajban which indeed may be regarded as included in it as it is a plain area

Most of the plain area, namely Kirda Dun, falls within the Cis-Giri division and a very small part in a corner spreading across the Giri falls into the Trans-Giri division. Kirda Dun valley is very fertile as it is watered by Giri and Bata rivers. A century back, this valley was a dense forest, inhabited by wild beasts such as tigers and elephants, but people settled in it during the time of Raja Shamsher Prakash. Wheat, maize, ginger, millet and sugarcane are the major crops. A Sikh Gurudwara at Paonta Sahib and a Ram Mandir are the two famous religious places in this valley. Paonta is now rapidly becoming an industrial area. The people of this valley are well off. Adjoining to the Kirda valley is the Dun and Spron valleys of Solan district, mostly flat and fertile and cultivation of cereals and off season vegetables in extensively practised.

## Kunihar Valley :

The Kunihar valley lies nearly 50 km. West of Shimla in Solan district and is on the average at an altitude of 1,000 meters. The valley begins from Kuni Khad ( stream ) and extends upto Tukardia village. Before the formation of the State of Himachal Pradesh, the valley formed a part of Kunihar State with its headquarters at Hat-Kot, an important town in the area. Kunihar forms a cup-shaped area in the middle of low hills bordered on one side by Kandaghat tehsil of Solan district. The valley is known for its fertility and the soil varies from sandy loam to loam. The main crops are wheat, black gram, mustard, pulses, maize and some sugarcane.

## Climate in Himachal Pradesh:

The Himalaya constitute the highest mountain system of the world.

There is great diversification in the climatic conditions of Himachal due to variation in elevation (450-6500mtrs). It varies from hot and sub-humid tropical (450-900mtrs) in the southern Low tracts, warm and temperate (900-1800mtrs), cool and temperate (1900-2400mtrs) and cold alpine and glacial (2400-4800mtrs) in the northern and eastern high mountain ranges.

#### There are three main seasons in Himachal Pradesh:

- 1. Cold October to February
- 2. Hot March to June
- 3. Rainy July to September

By October, nights and mornings are very cold. Snowfall at elevations of about 3000mtrs is about 3mtrs and lasts from December to March. About 4500mtrs, is perpetual snow. The main season is the spring from mid- Feb to March-April. The air is cool and fresh. Colourful flowers adorn the valleys, forest slopes and meadows. In the hill stations, the climate is pleasant and comfortable. The rains start at the end of June. The entire landscape becomes green and fresh. Streams begin to swell and springs are replenished. The heavy rains in July and August cause damage to erosion, floods and landslides. Dharamshala has the highest rainfall of 3400mm. Spiti is the driest area (below 50mm rainfall) being enclosed by high mountains on all sides.

#### Particulars and characteristics of each zone :

Particulars and	Sub Himalayan or	Lower Himalayan	Higher Himalayan	Cold Himalayan
Characteristics	Outer Shivalik Zone	Ranges or Mid-Hill	Ranges or High hill	zone
		Zone	Zone	or
				Trance-Himalayan
				Zone
Altitude	Upto 800 meters	800 to 1,600 meters	s1,600 to 2,700 meters	1,600 to 3,600
T. C.A	X 7 11 1	TT'II 13.6		T 1 10 % 1
Type of Area	Valley areas and foot hills	Hilly and Mountain ranges	Alpine zone	Lahaul Spiti and Kinnaur range
Climate Conditions	Sub tropical	Slight warm temperature	Cool temperature with humidity	Dry and Cold temperature (Mostly
D : 0 # (:	4 = 00	4.500 . 2.000	4.000 4.700	snowy area)
Rainfall (in mm.)	1,500 mm	<i>'</i>	1,000 to 1,500 mm	
% of total	30 %	10 %	25 %	35 %

geographical area				
% of total cultivated	55 %	30 %	10 %	5 %
area				
Important Crops	Wheat, paddy,	Wheat, pulses,	Wheat, barley, buck	Temperature
	maize, gram,	barley, maize,	wheat, millets,	vegetables, Europian
	sugarcane, mustard,	paddy, ginger,	quality seed,	vegetables, wheat,
	vegetables, potato.	vegetables.	temperature	barley buck wheat,
	(Rainfed, partially	(Rainfed, partially	vegetables, potato.	amanthus, quality
	irrigated)	irrigated)	(Rainfed, partially	seed potato. (mostly
			irrigated)	irrigated)
Fruits	Guava, citrus, litchi,	Plum apricot,	Chest nut, walnut,	Grapes, prunes,
	mango etc	peaches, walnut,	apples, cherry etc	grapes, raisin,
		pomegranate, pears		chilgoza, varities
		etc		(dry) of apricot etc



#### A Himalaya:

Himachal takes its name from the Himalayas. Himachal literally means 'Land of snowy mountains'. Himalayas, the great mountain system extends almost 2,500 Km., from North-West to South-East and width of Himalayas is between 250 to 300 Km. The Himalayas are one of the youngest among the mountain system in India and these are believed to be 40 millions years old. The Himalayas are also the highest mountain system in the world.

## There are three zones in the Himalayas :

- 1. Western Himalayas (Jammu-Kashmir and Himachal Pradesh)
- 2. Central Himalayas (Hill Districts of Uttar Pradesh)
- 3. Eastern Himalayas (Sangrila Range and Brahmaputra Watershed)

## Sor ease, the territory of Himachal Pradesh can be divided into three zones:

- 1. The outer Himalayas
- 2. The inner Himalayas
- 3. The greater Himalayas

## Himalayas in Himachal :

1. The Outer Himalayas: The altitude of this zone ranges from 350 meters (1050 feet) to 1500 meters (4500 feet) above mean sea level. This range of outer (lower) Himalayas is well known as 'Shivalik Hills' (also known as Manak Parbat in ancient times). Shivalik literally means 'tresses of the Shiva'. It covers the lower hills of district Kangra, Hamirpur, Una, Bilaspur and lower parts of Mandi, Solan and Sirmaur districts. The famous places in this zone are Paonta valley, Nahan tehsil, Pachhad

and Renuka tehsils of Sirmaur districts, Balh valley and Jogindernagar area of Mandi district, Kangra, Dharamshala, Palampur and Dehra of district Kangra, Dalhousie, Bhattiyat, Churah and Chamba tehsil of Chamba district. The annual rainfall in this zone varies from 1500 mm to 1800 mm. The climate and soil of this zone is suitable for the cultivation of maize, wheat, sugarcane, ginger, citrus fruits and table potatoes.

- 2. The Inner Himalayas: The altitude of this zone varies from 1500 meters (4500 feet) to 4500 meters (13,500 feet) above mean sea level. The Himalayas in this zone show a gradual elevation towards the Dhauladhar (Dhauladhar means White Peak) and Pir Panjal Ranges. Areas in this zone are tehsil Pachad (upper areas), District Sirmour, Karsog and Chachiote tehsils of Mandi district, the upper areas of district Kangra and Palampur tehsil of Kangra district, upper hills of District Shimla (capital of Himachal Pradesh) and upper parts of tehsil Churah of Chamba district, there is a very high peak of Choordhar (3,647 meters or 10,941 feet) to the south of Shimla. The positional rise of the Himalayas is constant to the North of Satluj. The longitudinal valleys in Himachal Pradesh divide the series of parallel ranges but there is also an exception as the Kullu valley runs transverse to the main alightment, the Himalayas continue to rise from plain areas to the Hilly areas. The climate and soil in this zone is suitable to temperature fruits and seed potatoes. Dhauladhar branch of the great Himalayas starts from the near Badrinath (in U.P.) and (just like a fairy tale to me spoken by the great Himalayas) it is intercepted by the river Satluj at Rampur-Bushahar, by the river Beas at Larji and by the river Ravi at the south-west of Chamba. In Bara-Banghal, the northern side of Dhauladhar strikes against the southern side of the Pir-Panjal range at twisty montain of Bara-Banghal. In Dhauladhar range fall the breathtakingly beautiful landscapes. Dhauladhar is like a sweet twist of the great Himalayas. There is a sudden rise in Dhauladhar mountains of 3,600 meters or 10,800 feet above the Kangra valley. Pir-Panjal is the largest range of the lower Himalayas and it separates itself from the Himalayas near the bank of Satluj river, so it makes a water-divide between the rivers Beas and Ravi on the one side and the river Chenab on the other side. Pir-Panjal range makes a turn towards the Dhauladhar range near Bara-Banghal that is the source of the river Ravi.
- 3. The Greater Himalayas: The altitude of this zone ranges from 4500 meters (13,500 feet) to the highest points of the great Himalayas in different areas. The Great Himalayan range rivers along the Eastern boundary. The Satluj river divides it and separates the Spiti's (Lahaul-Spiti) drainage from Beas. Area in this zone are district Kinnaur, tehsil Pangi of Chamba district and some areas of Lahaul and Spiti. The normal rainfall in this zone is low. The climate in this zone is not cold in summer and of semi-arctic nature in winter. The soil is thick and supports variable fertility. The climate in this zone is very suitable for cultivation of dry fruits. Rainfall in this zone is low but Snowfall is very heavy. Snowfall in this zone starts in the mid of October-November to March-April. Snowfall is so heavy and geographical conditions are so odd that during the period of snowfall, the whole region remains cut off from the rest of the world. (Loss of not having any kind of underground tunnel is clearly visible. Well! let's see what happens in coming years. Hope that government would find a way out of this problem.) During the period of snowfall in this zone, the quality of life suffers and life looks very isolated. The famous Zanskar Range is also found in this part of the Himalayas which is Eastern most range. This range acts like a big wall by separating Spity and Kinnaur from Tibet. Zanskar Range has a number of very high peak points rising over 6,500 meters (19,500 feet). The highest among its peaks is Shilla which is 7,025 meters (21,075 feet) high. The second one is Riwo-Phargyul which is 6,791 meters (20,373 feet) high.

#### Himachal Geography : Himalaya

Himachal takes its name from the Himalayas. Himachal literally means 'Land of snowy mountains'. Himalayas, the great mountain system extends almost 2,500 Km., from North-West to South-East and width of Himalayas is between 250 to 300 Km..... know more discuss about Himalaya in Himachal Pradesh in our Online Discussion Forum

## A Himachal Geography: Climate

By October, nights and mornings are very cold. Snowfall at elevations of about 3000mtrs is about 3mtrs and lasts from December to March. About 4500mtrs, is perpetual snow. The main season is the spring from mid- Feb to March-April ...... know more discuss about Camping in Himachal Pradesh in our Online Discussion Forum

## Himachal Geography : Rivers

The drainage system of Himalaya is very complex. It is composed both of rivers and glaciers. Himalayan river criss-croos the entire mountain chain. In fact a number of rivers are older than the mountain system. They have cut across the various mountain ranges...... know more discuss about Golf in Himachal Pradesh in our Online Discussion Forum

## Himachal Geography : Lakes

Himachal has dozens of large and small lakes spread over the state. The state has a geographical area of 56,000 sq. km. of which one percent is covered by lakes. Some are natural bequests that may well date back millions of years to the time when the region was a vast island sea..... know more discuss about Para Gliding in Himachal Pradesh in our Online Discussion Forum

## Himachal Geography : Glaciers

Himalayas have nearly 15,000 glaciers and it is one of the largest continental area under ice. It is estimated that about 34,000 sq. km., about 18 % of the Himalayas is always covered with ice. An average Himalayan glacier has the capacity of nearly an 11th of a cubic km..... know more discuss about River Rafting in Himachal Pradesh in our Online Discussion Forum

## Himachal Geography : Peaks

a list of 42 important peaks of Himachal Pradesh with Peak Name, Altitude in meters and Location..... know more

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## Himachal Geography : Valleys

Detailed information of Kangra Valley, Chamba Valley, Kullu Valley, Baspa or Sangla Valley, Satluj

Valley, Pabbar or Rohru Valley, Lahaul and Spiti Valley, Balh Valley, Paonta or Kirda Dun Valley and Kunihar Valley..... know more

discuss about Skiing in Himachal Pradesh in our Online Discussion Forum

## A Himachal Geography: Passes

a list of 61 important passes and jots of Himachal Pradesh with Peak Name, Altitude in meters and Location..... know more

discuss about Trekking in Himachal Pradesh in our Online Discussion Forum

#### Himachal Geography : Hot Springs

Nature has blessed Himachal pradesh with a number of Hot Springs. Hot Springs in Himachal Pradesh have become very popular because of their medicinal properties. Most of these springs are located in the Beas and Satluj valleys. Generally found in Himachal Pradesh are three types of Hot Springs...... know more

discuss about Vehicle Safari in Himachal Pradesh in our Online Discussion Forum



#### Lakes in Himachal Pradesh:

Himachal has dozens of large and small lakes spread over the state. The state has a geographical area of 56,000 sq. km. of which one percent is covered by lakes. Some are natural bequests that may well date back millions of years to the time when the region was a vast island sea. Today, they are fed by streams of pure snow-melt or by ground-water springs. Practically without exception, they are held sacred - or at the very least, have fascinating legends merging with their crystal clear waters. The Important Lakes are as follows:

Maharan Pratap Sagar: (450 m above mean sea level)

**Location :-** In district Kangra. 170 km from Chandigarh, 110 km from Amritsar, 55 km from the district headquarters at Dharamshala. The closest railway stations are at Mukerian - 30 km, and Pathankot - 32 km. The settlements of Nagrota Surian and Jawali - which are located on the Sagar's periphery - are connected by the charming narrow gauge Kangra Railway Line that connects Pathankot to Jogindernagar. The closest airport is at Gaggal - 40 km. The lake is well served by a network of roads. Named in the honour of the great patriot Maharan Pratap, the Maharana Pratap Sagar was once known as the Pong Dam Reservoir. India knows the Maharan as a man who struggled valiantly for his knigdom of Mewar - as for the principle of independence.

It is made of Beas River. In 1960, a dam was built on the Beas river and this dam resulted in a huge Maharana Pratap Sagar Lake (once known as Pong Lake). This huge mass of water varies from 180 sq. km. to 400 sq. km. This lake was declared sanctuary in 1983. Maharana Pratap Sagar Lake has emerged as favourite place of many migratory birds. About 16 to 20 thousand migratory birds,

belonging to 54 species, visit the lake every year. The Dam was completed in 1976. Its reservoir has an area of about 45,000 hectares at maximum possible flooding - the level varies with every season and averages around 30,000 hectares. Over 200 villages with a population of over 85,000 people lie along the wetland.

In 1983, the Sagar was declared a **wildlife sanctuary** and over 220 species of birds belonging to 54 families have been sighted over the waters and the fringing mud-banks - these include black-headed gulls, plovers, terns, ducks, water-fowl and egrets. Maharana Pratap Sagar Lake is the only place in India other than Bharatpur (Rajasthan) where the rare red necked grabe has been found. The land portion of the sanctuary has barking deer, sambar, wild boars, nilgai, leopards and claw-less otters.

27 species and sub-species of fish belonging to six families have been recorded in the Sagar's waters. Some of the important commercial varities are - Labeo Dero (Gid), Labeo Rohita, Labeo Calbasu, Tor Putitora (Mahasheer) and Mystus Seenghala (Singhara). Since 1976, fishing has been a major economic activity in the area and today, this provides employment to more than 1,500 fishermen and the annual catch is valued at over a crore rupees.

There is a branch of the **Directorate of Mountaineering and Aliied Sports** at the Sagar and year-round activities include swimming, water-skiing, surfing, kayaking, rowing, canoeing and sailing. The Directorate of Tourism and Civil Aviation provides equipment at the Sagar - this includes sail boats, paddle boats, speed aero boats, life buoys, water scooters, speed boars, rafts, life jackets, water skis and wet suits. Various courses - beginner, intermediate and advanced - are also conducted at the Sagar.

**Other Attractions:** The sagar is close to several places of Hindu Pilgrimage - Jawalamukhi, Chamunda Devi, Chintpurni, Brajeshwari Devi, Mahakalesar, Bagalamata and Naina Devi. The seat of His Holiness the Dalai Lama at Mcleodganj and the Namgyal Monastery are a short drive away. The other budhist monasteries at hand are Tahijong and Bir.



## Gobind Sagar Lake :

**Location :-** This vast reservoir lies in the district of Bilaspur and Una. The town of Bilaspur is 83 km. from the railway station at Anandpur Sahib.

It is an artificial lake formed as a result of the world famous Bhakra Dam on the river Sutlej in district Bilaspur. It is one of the world's highest gravity dams, the Bhakra rises 225.5 m above its lowest foundations. Under the supervision of the famous American dam-builder, Harvey Slocum, work began in 1955 and was completed in 1962. Incidently, Slocum had no formal training as an engineer, but his conceptions and designs had been proven successful. To maintain the level of water, the flow of the river Beas was also channelled to the Gobind Sagar by the Beas-Sutlej Link whish was completed in 1976. Today, this dam feeds electricity and water to several states of north India. Its reservoir - the Gobind Sagar - is 90 km long and encompasses an area of approximately 170 sq. km. As far back as 1962, the Gobind Sagar was declared a 'water fowl refuge' and even today, hosts a variety of water and shore birds. Fishing is a regular activity and fifty-one-species and sub-species have been recorded. The varities found, include Labeo Dero (Gid), Tor Putitora (Mahasheer), Mystus

Seenghala (Singhara) and mirror carp and allied species. Fishing licences may be obtained from the Department of Fishers at Bilaspur.

Water sports are available - as are speed-boat and ferry rides. In october and November, when the water and water level of the reservoir is at its peak, a series of regattas are also organised by the Department of Tourism and Civil Aviation. Water-skiing, sailing, kayaking and water-scooter racing become available at this time

**Accommodation:** Bilaspur has a number of Hotels and Rest Houses.

Other Attractions: - Connected by a rop-way, the shrine of Naina Devi overlooks the Gobind Sagar. The adjoining wildlife sanctuary holds Sambhar, wild boar, barking deer and red jungle fowl. Several old forts and the towns of Swarghat and Bilaspur are near the Gobind Sagar. Bilaspur has a large sports complex. The mirror carp hatchery is also accessible from the lake.

Khajjiar Lake (1900 metres above mean sea level)

**Location:** In district Chamba, 16 km from Dalhousie and 25 km from Chamba.

The magical paradise Khajjiar sets you free in a different world of peace and enjoyment, and you simply don't want to leave. No wilderness in Himachal is so easily accessible and beautiful as Khajjiar. It is one of the must visiting places in Himachal Pradesh.

Fed by slim streams, this small lake rests in the centre of the large glade of Khajjiar. The glade and the lake are held sacred to Khajjinag - after whom the place is named. Khajjiar has the thick forest of the Kalatop sanctuary surrounding its soft green grass. It is 1.5 km long and 1 km wide. It is surrounded by cedar (deodar) forest. This is like a magical paradise. A temple dedicated to Khajjinag is also located there. Khajjiar is also called "Mini Switzerland". The lake remains full of water in all the seasons and requires no rain water for survival.

**Accommodation :-** HPTDC Hotel Devdar, hotels in the private sector and Rest Houses are available.

Lama Dal Lake (almost 4000 metres above mean sea level)

**Location :-** In district Chamba 45 km from Chamba town.

Held sacred to Lord Shiva, this lake lies amidst bare rock. 'Lama Dal' means a long lake. It is in the inner slopes of Dhauladhar range. This is a group of seven lakes, the largest of all is Lama Dal. It is 20 km from Dainkund (Dayankund). It is said to have unknown depth.

Accommodation: Chamba and Bharmaur have Hotels and Rest Houses. At Chamba, the HPTDC runs the Hotel Iravati



Mahakali Lake (4080 metres above mean sea level)

**Location:** This lies between Sano and Gudial in district Chamba.

This lake is held sacred to the goddess Maha Kali. It is little bigger than Khajjiar and Manimahesh lake in Churah area of Chamba district.

**Accommodation:** Chamba and Bharmaur have Hotels and Rest Houses.



Manimahesh Lake (4,080 metres above mean sea level)

**Location:** In district Chamba, 32 km from Bharmaur.

Held sacred to Lord Shiva this lies in the Budhil valley at the foot of Mount Kailash (5,660 metres above sea level), which is perhaps the highest of sacred waters in Chamba district. This lake is supposed to bless by Goddess Kali and protected by Lord Shiva. A fair is held every year at this lake during the month of August or September.

**Accommodation:** Chamba and Bharmaur have Hotels and Rest Houses.

**Dal Lake** (1,775 m above sea level)

**Location :-** In district Kangra, 11 km from Dharamsala. Surrounded by deodar trees, this is on the motor road to Naddi.

Held sacred, this has a small Shiva temple on its banks. The banks of the lake are enlivened every September by a fair attended - amongst others- by a large number of migrant Gaddi folk. **Accommodation :-** Hotels and Rest Houses. The HPTDC has hotels in both Dharamsala and McLeodgani.

#### Chamera Lake :

**Location :-** In district Chamba, this is the reservoir of the Chamera dam built over the river Ravi. Phase 1 of the project generates 540 MW of electricity. Phase 2 which is under way will add another 300 MW. The lake offers a variety of water sports.

**Accommodatios**:- There are many hotels and Rest Houses in Dalhousie and Chamba.

## Pandoh Lake :

**Location :-** 19 km from Mandi, on National Highway 21 which leads to Kullu and Manali. Targetted at the generation of hydel power, an earth and rock-fill dam has created this lake from where a tunnel diverts the water of the river Beas and pours it into the river Sutlej and the combined waters feed the Gobind Sagar. Fishing and boating are available.

**Accommodations:** There are many hotels and rest houses in Mandi.

Kumarwah Lake (3,150 metres above sea level)

**Location :-** In the Chachiot tehsil of district Mandi, 40 km from Mandi town.

This attractive lake is a secluded part of the state, is also held sacred. An annual fair is held here. It is considered a sacred lake and the rare characteristics of this lake is that all the gold and silver offerings accumulated at a shrine nearby are thrown in this lake. There are many popular beliefs associated with

**Accommodations :-** There are many hotels and rest houses in Mandi.

Karaeri Lake (1,810 metres above sea level)

**Location :-** In district Kangra, 35 km from Dharamsala.

A very beautiful lake surrounded by thick woods. The beauty of the lake is further enhanced by the visually stunning backdrop of the Dhauladhar mountains. Ideal for a day long picnic. This is a heaven for trekkers in the area.

**Accommodation:** Forest Rest House booked through the DFO, Dharamsala.

Bhrigu Lake (4,235 metres above sea level)

**Location:** In district Kullu, this lies east of the Rohtang Pass and is about 6 km from the village of Gulaba

Its depth is about 3 to 4 m and and it remains under snow for the whole winter. It is held sacred to Rishi Bhrigu. Being sacred this lake is visited by the people of Kullu, Mandi and Lahaul valley. It also lie on several trek routes of the region.

**Accommodation:** There are many Hotels and Rest Houses in Manali.

**Ghadhasaru Lake** (3,470 m above sea level)

**Location:** This lies in the Churah tehsil of Chamba and is 24 km from Tissa. Tissa is 72 km from Chamba

This lake is also held sacred and has a circumference of about a kilometer. There is temple of goddess Kali located on its bank. Lake is mostly visited by local people to offer prayer at Kali temple. The trek is somewhat difficult but well rewarded at the end. You get a very beautiful view of the surroundings.

**Accommodation :-** There is a forest rest house in Churah



Nako Lake (3,662 m above sea level)

**Location:** In the Pooh sub-division of district Kinnaur

The lake is surrounded by willow and polar trees. There is a small village on the bank of this lake - and the village seems to be half buried by the lake's borders. On the water's northern side, are four Buddhist temples with stucco images and murals. Near Nako is a footprint-like impression ascribed to the saint Padmasambhava. It freezes in winter and people enjoy skating on this lake.

**Accommodation:** There are hotels at Recong Peo.

**Prashar Lake** (2,730 m above sea level)

**Location :-** In district Mandi, 30 to 40 km from Mandi town.

This lake is situated in a cup like valley. A temple of great scenic beauty is also here. With deep blue waters, this beautiful lake is held sacred to the sage Prashar (rishi). A three-tiered Pagoda-like temple dedicated to the sage lies by the lake - and he is regarded to have meditated here. No other temple in the Western Himalayas can rival the grandeur of the settings of Prashar Rishi. A fair is held here in the in the month of June every year, where people gather from all neighbouring villages. This lake is fed by small mountain streams.

**Accommodation:** Various hotels and Rest Houses are available in Mandi.



**Rewalsar Lake** (1,360 m above sea level)

**Location :-** In district Mandi. 24 km from Mandi town.

The lake is also associated with Nag cult or serpent worshipping. The lake water is believed to be flowing underground from Rewalsar to 'Nagchala' (a place 10 km from Mandi on the Mandi-Shimla National Highway). The Hindus believe that it was here that the 'Lomas Rishi' held his penance in devotion to lord Shiva. Overwhelmed, Shiva gave the rishi, the seven floating islands in reward. This is a very sacred place.

Shaped quite like a square and with a shoreline of 735 meters. It is an important pilgrimage. This lake is known for its floating island. There is a story behind the formation of this lake. The legend goes that princess Mandarva, the daughter of king 'Arshadhara' of Zahor (tibetian name of Mandi) resolved to announce her loyal ties and dedicated herself to the religious order. The king agreed and she took her bows before a Buddhist scholar named 'Shantarakshita' (believed to be the brother of Padmasambhava). Padmasambhava having observed that she was a dedicated pupil, came through the air from 'Uddiyana' and appeared in person to give her teachings. A cowherd who saw all this spread the words that he had seen the princes with Charlatan. The news aroused King's wrath. He thought that his daughter has broken the vow by flirting with a man. On King's order, the princess was put in a deephole in the earth full of thorns and Padmasambhava was taken out to a secluded place, tied to a wooden pyre which was then set on fire. When the smoke did not clearoff for a week, the King visited the spot and found to his surprise that the place had turned into a Lake with Lotus in the centre. Padmasambhava had menifested himself. Repenting king offered him his kingdom and princess Mandarva was married to him. Rewalsar is known as 'Padmacan' to the Buddhist which means 'Lotus Possessing' and is considered the place, where the spirit of Padmasambhava rests.

Accommodation: - HPTDC Hotel Rewalsar, private sector Hotels and Rest Houses.

**Kunt Bhayog Lake** (1,700 m above sea level)

**Location :-** Rewalsar town (hiltop) in district Mandi.

Situated at the beautiful hiltop of Rewalsar town and it is enclosed by hills from two sides. This lake is

about 12 to 15 m deep at the centre.

**Accommodation :-** HPTDC Hotel Rewalsar, private sector Hotels and Rest Houses.

△ Kalasar Lake (1,755 m above sea level)

**Location :-** Rewalsar town (hiltop) in district Mandi.

It is situated at the top of Rewalsar town and is surrounded by beautiful green hills. This lake sometimes experiences snowfall during winter.

Accommodation: - HPTDC Hotel Rewalsar, private sector Hotels and Rest Houses.

Sukhsar Lake (1,760 m above sea level)

**Location :-** Rewalsar town (hiltop) in district Mandi.

Another beautiful lake on the hiltop of Rewalsar town is Sukhsar lake which is surrounded by rising hills and thick bushy vegetation in the catchment area. There is a snowfall in the winter here.

**Accommodation :-** HPTDC Hotel Rewalsar, private sector Hotels and Rest Houses.



**Dashir Lake** (4,270 m above sea level)

**Location :-** Near the Rohtang Pass that connects district Kullu with Lahaul.

Rohtang Pass is at an altitude of 3,978 metres on the highway to Keylong, the mass affords a wide-spread panorama of mountain scenery. Here eye meets a range of precipitous cliffs, huge glaciers and piled moraine and deep ravines. Dashir ( also known as Dashaur and Sarkund ) is a very beautiful lake lies near the Rohtang Pass. This attractive lake has a depth of 3 to 4 m. The bath in the water of Dashir lake effects cure of all bodily ailments or imaginary.

Accommodation: There are many Hotels and Rest Houses in Manali.

Suraj Tal (4,980 metres above sea level)

**Location :-** Below the summit of the Barachala Pass in the Lahaul division of district Lahaul and Spiti. The Barachala connects Manali and Lahaul to Ladakh. The name Baralacha means 'Pass with cross roads on summit' (Roads from Ladakh, Spiti and Lahaul join on the top of it). There is no road yet from Spiti, only a path exists. This pass is also an origin of Chandra, Bhaga and Yamuna rivers. And the lake which draws a considerable number of visitors - especially in summer - lies by its head. This is the source of the river Bhaga. There is a good trek to it by Zingzing bar.

Accommodation: There are Hotels and Rest Houses in Lahaul and Spiti.

Chandra Tal Lake (4,300 m above sea level)

**Location :-** 6 km from the Kunzam Pass that connects Spiti and Lahaul. Surrounded by snows and acres of scree, this deep blue-water lake has a circumference of 2.5 km.

This is the source of the river Chandra. It is also called the 'Lake of the moon'. Chinese Pilgrim Hiuen Tsang called this lake Lohitya Sarover. The lake lies in large depression formed by glaciers and remains completely frozen during winter. A number of temples exists on the periphery of the lake, which treasures crystal clear water and magnificient scenery. The crystal clear waters of of the lake shining in the light are too inviting and one just can't shrink having short bath in the cold water.

#### Chander Naun

**Location :-** In district Shimla, tehsil Rohru.

Accessible to experienced trekkers and fed by a series of springs, this lake lies in the Chanshal range. Surrounded by snow for long periods, this is the source of the river Pabbar. The trek is difficult, but enjoyable and well rewarded at the end.

**Accommodation :-** There are Hotels and Rest Houses in Rohru.



#### River System of Himachal Pradesh :

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

## Indus River System :

The river Indus rises from the Tibetan plateau and enters the Himalaya in Ladakh. It enters the Kashmir region near its confluence with the river Gurtang, at an elevation of about 4200 metres. The drainage basin of the Indus river system extends from the Naga Parbat mass in the extreme North-Western part of the country to the Western slopes of the Shimla ridge in Himachal Pradesh. It includes the whole of Jammu and Kashmir and most of Himachal Pradesh. The extreme Northern tract of the Indus basin comprises of the cold desert of Ladakh, Lahaul Spiti and Pooh. South of this tract lies the higher Himalayan mountain wall. The lower and middle Himalayas occupy the central part of the Indus basin. The low rolling Shivalik hills occur along its Southern periphery.

Climatic conditions in the Indus river system vary from arctic to sub-tropical. The cold desert area remains devoid of rainfall and experiences heavy snowfall. The important rivers of this system are the Satluj, the Beas, the Ravi, the Chenab and the Jhelum. Out of these five, four flow through Himachal Pradesh and along with their tributaries draining parts of Himachal Pradesh.

## Ganga River System :

The drainage basin of the Ganga river system covers about one third of the Western Himalaya and the entire Central Himalaya. This basin extends from the Eastern face of the Shimla ridge in Himachal Pradesh to the South-Western slopes of the Kanchanjunga massif on the Nepal-Sikkim border, thereby including parts of Kinnaur, Shimla, Solan and Sirmaur district of Himachal and Garhwal, Kumaun and Nepal.

The Ganga is the most sacred river of India. The story of the Ganga from her source to sea, from ancient times to the modern period is the story of India's civilization and culture. The Ganga has its source near Gomukh glacier, near Gangotri (Uttar Pradesh). The Ganga is formed by two head streams namely Alaknanda and Bhagirathi. It enters the plains near Haridwar. The Yamuna meets this river at Allahbad known as Sangam. The Ganga is the master stream of the area. South of Farakka, the river divides into a number of channels to form Sunder Ban Delta (Largest in the world). The main tributaries of the Ganga system are the Yamuna, Bhagirathi and Alaknanda, Kali and its tributaries, the Ghagra, the Gandak and the Kosi river. The important settlements between its bank are - Haridwar, Kanpur, Allahabad, Varanasi, Patna and Kolkata.



#### Satluj River in Himachal Pradesh:

Satluj River: Satluj rises from beyond Indian borders in the Southern slopes of the Kailash mountain near Mansarover lake from Rakas lake, as Longcchen Khabab river (in Tibet). It is the largest among the five rivers of Himachal Pradesh. It enters Himachal at Shipki (altitude = 6,608 metres) and flows in the South-Westerly direction through Kinnaur, Shimla, Kullu, Solan, Mandi and Bilaspur districts. Its corse in Himachal Pradesh is 320 km. from Rakastal, with famous tributaries viz. the Spiti, the Ropa, the Taiti, the Kashang, the Mulgaon, the Yula, the Wanger, the Throng and the Rupi as right bank tributaries, whereas the Tirung, the Gayathing, the Baspa, the Duling and the Soldang are left bank tributaries. It leaves Himachal Pradesh to enter the plains of Punjab at Bhakhra, where the world's highest gravity dam has been constructed on this river. Its toatl catchment area in Himachal Pradesh is 20,000 sq. km. Its vedic name is Satudri and Sanskrit name Shatadru. The Satluj finally drains into the Indus in Pakistan. The catchment area of about 50,140 km. of Satluj river is located above the permanent snow-line at an altitude of 4,500 metres. The upper tracts of the Satluj valley are under a permanent snow cover. The prominent human settlements that have come on the banks of the Satluj river are Namgia, Kalpa, Rampur, Tattapani, Suni and Bilaspur. Its total length is 1,448 km.

## Important Tributaries of river Satluj :

Baspa River:

Baspa is an important tributary of the river Satluj in its upper courses. The Baspa is joined by many smaller channels draining snow melt waters. The Baspa river has cut across the main Himalayan range. Thereafter it empties itself into the river Satluj in district Kinnaur. Baspa originates from the Baspa hills, joins it from the left bank near Karcham (Kalpa). Satluj river leaves Kinnaur district in the West near Chauhra and enters Shimla district.

**Spiti River:** 

The Spiti river originates from Kunzum range and Tegpo and Kabzian streams are its tributaries. Water draining the famous Pin valley area are also a part of the Spiti river system. Its position across the main Himalayan range deprives it from the benefit of the South-West monsoons that causes widespread rain in most parts of India from June to September. The river attains peak discharge in late summers due to glacier melting. After flowing through Spiti valley, the Spiti river meets Satluj at Namgia in Kinnaur district traversing a length of about 150 km. from the

North-West beyong that it flows in South-West direction in the Pradesh. Huge mountain rise to very high elevations on either sides of the Spiti river and its numerous tributaries. The mountains are barren and largely devoid of a vegetative cover. The main settlements along the Spiti river and its tributaries are Hansi and Dhankar Gompa.

The Nogli Khad: It joins Satluj just below Rampur Bushahar. It touches Kullu district in Nirmand tehsil opposite to Rampur tehsil of Shimla district. The river Satluj enters Mandi district near Firnu village in the Chawasigarh and passes through the areas of Mahunm, Bagra, Batwara, Derahat and Dehar. Practically, the whole of the ancient Suket state except Jaidevi and Balh circles drains into Satluj. The main tributaries of the Satluj in district Mandi are Siun, Bahlu, Kotlu, Behna, Siman, Bantrehr, Khadel and Bhagmati.

Soan River:

The Soan river rises from the Southern slopes of the Shivalik range also known as Solasinghi range in the tract to the East of the Beas gap across the Southern periphery of the Kangra valley. It joins the boundary of Himachal Pradesh and Punjab. Its gradient is not very steep and the slopes of the Soan catchment vary from gentle to steep. In the summer the discharge dropes drastically, while during monsoon it is in spate.



#### Beas River in Himachal Pradesh:

Beas River: The Rohtang pass at 13,050 feet (4,350 metres), 51 km. North of Manali gateway to the valleys of Lahaul and Spiti lies on the main Manali-Leh highway. It has remained the main attraction for all tourists visiting this picturesque hill resort. During the season from early June to mid-October, thousands of tourists visit the pass eavery day.

Besides affording a magnificent view of the snow-clad mountains of Lahaul, this pass is also the source of the river Beas. This river while fulfilling the thirst of many local travellers, also quenches the thirst of the fields of Punjab and Pakistan before flowing into the Arabian Sea. Thr river emerges from a cavern at the Rohtang pass and assume different identities as the seasons go by. From a clear blue easy flowing mountain river to an awesome torrent during the monsoon. The name Rohtang is a new one, the old one being Bhrigu Tung. On the South of this pass lay the civilized state of Kullant (Kullu), while to the North lay the more desolate and barren areas of Lahaul and Spiti. Both these areas were not connected and according to legend the people prayed to Lord Shiva to make a way. Lord Shiva with his trishul cut the Bhrigu Tung mountain and made a path that is known as the Rohtang pass. On the right of this pass lies the source of the river Beas also known as Beas Rishi. At this spot the great thinker and writer of the Mahabharta, Maharishi Vyas, meditated. To the South of this source lies another source known as Beas Kund. Both these mountain streams meet at Palachan village, 10 km. North of Manali to form the river Beas. In ancient times the river was not known as the river Beas but as Arjiki and till the time of the Mahabharta this remained its name. The world famous tourist resort of Manali is situated on the right banks of the river Beas. From Manali, this holly river after passing through dense evergreen forests reaches the town of Kullu. After covering hundreds of Kilometres through the hills, the river at Hari Ka Patan in Ferozpore district of Punjab embraces the river Satluj before flowing into Pakistan. The attraction of the river has been so great that whoever came here, remained to stay. The great sages

Narad, Vashisht, Vishwamitra, Vyas, Prashar, Kanav and Parshuram came here on different occasions and meditated on the banks of this river. Till today their temples exist in this valley of Vyas. Its main tributaries are the Parbati, the Spin and Malana nala in the East; and the Solang, the Manalsu, the Sujoin, the Phojal and the Sarvati Streams in the West. In Kangra, it is joined by Binwa, Neugal, Banganga, Gaj, Dehr and Chakki from North, and Kunah, Maseh, Khairan and Man from the South. The Beas enters district Kangra at Sandhol and leaves it near Mirthal. At Bajaura, it enters Mandi district situated on its left bank. In Mandi district, its own Northern feeders are Hansa, Tirthan, Bakhli, Jiuni, Suketi, Panddi, Son and Bather. The northern and Eastern tributaries of the Beas are perennial and snow fed, while Southern are seasonal. Its flow is maximum during monsoon months. At Pandoh, in Mandi district, the waters of the Beas have been diverted through a big tunnel to join the Satluj. It flows for 256 km. in Himachal Pradesh.

The Beas (vedic Arjiki or Arjikiya and Sanskrit Vipasa) forms the world famous valleys of Kullu and Kangra. This river bears testimony of those historical events which do not find mention in the recorded history. It has played a significant role in the development of peculiar hill culture which pervades the life of hill people living in the towns and surrounding villages since ages. We have to owe to this sacred river in terms of our culture, economy and social life. The important settlement on the bank of Beas river are Kullu, Mandi, Bajaura, Pandoh, Sujanpur Tihra, Nadaun and Dehra-Gopipur. The total lenght of this river is 460 km.

#### Important Tributaries of river Beas :

Awa River: Rises from the Dhauladhar range in the Kangra valley of Himachal Pradesh. It

flows in a South-Westerly direction before joining the river Beas. It receives both

snowged as well as rainfall water from smaller channels.

**Banner River:** It is also known as Baner Khad. It is a tributary of the Beas river and drains the

central part of the Kangra valley. The Baner Khad rises as a small snow fed channel on the Southern slopes of the Dhauladhar range near Palampur. The

general direction of flow of the Banner River is towards South-West.

Banganga River: It joins the Beas river in the Kangra valley. It rises from the Southern slopes of the

Dhauladhar range. the river is fed by snow melt waters and channels emanating from springs. Large fertile sediments have been formed all along the river near its

mouth.

**Chakki River:** It drains the South-Western part of Himachal Pradesh. The Chakki river rises as a

small snow-fed and rain fed stream from the Southern slopes of the Dhauladhar

range. The river enters Punjab near Pathankot and joins the Beas river.

**Gaj Khad:** It rises as a small stream from the snows on the Southern slopes of the Dhauladhar

range in Kangra district. A number of small streams form the Gaj Khad. The Gaj river joins the Beas river a little upstream of the Pong dam lake ( now known as

Maharana Pratap Sagar ).

Harla River: Harla river rises as a small channel from the snows in the depression of the

North-Western plank of Kullu valley. It joins the river Beas near Bhuntar (Kullu

airport ). Numerous snow-fed streams join the river Harla.

**Luni River:** Luni rises from the South slopes of Dhauladhar in the Kangra valley. It merges with

the river Beas in the central part of Kangra valley.

**Manuni River:** It rises from the Southern slopes of the Dhauladhar range and joins the river Beas.

Steep slopes form the upper catchment of the Manuni river. There is a sharp fall in

its gradient huge river terraces occur on the both sides of the river bed, which are

used for cultivation extensively.

**Parbati River:** It rises in the snowy Wastes upstream of Manikaran on the foothills of the main

Himalayan range in Kullu district. The glacier which feeds this river discends down from the steep Southern slopes of the main Himalayas. It joins the river Beas at

Shamshi in Kullu valley.

Patlikuhal River: This river is a tributary of the Beas river in the Mandi area of Kullu district. It rises

from the snow on the Southern slopes of the Pir Panjal range and thereafter it flows

into the Beas river upstream of Kullu.

Sainj River: It rises from the water divide of the Beas and Satluj rivers in the lower ranges of

the main Himalayas to the East of Kullu. Thereafter it flows towards South-West to join the Beas river. Hust before it cuts across the Dhauladhar range near Larji. The Sainj valley is V shaped and the river flows past a series of interlocking spurs. It

has widened near the mouth of the river.

**Suketi River:** This river is a tributary of the Beas river in the Kangra valley. It rises from the

South facing slopes of Dhauladhar range. A number of small channels join the Suketi river in its upper reaches. The river has formed huge terraces, most of which are under cultivation. The upper catchment of the river consists of steep slopes.

**Tirthan River:** It is a tributary of the Beas river. It rises from the base of an offshoot of the great

or main Himalayan range to the South-East of Kullu. Thereafter it follows a South-Westerly cource and flows into the Beas at Larji just before it cuts across the Dhauladhar range. Lower down, the valley opens up and it is fairly wide near

its confluence with the Beas river.

**Uhl River:** It is another tributary of the Beas river which rises as two feeder channels in the

area to the North of the Dhauladhar range in Himachal Pradesh. thereafter the two channels cross this gigantic mountain barrier and merge at the base of the Southern slopes to form the main channel of the Uhl river in Kangra area. It flows for a considerable distance along the base of the Dhauladhar range. Then turns towards

the South-East to merge with the Beas near the town of Mandi.

#### Ravi River in Himachal Pradesh :

Ravi River: Ravi river rises from the Bara Banghal (a branch of Dhauladhar) as a joint stream formed by the glacier-fed Badal and Tant Gari. The right bank tributaries of the Ravi are the Budhil, Tundahan Beljedi, Saho and Siul; and its left bank tributary worth mentioning is Chirchind Nala. Town Chamba is situated on the right bank of the river Ravi. In later Sanskritic period it came to be known by the name of Irawati. The Ravi river flows by the foot of Dalhousie hill, through the famous Chamba valley. The river with its length of about 158 km. in Himachal has a catchment area of about 5,451 sq. km. As the Ravi river flows down from the heights, it passes hill sides with terraced fields. Sometimes the hill seems to move away and the river comes out into lovely green valleys. The ravanging river looks devastating in its fury. It carries away even sturdy trees. The Ravi river first flows Westward through a trough separating the Pir Panjal from Dhauladhar range and then turns Southward, cutting the deep gorge through the Dhauladhar range. It flows nearly 130 km. in Chamba region, before leaving it finally at Kheri.

The Ravi river forms the biggest sub-micro region of Chamba district. From Bara Bangal of Kangra district, it flows through Bara Bansu, Tretha, Chanota and Ulhansa. The Ravi river merges with the Chenab in Pakistan. The well known human settlement along the river are Barmaur, Madhopur and Chamba town. Its total length is 720 km.

## Important Tributaries of river Ravi :

Bhadal River It rises from the snowy range of the area lying between the Pir Panjal and Dhauladhar ranges in the Bara Banghal area of the Central Himachal Pradesh. It flows in a Westerly direction before merging with the Tant Gari river to form the mainstream of the Ravi. Bhadal river's catchment is made up of U shaped valleys, waterfalls, moraines, cirques and towering peaks.

**Siul River:** It is the tributary of the Ravi river. It rises rfom the tract between the Dhauladhar and Pir Panjal ranges near Jammu and Kashmir and Himachal Pradesh border. Thereafter this river flows towards East, takes a U turn and attains a South-Westerly course before flowing into the Ravi river downstream of Chamba. River Baira is the prominent tributary of the Siul river. This river is fed by both snow melt waters and spring waters.

**Baira River:** It rises from the snows on Southern slopes of the Pir Panjal range in Himachal Pradesh. Numerous tributaries of the Baira river are also fed by the snow and so make it a Perennial river before it joins the Siul river, which is a tributary of the Ravi river. Its catchment consists of steep slopes, deep valleys and terraces that have been laid down by the river since a long time.

**Tant Gari :** It is a tributary of the Ravi river. This river rises as a small stream from the slopes of an off-shootof the Pir Panjal range in the area East of Bharmaur in Chamba district. The Tant Gari valey is U shaped. Its bottom is strewn with boulders and morainic deposits laid down by the glaciers in the past.



#### Chenab River in Himachal Pradesh:

Chenab River: Two streams namely Chandra and Bhaga rise on the opposite sides of the Baralacha pass at an elevation of 4,891 metres and meet at Tandi at an elevation of 2,286 metres to form the river Chenab. The Chenab rises from the South-East and Bhaga from the North-West of the Baralacha pass. It enters Pangi valley of Chamba district near Bhujind and leaves the district at Sansari Nala to enter Podar valley of Kashmir. It flows in Himachal for 122 km. With its total length of 1,200 km., it has a catchment area of 61,000 sq. km., out of which 7,500 sq. km. lie in Himachal Pradesh. It is the largest river of Himachal Pradesh in terms of volume of waters. The Chenab valley is a structual trough formed by the great Himalayan and Pir Panjal ranges.

## Important Tributaries of river Chenab :

The Miyar Nullah joins Chenab in Lahaul, while Saicher Nullah joins it in Pangi valley. Its tributaries in its lower course are river Jammu Tavi and Bhaga, while the river Munawarwali in Dun valley. It meets the Indus river at Mithankot about 950 miles down in Pakistan and ultimately joins Arabian Sea. The important human settlements that have come up along this river are Udaipur, Killar, Doda and Ramban.

**Bhaga River:** This river originates from the Lahaul valley. A number of snowfed rivers join it during its course, before it joins the Chandra stream at Tandi. From its origin it flows in South-South-Westerly direction as a raging torrent before joining the river Chandra. U shaped valleys, waterfalls, glaciers and moraines characterises the upper catchment of the Bhaga river. The entire tract is devoid of a vegetative cover. The discharge of this river increases during the summer months, when the snow on the high mountains start

Chandra River It rises in the snows lying at the base of themain Himalayan range in Lahaul-Spiti district. Thereafter it flows for a considerable distance along the base of thin range in the South-East direction, before making a 180° turn and taking a South-West course in Spiti valley. the entire area is a vast cold desert that receives little or no rain as it lies in the rain shadow of the Pir Panjal range lying towards South. The important human settlement along the river is Koksar.

Yamuna River in Himachal Pradesh :

Yamuna River: It enters Himachal Pradesh at Khadar Majri in Sirmaur district. Yamuna river is the largest tributary of the Ganga. The Yamuna river has mythical relation to the Sun. It rises from Yamunotri in Gharwal hills and forms the Eastern boundary with Unttar Pradesh. The Yamuna is the Eastern-most river of Himachal Pradesh. Its famous tributaries are Tons, Pabbar and Giri or Giri Ganga. The Giri Ganga rises from near Kupar peak just above Jubbal town in Shimla district, Tons from Yamunotri and Pabbar from Chandra Nahan Lake near the Chansal peak in Rohru tehsil of Shimla district. Its total catchment area in Himachal Pradesh is 2,320 km. It leaves the state near Tajewala and enters into the Haryana state.

The main geomorphic features of the Yamuna valley are interlocking spurs, gorges, steep rock benches and terraces. The latter have been formed by the river over the past thousands of years. The area drained by the Yamuna system includes Giri-Satluj water divide in Himachal Pradesh to the Yamuna Bhilagana water divide in Gharwal. To be more precise the South-Eastern slopes at the Shimla ridge are drained by the Yamuna system. The utilization of water of the river system is being done by the way of transportation of timber logs, irrigation and a hydel power generation. After Himachal Pradesh, the river flows through the state of Haryana, Delhi and Uttar Pradesh where it merges with the Ganga river at Allahabad. The Yamuna is 2,525 km. long.

## Important Tributaries of river Yamuna :

Jalal River: Jalal river is the small tributary of the Giri river in Himachal Pradesh. It rises from

Dharti ranges adjoining Pachhad and joins Yamuna at Dadahu from the right side. It also joins the river Giriganga at Dadahu. The origin and entire course of this river lies in the lower Himalayas. This is the rainfed river and has abrupt flow during the rainy season. A number of human settlements have come up along the Jalal river. These

include Bagthan and Dadhau.

Markanda Markanda is a small river of Nahan area of the Sirmaur district. It rises from the

River:

Southern face of the lower Himalayas on the Western extremity. of the Kiarda dun ( Paonta ) valley. The lower Himalayan hills of Nahan occur on the right flank of the Markanda valley while the low rolling Shivalik hills are on its left flank. It is a rainfed river and has very low flow in the winter and summer months, but rises abruptly in the monsoon.

**Andhra River:** This is a tributary of the Pabbar river which in turn drains into the Tons river. This river rises from a small glacier tenated in a cirque of the lower hills of the main Himalayas in the area to the North-West of Chirgaon in Shimla district. Thereafter it flows in a general direction towards South-East and merges with the Pabbar river at Chigaon.

Giri River:

The river Giri is an important tributary of the Yamuna river. It drains a part of South-Eastern Himachal Pradesh. The Giri or Giriganga as it is famous in the Jubbal, Rohru hills that rises from Kupar peak just above Jubbal town after flowing through the heart of Shimla hills, flows down in the South-Eastern direction and divides the Sirmaur district into equal parts that are known as Cis-Giri and Trans-Giri region and joins Yamuna upstream of Paonta below Mokkampur. The river Ashni joins Giri near Sadhupul (Chail) while river Jalal which originates from Dharthi ranges adjoining Pachhad joins it at Dadahu from the right side. The waer from the Giri river is led through a tunnel to the power house of Girinagar and after that it is led into the Bata

Asni River:

The Ashni river is a tributary of the Giri river which in turn drains into the Yamuna river. This river flows along a deep V shaped valley whose side alopes vary from steep to precipitous. It has carved a steep gorge across the off-shoots of the Nag Tibba ridge. Numerous small spring fed tributaries join the Ashni river at various places along its course.

Bata River:

This river originates in the boulders below the Nahan ridge in the South-Western corner of Himachal Pradesh as the Jalmusa-Ka-Khala. It is mainly fed by the rain water that is cycled as underground water before finally coming up on the surface as a spring. The river flows below the surface for a part of its length in its upper reaches, thereafter the water flows on the surface. Large and wide terraces have been formed by it. The small tributaries which join the Bata river in the Paonta valley are Khara-Ka-Khala flowing in a Southerly direction from the Nahan ridge, and Kanser-Khala originating from the Southern slopes of the Nahan.

**Pabbar River:** The Pabbar river is a tributary of the Tons river, which in turn drains into the river Yamuna. This rises from the Dhauladhar range (South facing slopes) near the border of UP and Himachal Pradesh and the extreme North-Eastern of Shimla district. The main stream is fed by the Chandra Nahan glacier and springs originating from underground waters. It joins the Tons river at the base of the Chakrata massif near the border of Uttar Pradesh and Himachal Pradesh.

**Patsari River:** It is a small spring fed tributary of the Pabbar river. This river rises from the lower Himalayan hills near Kharapathar in Shimla district of Himachal Pradesh. This river joins the Pabbar river near the mountain hamlet of Patsari about 10 km. upstream of Rohru. Its bed is strewn with boulders of various sizes. Small villages and hamlets have come up along this river.

Tons River:

This river is an important tributary of the Yamuna river and joins it at Kalsi in the North-Western part of Dehradun valley (approximately 48 km. away from Dehradun ). It rises as the following two feeder streams - the Supin river rises from in the Northern part of the Tons catchment near the Himachal Pradesh and Uttar Pradesh border and the Rupin river rises from a glacier at the head of the famous Har-Ki-Dun valley in the North-North Eastern part of the Tons catchment. These two feeder streams merge near the mountain hamlet of Naitwar and the channel downstream of Naitwar is known as Tons river. The river flows along a V shaped valley. A number of settlements have come up along the Tons river such as Tuni, Naitwar and Menus.

No.	Peak Route		Height	Longitude	La	atitude
<b>1</b> 77° 26'	Alirathni-tib		DH)- Malana- RC	32° 05' C,C-I, C-II and Sum	5470r	
2	Behali Jot	Kulu (F	KH)- Malana- BC	.,C-1, C-11 and Sum	mm alle	6245m
	76° 35'		Udaipur (RH)-M	32° 5 largaon-BC (Tal Got		C-II and Summit
attemp	CB-10 (Tara	a Pahar)		6227m		77° 29'
	32° 27'  Manali- Chhatru-Chhota Dara-Bata (RH)- BC-C-I, C-II & summit attempt.					
<b>4</b> 5955n 23'	CB-11 n	77° 31	L	-do-		32°
<b>5</b> 6258m	CB-12	77° 33'		- do	0-	32° 20'
<b>6</b> 6264m	CB-13	77° 33'			-do-	32° 21'
<b>7</b> 6240n	CB-13a n	77° 33'		-do-	32°	22'
8	CB-14					

6078m 77° 34' 32° 22' -do-CB-16 5825m 77° 32' 32° 19' -do-10 CB-20 5695m 77° 31' 32° 24' -do-11 CB-22 5720m 32° 24' 77° 33' Manali-Chhatru-Dhhota Dara-Batal (RH)-Linder-BC-C-I,C-II and summit attempt. 12 CB-26 5840m 77° 29' 32° 20' Batal (RH)- BC-C-I,C-II and summit attempt. 13 CB-31 6096m 77° 28' 32° 26' Manali-Chhatru-Chhota- Dara-Batal (RH)-Linder-BC,C-I,C-II, Summit attempt. 14 CB-32 5639m 77° 27' 32° 26' -do-15 CB-33 (Minar) 6185m 77° 29' 32° 28' Matal(RH)-Dekka- BC-C-I 16 CB-34 5635m 77° 31' 32° 28' -do-17 CB-35 5568m 77° 30' 32° 29' Manali-Batal (RH)- BC 18 CB-9 6108m 77° 27' 32° 34' Manali-Batal (RH)-BC- C-I,C-II, C-III and summit attempt. 19 Central Peak 6084 m 77° 47′ 32° 11' 6001m 77° 20 Deo Tibba 23' 32° 11' Manali (RH)- Jagatsukh (RH)- Chhika-Seri-Tainta (BC)-C-I, C-II (Duhangan Col), C-III and Summit attempt.

21 Devachan 6200m 77°

33' 32° 14' Kulu-Manikaran (RH)- Tos Saram-Base Camp -C-I-C-II

22 Fluted 6122m

24 Gangstang 6162m 77° 48′ 32° 42′

23 Hanuman Tibba - I 5932m 77° 02' 32° 21'

Manali-Solang-Dhundi (RH)- Beas Kund (BC)- ABC- C-I, C-II, C-III and Summit attempt.

24 Hanuman Tibba - II 5516m 77° 02' 32° 21'

Manali-Solang-Dhundi (RH)- Beas Kund (BC)- ABC- C-I, C-II, C-III and Summit attempt.

25 Indra San 6223m 77°

24' 32° 12' Manali (RH)- Jagatsukh-Chhika-Seri-Tainta (BC)

26 Kangla Tarbo-I 6315m

27 Kangla-II 6120m

28 Kao Rong 6221m

77° 24' 32° 13' Rohtang pass-Darcha (RH)-BC-C-I, C-II and summit attempt.

29 Kharcha Parabat 6270m 77° 37' 32° 19

Manali-Batal (RH)-BC-ABC-C-I\_Summit Camp and attempt to Summit.

30 KR-2

6145m 77° 20' 32° 39' Rohtang Pass-Darcha (RH)- BC - C-I - C-II and summit attempt.

31 KR-4

6340m 77° 22' 32° 39' Rohtang pass-Darcha (RH)- BC-C-I, C-II and summit attempt.

32 KR-5

6258m 77° 24' 32° 38' -do-

33 KR-7

6207m 77° 24' 32° 37' -do-

34 KR-7

6055m 77° 25' 32° 35' -do-

35 M-1 6045m 77° 20' 32° 36' Rohtang pass-Darcha (RH)- Yoch (Vill last)- BC-C-I, C-II, C-III and summit attempt.

- 36 M-10 5852m 77° 19' 32° 34' -do-
- 37 M-2 5932m 77° 23' 32° 36' -do-
- 38 M-3 5795m 77° 26' 32° 32' -do-
- 39 M-4 (Mulkila) 6517m 77° 24' 32° 32' -do-
- 40 M-5 6370m 77° 24' 32° 33 -do-
- 41 M-6 (Taragiri) 6182m 77° 23′ 32° 32′ -do-
- 42 M-7 6279m 77° 22' 32° 32' Rohtang pass -Darha (RH)- Yocha (last Vill)- BC- C-I, C-II, C-III and summit attempt.
- 43 M-8 6055m 77° 21' 32° 32' -do-
- 44 M-9 5680m 77° 20' 32° 32' -do-
- 45 Makerbeh 6069m 77° 04' 32° 25' Mandi-Palchan-Dhundi (RH)- Beas Kund (BC)-C-I, C-II, C-III and Summit attempt.
- 46 Manali 5640m 77° 03' 32° 24' Dhundi (RH)- Beas Kund (BC)-C-I, C-II and Summit attempt
- 47 Menthosa 6443m 76° 42' 32° 55' Manali-Rohtang pass- Tandi-Udhaipur (RH)- Miyar Nallah-Urgos (Vill (last Vill,C-I, C-II and Summit attempt.
- 48 Ningmari 6173m
- 49 Papsura 6440m 77° 33' 32° 12' Manali (RH)- Manikkaran (RH)- Tos-Saram-BC-ABC-C-I
- 50 Phabrang 6172m 76° 48' 32° 46' -do-
- 51 Shikarbeh 6200m 77° 03' 32° 26' -do-
- 52 Snow Cone 6225m
- Tent peak 5505m 77° 21' 32° 28' Keylong-Rohtang pass-Jamalang Nallah (RH)Chobia Nallah-BC, C-I, C-II, C-III and summit attempt.
- Tige Tooth 5990m 77° 36' 32° 10' Manali- Batal Base Camp- C-I
- 55 Unnamed peak 5550m 77° 16' 32° 32' Domphu Gompa (RH)- Khoksar Nala-Tempala Pass (BC)- C-I Summit attempt.
- Unnamed peak 5769m 77° 09' 32° 33' Sissu (RH)- Sissu Nallah-Malaraj Jot Pass-BC-C-I

- 57 Unnamed Peak 5510m 77° 17' 32° 28' Manli-Darcha- Jispa-BC
- 58 Unnamed Peak 5852m 77° 14' 32° 28' -do-
- 59 Unnamed Peak 5765m 77° 89' 32° 33' -do-
- 60 Unnamed Peak 5860m 77° 38' 32° 15' C-II and Summit attempt.
- 61 Unnamed Peak 5790m 77° 38' 32° 14' Manali- Grampho-Chhatru (RH)- Dhhota Dara-BC
- Unnamed Peak 6360m 77° 47' 32° 08' Batal-Karcha- Barasigri Glacier-CI-CII and Summit attempt.
- Unnamed Peak 6090m 77° 42' 32° 14' Grampho-Chhota Dara-Batal (RH)- Karcha Nala BC-C-I-C-II and Summit attempt.
- Unnamed peak 5472m 76° 47' 32° 44' Manali-Tandi-Udaipur-Miyar Mallah-Karpat BC-C-I-C-II-Summit.
- 65 Unnamed peak 5598m 76° 48' 32° 46' -do-
- Unnamed peak 5666m 76° 50' 32° 46' Urgas-Chaliry forest-Gangupa Nalah-BC-CI-C-II then Summit.
- 68 Unnamed Peak 6118m
- 69 Unnamed Peak 5835m
- 70 Unnamed peak 6484m
- 71 White Sail (Dharamsura) 6420m 77° 34′ 32° 12′ Kulu (RH) Manikaran (RH)- Tos (Vill)- Shamshi-Sari-BC-ABC-C-I