

## **CHAPTER-I**

### **THE CONTEXT**

- 1.1 The “Spatial Environmental Planning and Competence Building Project” with Norwegian Agency for Development (NORAD) assistance, comprised of preparation of pilot Development Plans of two urban areas of Palampur and Manali, as a vital component. In order to prepare the pilot Development Plan of Manali, technical expertise from Department of Land use Planning of Agriculture University of Norway and School of Planning and Architecture, Guru Nanak Dev University (GNDU), Amritsar has been acquired. Two “On the Job Specialised Training Courses” held in the years, 2000 and 2001 in Manali town focused upon preparation of the Plan. Two specialised training courses, organised in Agriculture University of Norway equipped the key functionaries with latest knowledge in spatial planning mechanism.
- 1.2 In order to prepare a technically viable document, acceptable to the masses, 15 deliberations with the public, grass-root functionaries of town, stakeholders, public representatives and Non Governmental Organisations (NGOs) have been organised. The deliberations were addressed by experts from Agriculture University of Norway (AUN) , GNDU, Punjab and Haryana as well as state administrative authorities. The recommendations, as emanated from the deliberations, form the basis for working out proposals of the Development Plan.
- 1.3 To examine the quantitative and qualitative aspects of various landuses, development activities, problems and prospects of Manali Agglomeration ,research design was prepared by the consultant institution of School of Planning and Architecture (SPA), GNDU and detailed surveys and studies were conducted during the year 2001.

Subsequently, an analytical report was submitted by SPA, which form the basis for working out projections, proposals and regulations.

- 1.4 The exposure visits of technical personnels to planned cities of Norway and different parts of India, made the functionaries aware regarding dimensions of planning and development mechanism persisting within and outside the country and the efforts that have gone in for the process. The experience of exposure visits has been shared during the deliberations and the solutions of various problems that emanated have been incorporated in the Plan.
- 1.5 Whereas, the earlier Development Plans prepared by the Himachal Pradesh Department of Town and Country Planning were based upon land acquisition mechanism and development by the Development Authority. This pilot Development Plan has been contemplated on the basis of restricted land acquisition and land pooling/reconstitution mechanism through massive public participation by involvement of the Local Body, Panchayats, Revenue Department and Development Authority.

## **Chapter 2**

### **TOWN OVER TIME**

#### **2.1 Introduction:**

Manali has acquired a distinct position on the tourist map of the country and it is a destination of tourists from all over the world. With its magnificent natural landscape, lush green environs and variable scenery, Manali has become one of the most sought after resorts. Being located in the headwater region of the river Beas, surrounded by lofty snow clad mountains, it provides rare natural feast to the tourists.

It is accessible by National Highway No.-21 running through Kullu Valley along the Beas. The Kullu valley is also accessible by air along with its aerodrome at Bhuntar, which is at a distance of 50 Km from Manali.

#### **2.2 Geographical setting:**

Manali town is located at a distance of 38 km from Kullu in the northern part of the Valley. Geographically, it is situated at 32°15'30" North latitude and 77°10'35" East longitude at an elevation of 1826 metres above the mean sea level. Bounded on three sides by lofty snowclad mountain ranges, forming an enclosure with dark green majestic deodar forests spread around, this table land in the lap of Himalayas on the banks of river Beas, has an unparalleled setting. Manali is predominantly a lowest resort due to various environmental and ecological consideration like nearness to high mountainous peak with permanent snow line and wide spread orchards and agricultural fields

bordered by thick forests at higher altitudes. The Ski slopes and track routes spread around in the surrounding mountains are valuable assets for tourist industry. The Manali is the only corridor to the civilization of Lahaul and Spiti beyond high mountains on the northern side of Rohtang Pass.

## **2.2 Historical Evolution:**

This part of the Himalayas is known as "Dev Bhoomi" or the Land of Gods, since the ancient times. The Hindus regarded Manali as the farthest limit of human habitation and in the traditional folk-lore, it is often referred to as "Kulantapitha" the end of the habitable world. The names of villages and temples of Kullu-Manali valley are indicative of their association with ancient saints. Most of the villages are named after saints. Adjoining Vashistha village is named after the saints of the same name. The river Beas is named after another saint Vyas who is said to have performed penance at the source of the river. Similarly, the name Manali has been identified with sage Manu.

The Rajput Rajas ruled this valley for centuries. In the time of Raja Ranjit Singh it was overrun by Sikhs also, but ultimately the chief was killed while returning from his campaign and the local Rajputs returned to power. In 1815 British army took help from the Raja of Kullu to attack Gurkha's strong-hold of Katgarh and after their conquest they included this area in their kingdom.

Jagatsukh and Naggar are very old settlements near Manali which used to be the capitals of Kullu State in succession in different periods of history. Kullu valley remained cut off from the rest of the country until 1930 when first road link was constructed by the British Government. The British Government developed forests in this region. Dhungri forest is one of

the examples. It is said that in 1950, Capt. A.T. Banon settled at the northern end of the valley and introduced apple cultivation in the area. He was also instrumental in exploring market for Kullu apples outside the valley. In 1958, Manali shot into fame as the first Prime Minister of India Pandit Jawahar Lal Nehru stayed here for a month. This boosted the image of Manali as one of the finest hill resorts in the country. Consequently, many dignitaries started visiting Manali every year and it started gaining more and more popularity. The Mountaineering Institute which has a national importance got developed as a consequence of Pandit Nehru's visit. The beauty and peaceful environment of this hill resort attracted number of people who brought with them the seeds of physical development to the valley of peaceful Gods. The style and trend of modernism became the ultimate choice of people. This development extended up to Aleo on left bank and Suinsa on right bank of river Beas with sporadic development all around filling the gaps between the existing structures. Ultimately in the year 1963 Kullu became an independent district of Punjab which was subsequently allocated to Himachal Pradesh alongwith Kangra district during reorganization of States. These events added to the pace of development by making the process more intricate and complex.

The first planning effort that took place in Manali was creation of an Urban Estate during the year 1965-66 by allotment of a vacant space by creation of plots for construction of houses and shops. The institutes like Snow and Avalanche Study Establishment (SASE) and Boarder Roads organization(BRO) has also played a vital role in the development of Manali. The imprecendential floods of 1995 washed away many of the buildings constructed close to river bank but this did not discourage any of the ongoing efforts for physical development. The pace of development which started in early 80's is still continued till date without showing any dent in the trend of development.

### **2.3 Nagar Panchayat:**

Manali Nagar Panchayat has an area of 166.42 hectares with a residential population of 6265 persons as per 2001 census. The Nagar Panchayat area is thickly populated and maximum commercial activity is concentrated here. The Nagar Panchayat area is only on the right bank of river Beas. The people of surrounding rural settlements do not favour the idea of extension of Nagar Panchayat limits due to fear of taxation and other inhibitory provision of Municipal Act. The Nagar Panchayat, Manali has 30 bedded Government hospital, one Mission hospital with 100 bed capacity beside a private clinic with 24 bed capacity. The town has a fire station, a senior secondary school and tourist information centre. It has proper drainage system. The sewerage system is yet to start in the Nagar Panchayat area. Proper water supply system is existing in the town.

## **Chapter 3**

### **PLANNING AREA**

#### **3.1 Planning Area:**

Keeping in view the Planning requirements and considering growth trends, the Government of Himachal Pradesh, vide Notification No. TCP-F(6)22/95 dated 24-06-1995 which appeared in the Official Gazette dated 15<sup>th</sup> July, 1995, extended the Himachal Pradesh Town and Country Planning Act, 1977 (Act No. 12 of 1977) to Kullu Valley with the simultaneous freezing of existing land use under section 15-A of H.P. Town and Country Planning , Act. Thereafter the existing land use under section 16 after considering public objections and suggestions was adopted vide Notification No. HIM/TP/PJT/DP-Kullu Valley/98 Vol.-II-8131-8231 dated 31-08-1998, which appeared in Official Gazette dated 24<sup>th</sup> September,1998.

The limits for Manali Agglomeration were carved out of the Kullu Valley Planning Area with some additions in view of tourism importance of Manali, functional convenience and sizable unit. The new areas which have been added are Old Manali, Bahang, Suinsa and Ranghri. The revised Planning Area notified vide Notification No. TCP-F(6)-22/95 Shimla, dated 10.4.2002, which appeared in Official Gazetted dated 6<sup>th</sup> May, 2002, includes, in addition to Nagar Panchayat Area, the settlements of Vashisht, Chadhiari, Chachoga, Aleo, Prini, Shuru, Bahanu, Suinsa, Ranghri, Sial, Chhial and Old Manali etc. out of Phatti Vashisht (Hadbast No. 20/23), Manali (Hadbast No. 21/26) and Nasogi (Hadbast No. 21/27) .Total area covered under the Manali Agglomeration is 1152 hectares.

The Kullu Valley Planning Area which includes Manali Agglomeration is defined as under:-

**North:** Area Bounded by natural limits of Forest from Gumeri Nallah upto hair pin bend. Opposite to Kothi Rest House including Sub-Village Solang Kothi.

**East:** Area bounded by natural limits of Forest from hair pin bend opposite to Kothi Rest House upto Ghrath Nallah including revenue Sub-Villages Kothi, Ruwar, Kulang Nehru Kund, Bahang Phatti Burua Hadbast No.21/25 and Phatti Vashisth Hadbast No.20/23 including villages Vashisth, Khamana, Kanehni Kut, Mathiana, Khosla, Chadhiari, Samahan, Chachoga and Aleo area bounded by natural limit of forest, 300 mts. from edge of Manali-Kullu left bank road on hill side from Aleo Nallah to Hawaii Nallah, area bounded by Hawaii Nallah along upper edge of the road upto Lugri Bhatti and further bounded by Khasra Nos. 230,231,233,7649,7514, 7613, 627, 693, 700, 701, 7335, 7449, 3827, 6082, 6083, 6108,6109,6122,6112, 6141, 6140, 6139, 6144, 6145, 6143, 6329, 6338, 6358, 6359, 7423, 6571, 6573, 6510, 7507, 6461, 6457, 6495, 6493, 6829, 6830, 6832, 6833, 6839, 6845, 6847, 6760,6754, 6763, 6884, 6891, 6890 and upto 6873 upto Bari Nallah; joining Beas River and along Beas upto zia village bounded by Khasra Nos. 3407,3418,3406,3409,2625,3429,3427, 3430, 3179, 3198, 3410 and across river Parvati Hathi Than bounded by Khasra No. 3922 Bada Bhuin 3945, 3996, 4175 High School Bhuntar, 4375 Chamardi 4383 Chhota Bhuin 4507, 4504, 4499,4691,4697, 4678 upto Kutia Nallah.

**South:** Area bounded by Kutiya Nallah on left bank upto river Beas and right bank from river Beas upto Mainsh Nallah Khasra No. 899 and 1277/891.

**West:** Area bounded by Akali Nallah connecting Right side of Pathru Thatch and Pagal Nallah, further Phatti Burua Hadbast No.21/25(including villages Burua, Majeck, Goshal, Shahang) and Khasra No. 55, 179, 226/1, 235, 236, 239/1, 960/1, 972, 973, 974, 975, 980, 998, 1006, 1034, 1068, 2264, 2265, 2261, 2262, 2298, 2295, 2296, 2292, 2476, 2447, 2727, 2722, 2723, 3180, 3179, 3543, 3521, 3529, 3532, 3533, 3541, 3617, 3616, 3626, 3713, 3717, 3745, 3746, 3742, 3755, 3754, 3747, 3784, 3785, 3782, 3781, 3815, 3816, 3814, 3857, 3865, 3886, 3887, 3901, 3900, 3899, 3960, 3961, 3962, 3963, 3902, 3970, 3971, 3980, 3981, 3982, 3983, 3984, 3985, 4022, 4027, 4026, 4025, 4024, 4137, 4136, 4135, 4121, 4116, 4119, 4451, 4452, further bounded by natural limit of Phatti Manali Hadbast No.21/26(villages Manali, Kalincha, Dungari) and Phatti Nasogi, Hadbast No. 21/27(Villages Nasogi, Siyal, Balsari, Chhiyal, Simsa, Rangri) and including N.A.C., Manali limit; further bounded by 300 mtrs. towards hill side from the edge of NH-21 from Simsa Nallah upto Police Line Bashing, further along Forest boundary upto Ram Shilla bridge and Ram Shilla, Durga Nagar, Sultanpur, Loran, Shisha Matti 5/1 road Khasra No. 1,2,3, Dhalpur bounded by Forest boundary, Miyan Behar, Kahu Dhar, Shashtri Nagar, Tikkara, Badah Village, further bounded by Khasra No. 1543,1549, 1566,1571,1572,1585, 1586, 2054,855,2060, 1854, 836/1, 823,822,821, 820, 762, 760, 756, 754, 753, 749, 739, 738, 730, 729, 718, 717, 715, 712, 710, Mohal 625, 621, 6, 7, 8, 9, 10, 11, 12, 13, 15, 70, 71, 77, 78, 79, 80, 94, 95, 101, 102, 103, 105, 106, 107, 108, 109, 110, 112, 113, 114, 120, 215,

220, 225,236,279, 2573/279,1574/279, 393, 383, 375, 372, 373, 374, 368, 364, 897, 898, 903, 904, 909, 935, 1032, 1033, 1034, 1035, 1036, 1152, 1552, 1153, 1154, 1156, 1157, 1160, 1163, 1164, & from Khasra No. 1177 along Khokhan road upto Khasra No. 1397, khokhan Nallah and Khasra No. 869,868, 695, 899 and 2277/891 Mainash Nallah.

## **CHAPTER-4**

### **REGIONAL SCENARIO**

#### **4.1 Regional Scenario:**

Manali Agglomeration can not be viewed in isolation for the purpose of Development Plan as it is an integral part of the Kullu valley . The entire valley has almost a similar development pattern and a uniform civic character. The Kullu Valley Planning Area which covers the whole valley extending over nearly 80 kilometres in length and about 3 to 5 kilometres in width on both sides of the river Beas has two urban nodes i.e. Kullu-Bhuntar in the south extending between Bajaura and Bashing and Manali in the north. The intervening settlements like Raison, Dobhi, Katrain, Patlikuhal on right bank of river Beas along National Highway No.-21 and Seobag, Naggar, Haripur and Jagatsukh on left bank of river Beas along left bank road have a rural character with growing urban features.

Manali Agglomeration has predominance of tourism activities. Its characteristic, trade & commerce is centre for the supporting population and for certain higher order facilities like education and health. It serves the entire region. It also acts as a base station for Lahaul and Spiti valley and is a trans-shipment point on Manali-Leh Highway for incoming and outgoing goods.

#### **4.2 Accessibility:**

The National Highway No. 21 which is the main life line for the entire valley enters the valley on the right bank of river Beas and continues to be on the right bank upto Manali. A road crosses the river at Bhunter and leads to Manikaran in Parbati valley. An alternate road on the left bank of the river Beas has been constructed from Bhuntar onwards and with linkages at Kullu and Patlikuhal. This left bank road has been proposed to be declared as the National Highway No. 21. The present road will function as an alternate road. The valley is also accessible by air.

#### **4.3 Regional Attractions:**

The Kullu region is dotted with numerous villages i.e. Lag Valley, Parbati Valley, Sainj Valley, Fozal Valley, beautiful places of tourist interest like Dalighat, Kheer Ganga, Bijli Mahadev, Naggar, Katrain, Jagatsukh, Manali, Rohtang, Solang, Bhrgu Tal, Dashaur lake, Chanderkhani pass and Manikaran in Parbati valley. Those fond of tracking and hiking have all sorts of tracks and peaks to climb. For a tracker who can venture to track to Bijli Mahadev, there cannot be a better reward for the effort than the sight of the glorious panoramic view unfolding grandeur of nature at its best. There are numerous routes for long tracking like visit across the Chanderkhani Pass to Malana village, the oldest democracy in the world. Those who cannot track but are still fond of high mountains can travel by car or bus by a good metalled road up to 13,000 ft high Rohtang Pass. People interested in winter sports like skiing too have their share of adventure in Solang glacier. Even Heli-

skiing is becoming very popular these days among those who can afford to spend more. Fresh water fishing is also a very popular sport in Kullu valley. Boiling hot water springs of Manikaran and Vashisht are another attraction of the valley. The forests around are full of wild life. Animals like black bear, leopard, wild sheep, ghoral, barking deer and birds like monal and fowls can be seen in the forests. With the proposal of Rohtang tunnel to link Manali with Lahaul and Spiti, it is likely to be assigned a new role to play in the near future.

#### **4.4 Regional Resources:**

The valley being rich in horticulture, holds great promise for generating economic activity. The value addition of the horticultural produce, development of herbal production and forest based industries can substantially boost up the economy of the region. The agricultural production, especially the vegetables and pisciculture are the other economic activities that can be hopefully pursued. Agricultural and horticultural produce co-operatives, wholesale markets for fruits and vegetables are gradually picking up in the valley. A couple of mineral water bottling plants have also been set up in the valley, keeping in view the natural quality of water. The water being naturally pure, needs least purification.

#### **4.5 Dependency of Population:**

Manali agglomeration includes Nagar Panchayat area, Nasogi, Old Manali, Vashisht, Chachoga, Chadhiari, Aleo, Prini, Shuru, Ranghri, Suinsa, Sial, Chhial settlements. It serves the population of entire Naggar Block along with the 40% population of Lahaul and Spiti district, for higher order facilities.

**Table 4.1: Dependency of population**

<b>Area</b>	<b>2001</b>	<b>2011</b>	<b>2021</b>
Naggar Block	83900	109000	140000
Lahaul & Spiti (40%)	13290	15417	16957
<b>Total</b>	<b>97190</b>	<b>124417</b>	<b>156957</b>

**Say 150000**

Manali is a part of Naggar Block, Therefore, the population shown against Naggar Block in the above table also includes the population living within the agglomeration. Thus the total population that is dependent upon Manali agglomeration is 1,50,000 out of which 50,000 is residential population and 1,00,000 is the population which depends on Manali for higher order facilities only.

## Chapter 5

### PHYSICAL AND ENVIRONMENTAL CONSIDERATIONS

#### 5.1 Climate:

Except for winter months from November to March, Kullu valley is bestowed with an excellent climate. The summer season from March to June is pleasant with temperature not rising beyond 35°C. Rainy season is from July to September, having moderate rainfall and in winter season there is snowfall sometimes during January and February. Temperature falls down to 1° C in lower areas whereas it goes down to sub zero limits in the upper parts of the valley.

The climate of Manali is, therefore, termed as 'climate of recreation' as it is comfortable and pleasing in summer. Ideal weather comfort can be enjoyed at the heights ranging from 1200 metres to 1800 metres. At altitude more than 1800 metres, winters are not that tolerable as that of the rest of the year. Manali experiences more than one metre snowfall during winter. Average rainfall at Manali goes up to 127 cm during the rainy season primarily in the months of July and August.

#### 5.2 Vegetation:

On the southern slopes, Deodar and Kharsu Oak varieties are available. Fir and Spruce are widely available on northern slopes of the valley. Areas around Manali have most majestic Cedars. The thick Deodar forests around the

main town of Manali have made it most attractive. There is a rich nursery of indigenous as well as exotic plants within the northern forest. The forests are well protected and preserved. In the surrounding areas there are rich orchards of apple, apricot, plum and walnut. They are commercially rich and environmentally very comforting to the tourists. The cultivation of kiwi and cherry have added a new dimension. As the season advances, patches of cultivated land with different crops change colours from light green to golden brown. Then comes the yellow red bloom of fruits in orchards presenting striking contrast in the colour scheme of the landscape.

### **5.3 Geology and Soil Strata:**

Manali and its surroundings are located on gradually sloping terraced valleys parallel to river Beas carved into spurs by cross drains and nullahs, mostly reclaimed by removing forests. The soil on the spurs is alluvial and favourable for agriculture and horticulture whereas the river-side slopes are mostly studded with large and medium sized boulders in loose and vulnerable soil strata. These conditions reduce the bearing capacity of soil and is not favourable for heavy structures. In absence of strong lateral support to the foundation, the buildings of height more than 10 metres become unsafe. The area falls within seismic zone IV near a fault line and is subject to earthquakes. Therefore, the number of storeys should be restricted to maximum three.

### **5.4 Environment:**

The physical environment of Manali is changing rapidly due to false demand for more built up commercial space in the form of hotels and shops. The traditional architecture has almost vanished and a modern architecture imported

from the plains has replaced it. The buildings constructed with Reinforced Cement Concrete (RCC), bricks and imported stones in column, beam design are dominating the scene. Many of the buildings have even flat roofs in place of conical sloping roofs conforming to hill architectural style. The settlement pattern which used to be compact and confined only to developable places has now started scattering. Due to non-availability of buildable land at reasonable prices within the town, the trend has shifted to surrounding areas, where a number of buildings have come up. The concentration of buildings in Manali town has degraded the quality of life and strained the infrastructure. The right bank of river Beas has become so congested that even construction of a small drain or laying of a pipe line has become impossible.

The well protected reserve forest is an asset for the town. The orchards and agricultural fields around, add to the beauty of the town. The torrential behaviour of the river on one hand and disregard to it on the other, have led to immense erosion on either side of the Beas.

#### **5.4.1 Socio-Cultural Environment:**

The influx of tourists and rapid urban development have deep-rooted impact on the socio-cultural environment. The uniqueness and distinctive lifestyle of Kulvi culture is getting diffused due to consumerism and commercialisation forces and overcome by westernisation. The ancient landmarks of Manu and Vashisht are witnessing an unprecedented pressure on their characteristic charm. The haphazard slum like development around these historical monuments have adversely affected their aesthetic grandeur. In the by-lanes of these monuments, foreign tourists stay

in the private houses, for a longer duration even for months and staying as paying guests, they are polluting the local environment. People are also getting prone to hippism and drug abuse. Crime graph is showing an upward trend in these areas.

### **5.5. Wild Life:**

The Himalayan black bear is sometimes visible in Solang Nullah. Leopard is seen in high altitude areas near Palchan and Manalsu Nullah. Wild cats, hyenas are also available. Other wild life species are musk deer, ghoral etc. Most intensity species are of birds i.e. koklas, monals, cheer etc. Beas has ganguli and mochi species of fish besides trout culture. Many of the wild animals and species of fish and birds are showing withdrawal or facing extinction due to sudden increase of peak tourist flow of 18000 tourists per day. More groups of tourists, students, scouts, guides, tracking the interior parts of forests disturbs the physical environment of the valley.

### **5.5 Visual Impression:**

The mountain, the river and rivulets, natural vegetation mainly deodars, agriculture and horticulture milieu etc. provide a rare experience to any person who visits this heavenly valley with the series of rivulets and nullah joining the Beas, the meandering behaviour of the river and the variable scenery of the mountains create a lot of illusion to any visitor. This type of impression, attracts one to come time and again. The view of valley from dominating side on one hand and the mountains on the other hand make anybody spell bound.

## CHAPTER-6

### DEMOGRAPHIC CHARACTER

#### 6.1 Population Growth:

As per 2001 Census the population of Manali Agglomeration is 17390 persons. The over all growth rate during the decade 1991-2001 has been 28.26% with a population of 6265 persons. The Manali Nagar Panchayat has registered a growth rate of 157.50% over 1991 population of 2433 persons. The surrounding areas included in the Manali Agglomeration have however an approximate growth rate of 30%.

Manali town has registered the highest growth rate amongst urban centers in the state during 1991-2001. Population of Manali town increased from 1800 in 1971 to 2301 in 1981, experiencing a growth rate of 27.83%. During the decade 1981-91 the population rose to 2433 at a growth rate of 5.74% only, but during the decade 1991-2001 it has registered an unprecedented growth rate of 157.50% which shows that Manali has attracted substantial number of people during this decade.

The School of Planning and Architecture, GNDU, Amritsar conducted Socio-economic surveys in Manali Agglomeration for the purpose of Development Plan. The findings of the surveys are as under:-

## 6.2 Sex Ratio and Age Structure:

As per 2001 Census, Manali town has 3997 males, 2268 females i.e. 567 females per thousand males, which is far below the urban sex ratio of 797 for Himachal Pradesh. According to the sample survey conducted by School of Planning and Architecture, Amritsar, there are 1278 males against 1134 females in Manali Agglomeration. Thus, the sex ratio is 887, which corresponds well with the figures for Kullu Town which is 858 females per thousand males. There is, however, striking difference with Census figure of 567 females per thousand males. It may be because of Census operations conducted in the months of February and March at the peak of winter, when non earning females move to comparatively warm areas down towards Kullu, whereas the School of Planning and Architecture, Amritsar conducted the survey in the months of April and May when tourist season is in progress and many female members from surrounding region join their families in Manali.

The predominantly working age group comprise a percentage of 27.53%.

**Table 6.1 Age Groups**

<b>Age</b>	<b>No</b>	<b>%age</b>
Less than 5	0110	04.56
6-18	0664	27.53
19-58	1445	59.91
58 & above	0193	08.00
<b>Total</b>	<b>2412</b>	<b>100.00</b>

The 4.56% of total population, is in the age group of less than 5 years. The 664 persons i.e. 27.53% are in the age group of 6-18 years. The people in the age group of 58 and above constitutes 8% of the total population.

### 6.3 Marital Status:

Out of 2355 persons 1040 (44.16%) are married and 1256 persons (53.33%) are unmarried whereas 2.51% are Widows / Widowers.

**Table 6.2: Marital Status**

<b>Marital Status</b>	<b>No</b>	<b>%age</b>
Married	1040	44.16
Un-married	1256	53.33
Widow/Widower	0059	02.51
<b>Total</b>	<b>2355</b>	<b>100.00</b>

### 6.4 Literacy:

The sample survey has revealed that 20% of the population does not have any formal education. The literacy rate is 80%.

### 6.5 Level of Education:

99.13% of the formally educated people have education upto middle class level only.

**Table 6.3 Education Level**

<b>Description</b>	<b>No</b>	<b>%age</b>
Primary	4	0.32
Middle	1256	99.13
Higher	7	0.55
College	0	0.00
Technical	0	0.00
<b>Total</b>	<b>1267</b>	<b>100.00</b>

**6.5.1 Distance of Schools:**

58.90% of School going children are getting education within a distance of 2 Km.

**Table 6.4 Distance of Schools**

<b>Distance(km)</b>	<b>No</b>	<b>%age</b>
Less than 1	72	11.98
1-2	282	46.92
Above 2	247	41.10
<b>Total</b>	<b>601</b>	<b>100.00</b>

The educational facilities are well distributed in the town. 70.44% children go to school on foot and 26.68% are going by bus.

## 6.6 Occupational Structure:

Agriculture is the major activity of local people in the Manali agglomeration.

**Table 6.5: Occupational Structure**

<b>Occupation</b>	<b>No</b>	<b>%age</b>
Agriculture	308	40.96
Service	221	29.39
Business	223	29.65
<b>Total</b>	<b>752</b>	<b>100.00</b>

Whereas 40.96% workers are engaged in agriculture and allied activities, business and service sector account for 29.65% and 29.39% persons, respectively.

### 6.7 Modes used for work area journeys:

As the work areas are nearby residences, majority of workers go on foot.

**Table 6.6 : Modes for Work Area**

<b>Mode</b>	<b>No</b>	<b>%age</b>
Walking	621	82.58
Cycle	17	2.26
2-Wheeler	68	9.04
4-Wheeler	18	2.40
Bus	28	3.72
<b>Total</b>	<b>752</b>	<b>100.00</b>

Whereas, 82.58% workers go on foot to their work areas, only 9.04% are using 2 wheelers and 3.72% are going to their work by Bus, Cycles and 4-Wheelers as mode of traveling to work areas account for 2.26% and 2.40% respectively.

## 6.8 Distance to place of work:

**Table 6.7: Distance to place of work:**

<b>Distance</b>	<b>No</b>	<b>%age</b>
Less than 1	471	62.63
1-2	164	21.81
2 & above	117	15.56
<b>Total</b>	<b>752</b>	<b>100.00</b>

Whereas 62.63% workers are engaged within 1 Km. distance 21.81% are traveling less than 2 Kms. and only 15.56% people are traveling 2 or more Kms to reach their work area destination.

## 6.9 Anticipated work force in the Manali Agglomeration:

**Table 6.8: Anticipated Work Force in the Manali Agglomeration.**

<b>Projection of Work Force</b>	<b>2001</b>	<b>2011</b>	<b>2011</b>
Primary sector workers % to total workers and number.	1976(38%)	2700(27%)	2625(15%)
Secondary sector workers % to total workers and number.	104( 2%)	297(3%)	875(5%)
Tertiary sector workers % to total workers and number	3120(60%)	6993(70%)	14000(80%)
<b>Total Workers</b>	<b>5200</b>	<b>9990</b>	<b>17500</b>
Total Population	17390	30,000	50,000
Percentage of workers to total population.	29.90%	33.30%	35.00%

### 6.10 Family Size:

Majority of 51.81% persons have family size of 4-5 person.

**Table 6.9: Family Size**

<b>Family Size</b>	<b>No</b>	<b>%age</b>
> 3	48	9.68
4-5	257	51.81
Above 5	191	38.51
<b>Total</b>	<b>496</b>	<b>100.00</b>

Average family size is 4.5 persons.

### 6.10 Migration:

The 28.75% are the migrants where as 71.25% are locals.

**Table-6.10: Migrants**

<b>Type</b>	<b>No</b>	<b>%age</b>
Local	337	71.25
Migrant	136	28.75
<b>Total</b>	<b>473</b>	<b>100.00</b>

Manali being an important tourist centre, it provides job opportunities to many migrants.

### 6.12 Reasons for migration:

Manali is humming with the commercial activities. The main reason for migration i.e. 47.79% and 38.97% is because of Business and Services factors respectively.

**Table 6.11: Reasons for Migration.**

<b>Reason</b>	<b>No</b>	<b>%age</b>
Service	53	38.97
Business	65	47.79
Facilities	12	8.82
Any Other	6	4.42
<b>Total</b>	<b>136</b>	<b>100.00</b>

### 6.13 House Ownership Status:

Out of sample of 441 houses for establishing ownership status of the families 363 are owning the houses reflecting 82.31% and 17.69% are the tenants.

#### 6.14 Status of Families:

In Manali out of 496 sample houses which are surveyed by School of Planning and Architecture, Amritsar, 72.98% are have T.V., 12.90% have refrigerator, 7.46% are keeping a washing machine, 37.90% have telephone connections and 3.02% have heat convectors. Except for the people involved in hotel/associated tourist business in Manali who have good economic status others are having moderate to low economic status.

**Table 6.12: Gadgets Owned.**

	<b>TV</b>		<b>Fridge</b>		<b>Washing machine</b>		<b>Telephone</b>		<b>Heat Convector</b>	
	No.	%	No.	%	No.	%	No.	%	No.	%
Yes	362	72.98	64	12.90	37	7.46	188	37.90	15	3.02
No	134	27.02	432	87.10	459	92.54	308	62.10	481	96.98
	496	100	496	100	496	100	496	100	496	100

### 6.15 Vehicles Owned :

The 87.74% of the families do not have any vehicle whereas 8.25% have Cars, 2.32% use cycles and 1.69% have no other means of conveyance.

**Table 6.13: Vehicles owned**

<b>Type</b>	<b>No</b>	<b>%</b>
Nil	415	87.74
Cycle	11	2.32
Car	39	8.25
Any Other	08	1.69
<b>Total</b>	<b>473</b>	<b>100.00</b>

## **Chapter 7**

### **HOUSING**

#### **7.1 Housing Status:**

Manali has a distinctive characteristic structural difference in old and new housing. The villages which are an integral part of Manali have traditionally constructed wooden houses with two storeys bearing worn out look. These houses lack modern facilities whereas the new constructions are carried out in new materials and are generally 4 to 5 storeys high. Almost all new houses are either hotels or high class guest houses. The old residential houses are gradually being converted into commercial houses. The villages in the outskirts still maintain their traditional look except for the houses along the road which have undergone considerable changes in their structure due to a spontaneous trend for commercialisation. Permanent residential population being less, the demand for residential housing is considerably low.

#### **7.2 Plot Size:**

29.32% of residential plots are smaller than 100 sqm. and 70.68% houses have plot area of than 100 sqm.

**Table 7.1: Plot Size**

<b>Plot area (m<sup>2</sup>)</b>	<b>No</b>	<b>%</b>
0 – 100	134	29.32
101 – 250	222	48.58
251 – 500	46	10.07
Above 500	55	12.03
<b>Total</b>	<b>457</b>	<b>100.00</b>

**7.3 Plot Coverage:**

The 94.09% of the houses have more than 75% covered area.

**Table 7.2: Plot Coverage**

<b>Covered area %age</b>	<b>No</b>	<b>%</b>
Less than 50	26	5.69
51 – 75	1	0.22
75 – 100	430	94.09
<b>Total</b>	<b>457</b>	<b>100.00</b>

**7.4 Year of Construction:**

The 81.18% houses are older than 10 years.

**Table 7.3: Year of Construction**

<b>Year</b>	<b>No</b>	<b>%</b>
Less than 5	85	18.60
5 – 10	1	0.22
10 & above	371	81.18
<b>Total</b>	<b>457</b>	<b>100.00</b>

**7.5 Approved Plans:**

Only 17.29% houses have plans approved by competent authority, whereas 82.71% don't have approved plans.

**Table 7.4: Approved Plans**

<b>Approved</b>	<b>No</b>	<b>%</b>
Yes	79	17.29
No	378	82.71
<b>Total:</b>	<b>457</b>	<b>100.00</b>

### 7.5 Number of Storeys:

The 60.55% houses have 2 storeys only and 24.08% houses have only single storey whereas 3.21% of houses have more than three storeys.

**Table 7.5: No. of Storeys**

<b>Storeys</b>	<b>No</b>	<b>%</b>
Basement	4	0.92
Ground	105	24.08
G+1	264	60.55
G+2	49	11.24
G+3	11	2.52
G+4	3	0.69
<b>Total:</b>	<b>436</b>	<b>100.00</b>

### 7.7 Number of Rooms:

The 8.24% houses have only single room accommodation. Houses having 2 habitable rooms are 22.12% and 26.82% houses have more than 5 rooms each.

**Table 7.6: No. of Rooms**

<b>Rooms No</b>	<b>No</b>	<b>%</b>
1	35	8.24
2	94	22.12
3	67	15.76
4	90	21.18
5	25	5.88
More than 5	114	26.82
<b>Total</b>	<b>425</b>	<b>100.00</b>

## **7.8 Attached Facilities and Utilities**

7.8.1 **Number of Kitchens:** 75% houses have one kitchen and 25% houses have more than one kitchen

**Table 7.7: No. of kitchens**

<b>No of kitchens</b>	<b>No</b>	<b>%</b>
1	243	75
More than 1	81	25
<b>Total</b>	<b>324</b>	<b>100</b>

### **7.8.2 Number of Bathrooms:**

48.80% houses have no bathrooms, 40.04% have single bathroom. The houses with 2 & more than 2 bathrooms are 11.16%.

**Table 7.8: No. of Bathrooms**

<b>No of bathrooms</b>	<b>No</b>	<b>%</b>
0	223	48.80
1	183	40.04
2	26	5.69
More than 2	25	5.47
<b>Total</b>	<b>457</b>	<b>100.00</b>

**7.8.3 Type of Latrines:**

46.17% houses have no latrine, 6.78% use sand pits, 11.60% have dry latrines and 35.45% have water closets. Open air defecation is a common problem.

**Table 7.9: Latrine types**

<b>Latrine type</b>	<b>No</b>	<b>%</b>
Nil	211	46.17
Pit	31	6.78
Dry	53	11.60
W/C	162	35.45
<b>Total</b>	<b>457</b>	<b>100.00</b>

#### 7.8.4 Stores:

Storage facility is available only in 17.94% houses.

**Table 7.10: Stores**

<b>Store</b>	<b>No</b>	<b>%</b>
Yes	82	17.94
No	375	82.06
<b>Total</b>	<b>457</b>	<b>100.00</b>

#### 7.8.5 Water Supply:

The 61.27% houses depend upon public water supply and 24.94% have private sources of water supply.

**Table 7.11: Water Supply**

<b>Source</b>	<b>No</b>	<b>%</b>
Nil	63	13.79
Public	280	61.27
Private	114	24.94
<b>Total</b>	<b>457</b>	<b>100.00</b>

### 7.8.6 Sewerage Connections:

The 95.62% houses don't have sewerage connection.

**Table 7.12: Sewerage connection**

<b>Sewerage</b>	<b>No</b>	<b>%</b>
Yes	20	4.38
No	437	95.62
<b>Total</b>	<b>457</b>	<b>100.00</b>

7.8.7 **Septic Tank:** Only 46.83% houses have septic tanks.

**Table 7.13: Septic tanks**

<b>Septic tank</b>	<b>No</b>	<b>%</b>
Yes	214	46.83
No	243	53.17
<b>Total</b>	<b>457</b>	<b>100.00</b>

### 7.8.8 Garbage Quantity:

The 66.08% houses generate less than one Kg. Of garbage and 33.92% more than one Kg.

**Table 7.14: Garbage quantity**

<b>Quantity (Kg)</b>	<b>No</b>	<b>%</b>
0 to 0.5	197	43.11
0.5 to 1.0	105	22.97
1.0 & above	155	33.92
<b>Total</b>	<b>457</b>	<b>100.00</b>

### 7.8.9 Solid Waste Disposal:

Only 22.98% houses have dustbins, others do not have any system for proper garbage disposal.

**Table 7.15: Solid waste disposal**

<b>Disposal point</b>	<b>No</b>	<b>%</b>
Dustbin	105	22.98
Street	41	8.97
Any Other	311	68.05
<b>Total</b>	<b>457</b>	<b>100.00</b>

## 7.9 Built up Area Intensity.

**Table 7.16: Built up area intensity**

<b>S. No</b>	<b>%-age built up area density category-wise</b>	<b>Area in hactre.</b>
1.	Area under 0%	486
2.	Area under 0% to 8%	504
3.	Area under 9% to 16%	98
4.	Area under 17% to 30%	45
5.	Area under 31% to 55%	19

Whereas 486 hectares area in Manali Agglomeration has no structures, 19 hectares area around the Mall has 31% to 55% built up area and remaining areas have a moderate building density i.e. between 1 to 30%. There is concentration of hotels and commercial activity near The Mall near Ranghri and across the river near Aleo. Some concentration is also visible near Hadimba, Manu and Vashisht temples.

#### **7.10 Residential Area Intensity:-**

In Manali Agglomeration the old settlements like, Manali, Vashisht, Chachoga, Chadhian, Aleo, Prini, Shuru, Sunisa, Chhial, Nasogi, Sial and Balsan are old villages with high intensity residential areas whereas in Nagar Panchayat area all uses are mixed up in a mixed landuse pattern. Maximum number of hotels and commercial establishments are concentrated within Nagar Panchayat area without any segregation for landuse. In privately owned areas where development is regulated through zoning regulations without defining any landuse zone, it is not possible to evaluate residential density. Therefore, for all purposes the building area intensity has been considered to be more appropriate.

## Chapter 8

### TRADE AND COMMERCE

#### 8.1 Status of Shops

##### 8.1.1 Type of Shops:

The 70.30% shops are of retail. Higher percentage in this category is due to tourist nature of town. Thus, the shops are mainly related to tourist activities like photograph shops, handicraft shops etc. The 6.99% are seasonal shops, opening during the tourist season. People from the adjacent areas sell their articles. Only 3.49% are wholesale shops.

**Table-8.1 Types of Shops**

<b>Type</b>	<b>No</b>	<b>%</b>
Retail	161	70.30
Wholesale	8	3.49
Seasonal	16	6.99
Service	7	3.06
Any Other	37	16.16
<b>Total</b>	<b>229</b>	<b>100.00</b>

### 8.1.2 Special Shops:

The 59.46% of special seasonal shops are tea stalls and dhabas only.

**Table-8.2: Special Shops**

<b>Type</b>	<b>No</b>	<b>%</b>
Halwai	5	13.50
Halwai	5	13.51
Tea Stall	12	32.43
Dhaba	10	27.03
Restaurant	7	18.92
Office	3	8.11
<b>Total</b>	<b>37</b>	<b>100.0</b>

### 8.1.3 Items Sold:

The 64.33% of shops sell cooked/uncooked eating stuffs and 15.04% sell jewellery of tourist interest.

**Table-8.3:Items Sold**

<b>Item</b>	<b>No</b>	<b>%</b>
General	28	9.79
Food	104	36.36
Fruit	34	11.89
Vegetables	46	16.08
Clothing	8	2.80
Provision	5	1.75
Chemist	2	0.70
Furniture	16	5.59
Jewellery	43	15.04
<b>Total</b>	<b>286</b>	<b>100.00</b>

**8.1.4 Year of Establishment:**

Whereas 38.46% shops are more than 20 years old, 61.54% shops have been established during the last 20 years.

**Table-8.4: Year of Establishment**

<b>Years</b>	<b>No</b>	<b>%</b>
Less than 5	71	24.83
6 – 10	81	28.32
11 – 20	24	8.39
21 and above	110	38.46
<b>Total</b>	<b>286</b>	<b>100.0</b>

### 8.1.5 Customer Visited (Tourist Season):

The 61.54% shops have less than 25 customers in a day during tourist season.

**Table-8.5: Customer Visited (Tourist Season)**

Customers	No	%
Less than 25	176	61.54
26 – 50	62	21.68
51 – 100	32	11.19
101 – 500	13	4.54
501 & above	3	1.05
<b>Total</b>	<b>286</b>	<b>100.00</b>

## 8.2 Physical Aspects of Shops:

8.2.1 **Shop Height:** The 57.69% shops are single storeyed.

**Table-8.6: Shop Height**

No of Stories	No	%
Basement	8	2.80
Ground	165	57.69
G+1	54	18.88
G+2	42	14.67
G+3	17	5.95
<b>Total</b>	<b>286</b>	<b>100.00</b>

### 8.2.2 Waste Disposal:

Whereas, 56.99% shops have disposal bins nearby, 22.38% dispose off garbage outside drain itself. Only 11.19% collects their garbage for proper disposal.

**Table-8.7: Waste Disposal**

<b>Disposal Point</b>	<b>No</b>	<b>%</b>
Near disposal point	163	56.99
Outside drain	64	22.38
Own collection	32	11.19
Any other	27	9.44
<b>Total</b>	<b>286</b>	<b>100.00</b>

### 8.3 Problems Faced:

The 65.73% shops have no problems and 22.38% shops have parking problems.

**Table-8.8: Problems Faced**

<b>Type of problem</b>	<b>No</b>	<b>%</b>
Nil	188	65.73
Parking	64	22.38
Size	8	2.80
Storage	4	1.40
Public Lav.	18	6.29
Any other	4	1.40
<b>Total</b>	<b>286</b>	<b>100.00</b>

#### **8.4 Commercial Intensity:**

The commercial intensity is very high in the central Manali town. Out of the total area 12% to 31% is under the commercial use. It is the main commercial area of the town serving the tourists. It includes mainly the shops related to tourist activities like photography shops, travel agencies, handicraft shops and various other types of shops like tea stall, restaurants etc. Commercial intensity in other parts of area surrounding The Mall is 7% to 12%. Apart from tourist related shops, it includes other shops like grocery, vegetable, fruit etc. Commercial intensity in old Manali area is 3% to 7%. It mainly includes shops like tea stalls, handicraft shops, dhabas etc. In the rest of Manali agglomeration, the commercial activity is scattered and ranges from 1% to 3%. The commercial area is mainly developed along the main roads. The intensity goes on decreasing in areas away from road or towards outskirts of the town. Most of the commercial activity is confined along roads and vantage locations where tourist activity is concentrated.

#### **8.4 Anticipation:**

By assessing the data of commercial activity, it has been observed that Manali is efficiently serving its local population as far as the commercial requirements are concerned. By virtue of its location just below the mountain barrier between Lahaul and Spiti, Manali is also serving as a base for all commercial activities between Lahaul and Spiti and other areas of the State. Kullu town being district headquarter of Kullu district has more efficient infrastructure base, therefore, shares maximum commercial activities of the valley. Manali caters to the specific needs

of areas within Naggar Block falling between Patlikuhal and Manali for general commercial activities and base for Lahaul and Spiti district.

## Chapter 9

### TOURISM

**9.1** Manali over the past few decades has come up as the most popular tourist destination in northern India on account of natural landscape, salubrious climate and comparatively better law and order environment as compared to the famous tourist destination Kashmir. Thus tourism has become the main stay of town economy. The survey conducted shows that about 18,000 tourists visit Manali and environs in a day in peak season. The main town has become base for various tourist attraction points in the upper Beas Valley which have special characteristics as detailed below:-

(i) **Rohtang Pass:** At an elevation of 3,979 metres and at a distance of 51 kilometres from Manali the Rohtang Pass is the point of most attraction because of the existence of snow in summer, panoramic views of inner Himalayas as well Lahaul and Beas Valleys, to the tourists from all walks of life. Apart from this the origin of river Beas from Beas-Kund has religious sanctity. The spot has seasonal attraction. This remains open for a period of six months between June to November. Tourist facilities provided are of temporary nature on account of severity of climate and required to be upgraded in spatially planned and organised manner with due emphasis on cleanliness of the environment. Other attractions approachable from Rohtang Pass are a few beautiful fresh water small lakes namely Bhrigu Lake and Dashaur Lake which are at a distance of 6 km respectively from Rohtang Pass at an altitude of 4200 metres.

These lakes are approachable on foot through beautiful tracks which are points of attraction to the tourists. Other attractions enroute to Rohtang Pass are Rahala fall, Marhi, Kothi and Gulaba.

- (ii) **Solang Slopes:-** Situated at an altitude of 2,480 metres and at a distance of 15 Km. from Manali is known for adventure and winter sports on account of heavy snow fall and mild ski slopes, vertical cliffs. The Solang Nullah has emerged a centre for adventure and winter sports with permanent basic infrastructure like Mountaineering Institute, Snow and Avalanche Study Establishment (SASE), small commercial hotels etc. Parking and cleanliness requires to be planned in an organised manner at Solang slopes.
  
- (iii) **Naggar :-** Naggar, a historical and cultural node of Kullu Valley is known for old settlement which at one time had seat of Kullu princely State and is known for Castle, Roerich Art Gallery, Sun temple, Sati memorials etc. Apart from these, Naggar is famous for extensive apple orchards and rice fields. This is located at a distance of 25 Km from Manali and situated at an altitude of 1600 metres. The other tourist attraction points around Naggar are Chanderkhani pass (4636 m) and Malana an oldest democratic community settlement. Presently there are Public Works Department, (PWD) and Forest Rest Houses, Naggar Castle Hotel having bedding capacity of 33 beds which is quite inadequate to cater the future tourist requirements since it has immense potential to come up as a tourist counter magnet to Manali. Enroute to Naggar, other tourist attractions are Jagatsukh and Haripur settlements which have cultural manifestations in the form of temples of local deities having rare wooden carvings and hill architecture

elements and use of local building materials. In addition there are numerous points providing captivating views of natural land scapes. Kullu Valley is widest at Naggar providing fascinating scenery.

- (iv) **Manali.** In Manali town the main attractions are temples of Manu, Hadimba Devi, Vashisht and hot water springs at Vashisht. The natural landscape areas namely Van Vihar, Dana Vihar, Dhungri are important allurements for tourists.

9.2 Manali being a tourist town is already having sufficient tourist accommodation both in private and public sector. As per survey conducted for preparation of this Development Plan, there are 400 registered hotels with 15000 bedding capacity in Manali and surrounding areas. The concentration of hotel industry is maximum in Nagar Panchayat area and on Manali-Kullu Highway via Naggar, right from Vashisht to Prini on left bank of river Beas. The quality wise accommodation available is upto the mark and sufficient to cater with the peak hour tourist traffic. However, with regard to availability of parking facility only 28.36% hotels have provision of parking within their premises. This fact clearly indicates that the requirement of remaining hotels is met out in organised parking lots and road side parking which leads to congestion in town and required to be taken care of by making provision of parking in decentralised manner in the town. The maximum occupancy of just 50% clearly shows that no new hotels are required in the town. The tourism surveys conducted under the Project shows concentrated development of tourist infrastructure i.e. tourist accommodation, commercial areas in main town which needs dispersal to left bank of river Beas between Shuru and Prini as well as in tourist attraction nodes of Naggar and Solang, to ensure decentralisation of main town and to increase duration of stay of tourists in Manali from the present stay of 2 days to atleast 3 days.

## **Chapter 10**

### **FACILITIES AND SERVICES**

#### **10.1 Educational Facilities:**

There are seven High/Higher Secondary, three Middle and twelve Primary Schools, which besides meeting the requirement of the local population also serve the population of surrounding villages. About the 41.10% of the students of these schools come from distance of more than five kms. Majority of these schools do not have proper space for playground and other attached facilities. There is a need to have one Sr. Sec. School within Manali Agglomeration on left bank of river Beas with proper space for playgrounds etc. There is no degree college in Manali. Government College Kullu only serves the entire population of the valley. There is no ITI or Polytechnic in the valley. There is a need for establishment of a college which may be located at Haripur at a distance of 15 Km. and outside the main town of Manali which shall cater for higher education needs of upper Beas Valley as well as Lahaul Valley.

#### **10.2 Medical Facilities:**

The area at the moment is served by a Government Community Health Centre and two Hospitals namely Mission and Rawat in private sector with a bed capacity of 154 Beds which comes out to be 9 Beds per 1000 population which is even more than the prescribed norms of 2 Beds per 1000 population as per Urban Development Plans Formulation &

Implementation (UDPFI). Apart from this, medical facilities are also available in the form of clinics and dispensaries both in private and public sectors.

### **10.3 Public Services**

Banking, Police, Post Office and Communication services are available in the town serving resident as well floating tourist population of the town. The concentration of these facilities and services in the heart of the town needs to be dispersed on the left bank of river Beas in form of new institutions and extensions of existing ones to distribute the facility to coincide with trend of development or to reduce congestion in hub of the town.

### **10.4 Fire Station:**

The present Fire Station located on the Mall is inadequate to meet with the future requirements of the town with a population size of 50,000. As it has limited space and location in the congested area, therefore, it is either required to be shifted or to have additional fire station in left bank of river Beas in order to cater with the future requirements efficiently.

## Chapter 11

### BASIC SERVICES INFRASTRUCTURE

#### 11.1 Water Supply System:

Manali town is being served by continuous gravity water supply system fed on perennial surface water supply source Manalsu, a tributary of river Beas just passing through the town. The total capacity of this system is 18.578 (MLD) which is serving the present population of 14,000 @ 124 litres per capita per day which is adequate in view of climatic conditions and nature of development i.e. primarily residential nature and that too with seasonal peak demand.

#### 11.2 Sewerage:

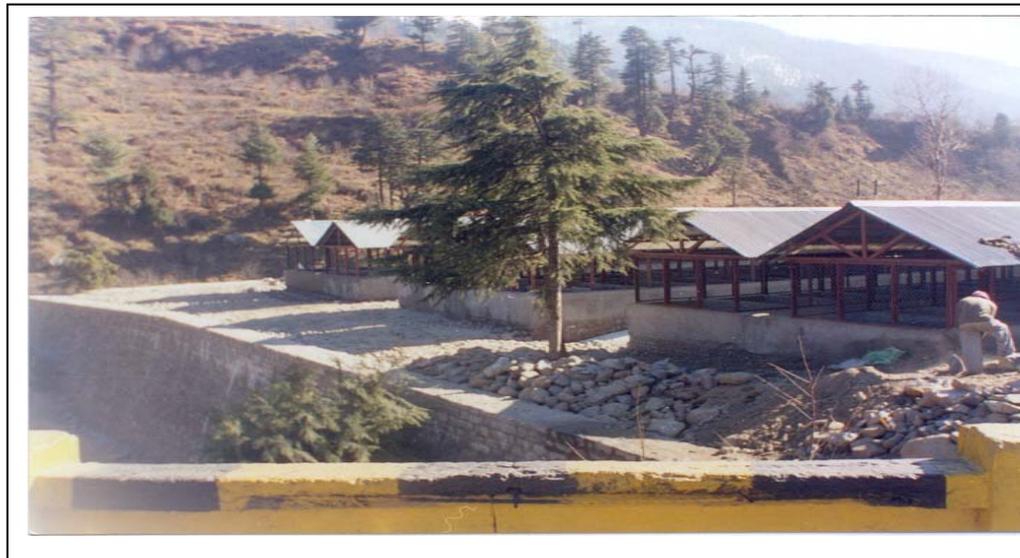
At the moment town is not having comprehensive sewerage system and is dependable over system of individual septic tanks and soak pits. The department of Irrigation and Public Health (IPH) is implementing a sewerage scheme for the right bank of river Beas which shall cater Nagar Panchayat area and area from Dhungri to Suinsa.

**11.3 Electricity Network** From the electricity distribution point of view the Manali Division of Himachal Pradesh State Electricity Board (HPSEB) is divided into two Zones only – Zone 1 is the area of left bank and Zone 2 is the area of the right bank of river Beas. The total number of electricity connections are 1574 and 3677 with power demand of 7060.738 Kws and 1764.183 KWs in Zone 1 and Zone 2, respectively.

- 11.4 Telephone Network:** The town has a Telephone Exchange with installed capacity of 3500 service connections which is quite inadequate to serve the requirement of present population size. The increase in future demand shall be met out by enhancing the capacity of the present exchange having adequate building and space.
- 11.5 Solid Waste Management:** The town is generating solid waste to the tune of 8000 Kg per day @ 0.50 kg per head per day during the peak tourist season. The solid waste is handled by a mechanized system by the Nagar Panchayat and the final treatment is given by the I&PH department at Rangri at 5 Km down stream from Manali in a treatment plant recently built under NORAD Project with a capacity of 50 Metric Tonnes.

**Plate No.- 11.1**

**Solid Waste Management Plant at Manali**



## Chapter 12

### GOVERNMENT OFFICES AND INSTITUTIONS

#### 12.1 Govt. and Semi-Govt. Offices:

There are 15 Govt. and semi-Govt. offices located in Manali town. Important offices are namely—Executive Engineer HPSEB, Deputy Superintendent of Police, Assistant Engineer PWD, Nagar Panchayat Manali, Area Manager HPTDC, Assistant Engineer I&PH, Range Officer Forest department, Sub Divisional Officer Telecommunication, Sub Divisional Officer (Civil) and Tehsildar. Total number of employees working in these offices are about 250. The offices are facing various problems related to office space, parking, inconvenient locations and lack of facilities. Because of their scattered locations, the interaction among themselves is poor. Visitors face difficulty due to their scattered locations. The offices functioning from private buildings are required to be established in a complex.

#### 12.2 Institutions:

There are three important institutions in Manali – Directorate of Mountaineering and Allied Sports (DMAS), Snow and Avalanche Studies Establishment (SASE) and General Reserve Engineering Force (GREF). The DMAS is a Govt. department of HP. It has played a pioneering role in bringing Manali in particular and Himachal Pradesh in general on the world map as a paradise for adventure. It is one of the largest adventure training institutes in the world and the best in India. Apart from mountaineering, other activities conducted by DMAS are rock climbing, tracking,

adventure course, water sports and skiing. Earlier this Institute was known as Western Himalayan Mountaineering Institute (WHMI) and was established in 1961 temporarily at Chadhiari near hot springs of Vashisht village. The Institute was shifted in 1961 to the present location where a new complex was developed for the purpose.

The present site is located at a distance of 2 km from Manali town on the left bank of river Beas having a sprawling campus of 90 Bighas at Aleo Bihal. It has the following building blocks:

- i) Administrative Block comprising of a museum, library hall, committee room and offices.
- ii) Two hostels with a total capacity of 268 persons having their own mess and dining hall.
- iii) An Auditorium with seating capacity of 650 persons with modern facilities for seminars, conferences, workshops, etc.
- iv) Cafeteria to meet the catering needs of the Directorate.

Total number of trainees during 2000-2001 is about 1000 for the various courses, being conducted by the Directorate.

## Chapter 13

### TRAFFIC AND TRANSPORTATION

#### 13.1 Traffic and Transportation:

As per survey conducted by School of Planning and Architecture, Amritsar (SPA), the total incoming traffic volume of Manali is 3605 PCUs which is recorded in the afternoon hours(4.00 PM to 6.00PM) and is comparatively 23.80% higher to the normal per hour traffic volume of 1456,PCUs in forenoon hours( 10.00 AM to 12.00 Noon). This variation can be attributed to the fact that maximum regional tourist traffic to the town reaches in the evening hours. This traffic reaching in the evening hours of the day is to be catered with reference to the parking facilities in the town. The traffic volume from Rohtang Pass side recorded in the evening hours is about 60% higher as compared to morning hour traffic volume figures. This phenomenon is the resultant of concentration of returning tourist traffic from tourist complexes of Rohtang Pass, Solang Nullah as well as civilian and military traffic from Lahul, Leh and Ladkh regions .

The composition of this traffic volume clearly shows that 36% is goods traffic and 64% is passenger traffic. The passenger traffic is further splited into the categories on the basis of their mode of travels, 66% of tourists plus local passenger traffic is catered by public transport constituted of private and public buses whereas remaining 34% tourists traffic depends upon private light motor vehicles as per survey conducted by Nagar Panchayat , Manali.

Manali Agglomeration is served by left and right bank roads of river Beas which pass through the built up portion of the town and cater for requirements of regional as well as local traffic both that of goods and passengers. The heavy traffic volume i.e. 70 PCUs per hour is attributed to goods traffic to and fro to Lahaul and Spiti as well as defence traffic. In view of share of regional through traffic i.e. 50% and traffic bottleneck points namely Beas bridge, Aleo bridge, Valley bridge at Chachoga and flood prone areas near Bahang indicates for necessity of a regional bye pass to ensure efficient circulation system by decongesting the existing road network and shifting of present Bus stand to some suitable location.

### **13.2 Traffic Volume:**

Traffic Volume Surveys was conducted at the following seven road junctions during the 10.00 a.m. to 12.00 Noon and 4.00 p.m. to 6.00 p.m. by the School of Planning and Architecture(SPA), Amritsar namely at Main Chowk (near Nagar Panchayat Office), Vashisht Chowk, Log Hut Chowk, Manali Main Bridge, Circuit House Chowk, Near Tibetan Market and Rangri Chowk. The junction with maximum traffic volume of 2912 PCUs in the morning and 3605 PCUs in the evening is the Main Chowk which is hub of the town. In the evening hours, the traffic volume is much higher as compared to morning hours at Vashisht Chowk and Manali Bridge, because of the return of tourists from Rohtang Pass and surrounding spots. These figures are 1321 PCUs and 1955 PCUs for evening as compared to 455 PCU and 662 PCUs for morning on these two junctions respectively.

### 13.3 Parking Facilities:

Parking of vehicles particularly of the private ones and taxis is a serious problem. These vehicles are parked anywhere on the sides of roads in the town in a haphazard way. Except one location i.e. near the Fire Station, all other locations are unplanned. The parking problem is worst on the Mall Road particularly in the evening hours when the tourists got concentrated on the Mall Road. The parking survey was conducted by the School of Planning and Architecture (SPA), Amritsar for 2 hours each in the morning and evening i.e. 10.00 a.m. to 12.00 noon and 3.00 p.m. to 5.00 p.m. in which the maximum parking accumulation of 93 cars and taxies were observed at the location near Bus Stand and of 75 cars and taxies near Hotel Neel Kamal. Near Telephone Exchange, Hadimba Palace and Hadimba Temple an average parking accumulation of three wheelers was observed to the extent of 10, 19 and 18 vehicles at one point of time, respectively. The parking accumulation of heavy vehicles, i.e., buses and trucks was also recorded at locations near Hotel Beas and near Post Office to the extent of 15 and 18, respectively. The survey of parking accumulation **indicates the requirement of planned parking lots** at all the important locations of tourist interest/concern.

### 13.4 Terminal Facilities

#### 13.4.1 Bus Stand:

The present bus stand which occupies an area of 0.31 hectares has a capacity to accommodate about 40 buses at time. This is located in the centre of thickly populated central area and has a right angle entry/exit

gate which is quite hazardous. It remains over crowded and creates traffic bottle neck on the busy portion of the Mall.

**13.4.2 Truck Terminal:** Alu ground situated at a distance of 1 Km. from Manali on National Highway No. 21 towards Kullu is presently serving as a truck terminal with a capacity to park 100 trucks. It is anticipated that there will be a requirement for another truck terminal at a point north of Manali for truck traffic bound to Lahaul and Spiti.

### **13.5 Major Concerns:**

Manali as a hill resort has a special character where the residential population is too less in comparison to the floating population of tourists. The physical development which took place in past 5 decades has been of spontaneous character. Indiscriminate use of land for commercial purposes without any consideration for smooth circulation and leaving open spaces for parking as well as other ancillary activities has made the situation critically worse. The encroachments on streets has narrowed the lanes. With the increase in number of vehicles entering the town the traffic congestion has become a problem especially during tourist season. In absence of private parking lots within the premises of hotels and other residential/commercial buildings the vehicles keep parked on roads which aggravates the problem. The Manali Agglomeration which is divided geographically into two parts by river Beas needs to be integrated in the interest of planned development. The river has a tendency to widen its course every year during heavy monsoons causing massive erosion of banks. The floods are quite unprecedented and the force of torrents is not predictable. There is only one interlink between the two banks through a belly bridge. There is no scope of providing

more bridge due to unstable banks, therefore, the present site of bridge needs to be made more secured and safe. The under construction foot bridge which is 17 miles (27.35 K.M.) near Kalath should be made vehicular. The existing parking places should be improved to create more space for vehicles.

There are traditional old paths which are normally 1 to 2 karam i.e. (1.42m to 2.84m) in width are serving as life lines for some areas. There is no vehicular access available in many parts of the town and they are served through pedestrian links only.

## Chapter 14

### EXISTING LAND USE

Manali Agglomeration is a part of Kullu Valley Planning Area, notified on 24.6.1995. The existing land use of the Kullu Valley Planning Area was frozen under section-16 of the HP Town & Country Planning Act, 1977 after considering public objections and suggestions vide notification No. HIM/TP/PJT/DP-Kullu valley/ 98-vol – II –8131-8231 dated 31-8-1998. The revised Planning Area has been notified vide notification No TCP-F (6)-22/95 dated 10.4.2002 and the existing land use of the newly included areas has been frozen under section-16 of the HP Town and Country Planning Act, 1977, vide notification No HIM/TP/PJT/DP-Kullu Valley/98-Vol-II/ 2589-2739 Shimla, dated 14.6.2002.

The Manali Agglomeration covers 1152 hectares of land. Whole of the agglomeration has been considered as urbanisable area. Description of the existing land use is given in the following paragraphs:

#### 14.1 Residential Use:

The residential use comprises of 115 hectares of land which works out to be 9.98% of the agglomeration. The residential areas are scattered throughout the agglomeration. In addition to the thickly populated Manali Nagar Panchayat area, the residential localities are namely Old Manali, Suinsa, Rangri, Chhial and Nasogi on right bank and Vashist, Chachoga, Chadhiari, Aleo, Prini and Shuru on left bank of river Beas. In almost all the areas the residential use is mixed with commercial and other uses, as per convenience.

**14.2 Commercial Use:**

Most of the commercial areas excluding hotels are located within the Manali Nagar Panchayat, Old Manali and Vashisht areas. In other areas also the commercial establishments do exist as convenient shopping. Total commercial area has been worked out as 7.70 hectares, which is nearly 0.67% of the agglomeration.

**14.3. Tourism/Industrial Use:**

Tourism forms an integral part of industry. In Manali Agglomeration hotels occupy 17.75 hectares of area, which works out to 1.54% of the agglomeration. There is no other industry within the agglomeration.

**14.4. Public and Semi-Public Use:**

Utilities including water supply, sewerage, drainage, electricity and telephone establishments, garbage disposal sites etc. comprise of 4.00 hectares area. The facilities like education, health and postal services occupy an area of 1.5 hectares. The services including police, banking and fire etc. have 0.50 hectares of area. The Government offices occupy an area of 1.62 hectares. There are three National level institutions in the agglomeration namely Himalayan Institute for Mountaineering and Allied Sports, General Reserve Engineering Force(GREF) and the Snow and Avalanche Study Establishment(SASE). These institutions have their well defined complexes occupying 24.00 hectares of area. Total area under this use is 31.62 hectares which is 2.75% of the agglomeration. There is no cinema hall in the town. There is a club house maintained by Himachal Pradesh Tourism Development

Corporation(HPTDC), which has facility of auditorium for the purpose of holding seminars, conferences etc. There is no sports complex, museum or an art gallery in the town. Some of the hotels do have amusement parks for the children, but of a very limited capacity.

#### **14.5. Parks and Open Spaces Use:**

Manali has a well maintained reserve forest within the town which serves as an organised green open space. This covers an area of 88.87 hectares which is 7.72% of the urbanisable area. Other green areas in the form of 25 metre wide strip on both sides from the High Flood Level(HFL) of river Beas has an area of 28.99 hectares i.e. 2.51%. Thus total existing land use under this use is 117.86 hectares which is 10.23% of the agglomeration.

#### **14.6. Traffic and Transportation Use:**

The National Highway No. 21, passes through the Kullu Valley Planning Area and occupies 12.15 hectares of area in the Manali Agglomeration. The other roads 5.66 hectares including existing Bus terminus (0.31 hectares) and parking spaces(1.04 hectares) occupy 7.01 hectares area. The total area under traffic and transportation including circulation network, bus stand and parking spaces is 19.16 hectares which is 1.66% of the agglomeration. According to the studies 400 auto rickshaws,500 taxis and 500 buses have been registered in Manali. The traffic survey reveals that about 500 light vehicles and 200 heavy vehicles move in and out of the town everyday. As per an estimate on the basis of information received from local Nagar Panchayat, nearly 200 Buses, 2000 Cars and 300 Auto-rickshaws get parked within the agglomeration area during peak season. The existing parking spaces have a capacity of 80 buses

and 394 cars. The private hotels accommodate nearly 300 cars within their premises. Therefore, 1306 cars and 126 buses and 300 auto-rickshaws get parked on road sides. Since It is not possible to create more parking spaces within the Manali Nagar Panchayat area. Therefore, the parking facilities have to be created in new areas. The over all parking problem can be solved by creating private parking spaces as a commercial venture and by making mandatory provisions in the zoning regulations in this regard. No construction shall be permitted within the agglomeration area without creating provision for parking.

#### **14.6.1 Analysis of Existing Parking Spaces:**

There are only six parking sites in the town, their location and parking capacity is given as under :

**Table 14.1: Location of Parking Places**

<b>Sr. No.</b>	<b>Location of site</b>	<b>Capacity</b>
i)	Near Bus Stand	100 cars
ii)	Near Post office	50 cars and 20 Buses
iii)	Near Mission Hospital	200 cars and 50 Buses
iv)	Near Aroma Hotel	7 Cars
v)	Near Diamond Hotel	7 Cars
vi)	Near Plot No.1	30 Cars and 10 Buses
	<b>Total</b>	<b>394 Cars and 80 Buses</b>

The private hotels do not have sufficient space for private parking within the premises. On the basis of sample survey conducted by the School of Planning and Architecture(SPA), Amritsar there are nearly 18% hotels who have created car parking space for more than 15 cars within their premises. About 18% have a parking space for 10 to 15 cars. Nearly 37% hotels have a capacity to accommodate 10 cars and the balance 27% do not have any parking facilities within their premises. According to departmental information the total parking space available within the premises of private hotels is nearly for 300 cars only.

#### **14.7 Agriculture Use:**

The agglomeration has lot of land under agricultural and horticultural use. Siunsa and Rangri areas on right bank and Aleo, Prini and Shuru areas on left bank of river Beas have extensive agricultural fields and orchards. The land occupied by this land use is 738.91 hectares which is 64.14% of the total agglomeration.

#### **14.8. Water Bodies Use:**

In Manali Agglomeration river Beas and other small tributaries occupy 104 hectares of land. This works out to 9.03% of the total agglomeration.



## CHAPTER-15

### PROJECTIONS AND REQUIREMENTS

#### 15.1. Residential Use:

The total population size of 50,000 persons for the Manali Agglomeration is anticipated to be accommodated in the following manner:-

(i)	Within Nagar Panchayat area	=	8,000	Persons
(ii)	Outside Nagar Panchayat area	=	42,000	Persons
	• Existing residential extension outside Nagar Panchayat	=	13,125	Persons
	• In un built urbanisable area of agglomeration	=	28,875	Persons

The existing housing stock is accommodating 3500 families in Manali Agglomeration whereas remaining 6500 families having 28,875 population is to be accommodated in the unbuilt urbanisable area of agglomeration. Assuming a gross residential density of 250 persons per hectare, an area of 115.50 hectare is required for meeting out the requirement of additional population. The existing area under residential use is 115.00 hectares. In view of present trend of development this additional land of 115.50 hectares is expected to come up under this use in the following manner in different units:-

• Old Manali	=	21.95	hectares
• Vashisht, Khosla, Mathaiyana	=	24.26	hectares

• Chadhiari, Chachoga, Aleo	=	21.94 hectares
• Shuru, Prini	=	16.17 hectares
• Suinsa, Ranghri	=	<u>31.18 hectares</u>
• <b>Total</b>	=	<b><u>115.50 hectares</u></b>

### 15.2. Commercial Use:

In order to cater for commercial needs of regional, local and floating population of 85,000 persons, dependent on Manali Agglomeration by the plan period, 1700 number of general shops will be needed. On the basis of present availability of commercial facility, norm of one shop per 60 persons which is on higher side as compared to the standard of one shop per 100 persons as per Urban Development Plan Formulation and Implementation (UDPFI) guidelines, the number of shops required shall be 850 numbers plus equal number of shops to cater for the commercial needs of upper Beas Valley as well as Lahaul Valley. Presently 1430 shops are existing in 7.70 hectares of land, therefore, net additional number of shops i.e.  $1700-1430=270$  are required to cater for the commercial needs. The land required for additional shops @  $50 \text{ M}^2$  per shop shall be 1.35 hectares.

### 15.3 Tourism/Industry Use :

In order to cater for the anticipated peak day tourist population of 35000 persons in Manali Agglomeration, It is anticipated that 18000 persons will be accommodated in the existing accommodation, therefore, the Development Plan shall have to make provision for accommodation of an additional floating population size of 17000 tourists. Assuming an average density of 400 persons per hectare, 42.50 hectares of land is required for tourism industry. As

17.75 hectares is already existing under this use, therefore, 24.75 hectares more land is required to cater the needs of tourists by the plan period. Manali Agglomeration has potential of cottage/handicraft industries only, which have general tendency of coming up in mixed form with residential and commercial areas. This phenomenon can be attributed to the fact that cottage industries are non-polluting activities primarily run by women. As such separate allocation for this use is not worked out and it is envisaged that activity related to this sector shall come up in the form of integral part of residential and commercial areas.

#### **15.4 Public and Semi-Public Use:**

Presently an area of 1.62 hectares has been occupied by Government offices, 4.00 hectares by utilities and services, 1.50 hectares by education, health and postal services, 0.50 hectares by Police, Bank, Fire and 24.00 hectares by three major institutions i.e. Mountaineering and Allied Sports Institute, Snow and Avalanches Studies Establishment (SASE) and General Reserve Engineering Force(GREF), thus total existing landuse under Public and Semi Public use is 31.62 hectares. As there is no college in Manali so a college with an area of 2.55 hectares is proposed at Haripur falling outside the Manali Agglomeration. Besides this an area of 6.62 hectares is proposed for providing Public and Semi Public use in Aleo which includes Senior Secondary School(1.75 hectares), Sewerage Treatment Plant(0.60 hectares) and 4.27 hectares for the expansion of Mountaineering Institute. A 50 bedded hospital with an area of 1.00 hectares is also proposed in Prini. Therefore total additional land required for this use is  $6.62+1.00=7.62$  hectares with in the Manali Agglomeration.

**15.5. Parks and open spaces Use:**

The existing patches of reserve forests within the town spreading over an area of 88.87 hectares are well maintained and serve as green lungs in the town. The entire area around Manali is a recreational area for tourists, therefore, it is envisaged in the Development Plan to improve and enrich these areas environmentally instead of making provision for new areas. There is no Government land available in the agglomeration area except for these forests. Besides this the 25 metre wide strip of land on both sides from the High Flood Level(HFL) of river Beas occupying an area of 28.99 hectares has been proposed to be retained as such. A new Bus stand with an area of 0.75 hectares is proposed in the existing play ground and the existing Bus stand having an area of 0.31 hectares is proposed to be allocated for playground. Thus net area of  $0.75-0.31=0.44$  hectares is proposed to be transferred from Parks and open spaces use to Traffic and Transportation Use. Therefore total existing area under this use i.e.  $88.87+28.99=117.86-0.44=117.42$  hectares shall continue to remain for the same use and no additional land is required for this use.

**15.6 Traffic and Transportation Use:**

The total area requirement under traffic and transportation has been worked out on the basis of anticipation as 37.93 hectares. The existing area under this use is 19.16 hectares and the balance 18.77 hectares is to be provided in the Development Plan i.e. for proposed roads 14.31 hectares, proposed Bus terminus 0.44 hectares and for proposed parking and spaces 4.02 hectares (which includes 2.71 hectares of land to be reclaimed along bed of river Beas at Manali). The bus stand is required to be shifted to new location with better circulation.

### 15.7 Agriculture Use:

An area of 162.03 hectares as shown in table 15.1 below is the additional requirement under different uses which shall be met out of 738.91 hectares existing Agriculture use.

### 15.8. Water Bodies Use:

The land under water bodies i.e. 104.00 hectares shall remain as such.

**Table:15.1 Additional area requirement for urban uses.(in Hectares)**

<b>Sr. No.</b>	<b>Description</b>	<b>Existing Area</b>	<b>Additional Area</b>
1.	Residential	115.00	115.50
2.	Commercial	7.70	1.35
3.	Tourism/ Industry	17.75	24.75
4.	Public and Semi Public	31.62	7.62
5.	Parks and Open Spaces	*117.86	0.44
6.	Traffic and Transportation	19.16	18.77
7.	Agriculture	738.91	-
8.	Water Bodies	104.00	-
	<b>Total</b>	<b>1152.00</b>	<b>167.99</b>

\* An area of 0.44 hectares is proposed to be allocated to Traffic and Transportation Use for proposed new Bus Stand.

## Chapter 16

### DEVELOPMENT PROPOSALS

The Development Plan for Manali Agglomeration is based on exhaustive surveys and studies and a series of deliberations held with the public as well as professional experts. As a pilot Development Plan under the NORAD Project it has a special significance in physical planning process. Being a very important and integral part of the Kullu Valley region, the Manali Agglomeration has been considered in a regional context and all planning proposals have been drafted to fit into the entire gamut of regional and local requirements worked out in a balanced manner.

#### **16.1 Regional Scenario:**

The Kullu Valley Planning Area consists of two well defined urban nodes – (i) Kullu-Bhuntar Agglomeration in the south extending between Bajaura and Bashing and (ii) Manali Agglomeration in the north. The intervening area between Bashing and Suinsa on right bank and between Hawaii Nullah to Shuru on left bank of river Beas is mainly rural in character with growing urban features along the National Highway No. 21. For the purpose of planning, entire Kullu Valley is considered as one unit and the Development Plans for the two urban nodes have been framed in harmony considering them as two integrated parts of the Kullu Valley Planning Area as a whole. The Development Plan for Kullu-Bhuntar area has already been prepared and is pending approval of the Government. The Development Plan for Manali Agglomeration caters to the needs of entire upper part of the valley. The strategy for

planning in Manali Agglomeration is to envisage land use proposals for the residential population of the agglomeration within the agglomeration limits and ensure dispersal of functions which have a regional importance to the surrounding areas so as to have an equitable distribution of development activities to all parts of the region. Therefore, the regional requirements like college, warehousing, truck terminal have been proposed to be located outside the Manali Agglomeration. It has been proposed to go for a bye pass for the existing settlements of Katrain and Patlikuhl through a suitably planned alternate road which will provide a safe and smooth passage to the upper parts of the valley and at the same time improve the traffic conditions on the existing road.

## **16.2 Population Projection:**

During the decade 1991-2001 the population of the Manali Nagar Panchayat area has shown an unprecedented growth rate of 157.50% as shown in Table 16.1 below. It is anticipated that this trend is not going to continue further due to overstressing of the infrastructure by optimum utilization and non availability of developable land within the Manali Nagar Panchayat area. Therefore the projection has been done by assuming 100% growth rate during 2001-2011 decade and 80% during the decade 2011-2021. Thus the population of the Manali Nagar Panchayat is anticipated to grow up to 12530 in 2011 and 22554 in 2021. The population of the surrounding areas has grown at 30% during 1991-2001 rising to 11125 in 2001 from 8558 in 1991. Since the growth trend is shifting toward outer areas there will be an increase in the growth rate. It is anticipated that population in the surrounding areas shall grow at a uniform rate of 50 % during 2001-2011 and at 60% during the decade 2011-2021. Thus the population in the surrounding areas is anticipated to be 16688 in 2011 and 26700 in 2021. Total population of the Manali

Agglomeration has been worked out to be 17390 in 2001, 29158 in 2011 and 49254 in 2021. Thus the population of the agglomeration for all purposes has been taken as 50,000.

### **16.3 Development Proposals:**

The Manali Agglomeration has been divided into six sectors for the purpose of land use planning. The Manali Nagar Panchayat area has been kept as a separate sector. The other sectors are Old Manali, Vashisht, Aleo, Prini-Shuru and Suinsa–Ranghri. Total area of the agglomeration is 1152 hectares. Whole of this area has been considered as urbanisable area. As the area under water bodies (104.00 hectares), Parks and Open Spaces 117.42 hectares i.e. (forest 88.87 hectares, 25 metre wide green belt along river, 28.99 hectares) and other areas with steep slopes (210.97 hectares) with a total area of 432.39 hectares are not buildable spaces, therefore, the net area available for development is 719.61 hectares. After working out the total requirement of area under different uses, the proposals have been drafted with due consideration to various limitations like paucity of funds for acquisition of land in public sector, private ownership of land and rights of people to develop according to their requirements etc. The reserve forest area and the areas occupied by the river have been kept unaltered. The 25 metre wide strip of land on either sides/banks along the river Beas from the High Flood Level (HFL) have been maintained as green belt, as per orders of the Hon'ble High Court of Himachal Pradesh. The Development Plan contemplates allocation of land for different uses to meet requirements for the next 20 years, i.e., up to the year 2021 and also envisages sector-wise break-up of proposed land-use structure. Various land uses have been proposed keeping in view availability of developable land in each sector, holding capacity in terms of population and other activities, existing land use of the area, development

potentials, conformity of land use to its surrounding areas, threshold population for facilities, locational attributes of facilities and services, site characteristics, convenient distance of work areas from residential areas, land values, etc.

#### **16.4 Residential Use:**

Residential requirements have been worked out for a total population of 50,000 persons. It is anticipated that residential areas shall grow in a normal trend as extensions to the existing areas due to easy accessibility and availability of infrastructure facilities. According to projections the population of Manali Agglomeration is anticipated to rise up to 50,000 persons. As there is least possibility for creation of serviced land for the anticipated population of agglomeration within the Manali Nagar Panchayat area, it is proposed to accommodate only 8,000 persons within the Manali Nagar Panchayat limits, 13,125 persons in existing residential extensions out side Manali Nagar Panchayat and 28,875 persons shall be accommodated in remaining unbuilt parts of agglomeration in a scattered pattern as per availability of land and wishes of land owners subject to availability of proper access/ approach roads other amenities and fulfillment of planning norms alongwith certain other conforming activities such as commerce, cottage industries and tourism. The existing land use under residential use is 115.00 hectares. The agricultural areas measuring 115.50 hectares i.e. 10.03% of the agglomeration which have a reasonable potential for residential development are proposed to be designated as residential areas in five sectors i.e. old Manali (21.95 hectares) Vashisht(24.26 hectares), Aleo (21.94 hectares), Prini-Shuru( 16.17 hectares) and Suinsa-Ranghri ( 31.18 hectares) where only need based development is to be allowed, provided it satisfies the provisions of zoning regulations. As area of convenient shopping, primary schools, nursery schools, electric sub-stations, local parks, etc.

cannot be detailed out in Development Plan, their land use requirements have been included in residential area itself. As the residential development is to come primarily on the private lands and acquisition being not liked by the land owners, the onus of development of residential areas will rest upon them and the entire mechanism of sub-divisions of land, provision of basic services infrastructure including water supply, sewerage, drainage, electric supply, requisite facilities and services shall also be responsibility of the owners. Strict enforcement of sub-division regulation on one hand and land-pooling and reconstitution schemes by collaborated efforts will be essential in order to ensure proper network of roads, requisite services infrastructure, etc. for healthy living of the community, likely to reside in the area. Thus total proposed landuse is 230.50 hectares under Residential use.

#### **16.4.1 Distribution of Population in Different Sectors:**

The total anticipated population of 50,000 for the Manali Agglomeration has been proposed to be distributed in various sectors as under:

**Table: 16.2 Distribution of Population in Different Sectors**

<b>Sr. No.</b>	<b>Sector</b>	<b>Existing (2001)</b>	<b>Proposed (2021)</b>
I.	Nagar Panchayat	6265	8,000
II	Old Manali	2066	6,000
III	Vashisht	2311	5,000
IV	Aleo	2176	7,000
V	Prini Shuru	1570	11,000
VI	Sunisa-Ranghri	3002	13,000
	<b>Total:</b>	<b>17390</b>	<b>50,000</b>

### **16.5 Commercial Use:**

The higher order commercial facilities in the agglomeration is concentrated in the heart of the town along Mall road and other internal roads occupying an area of 7.70 hectares which is 52% of the total area. The commercial activities have conspicuous tendency to come up in mixed pattern with residential and other compatible landuses. The Development Plan envisages to curve this tendency so to improve the environmental quality in the heart of this tourist town by dispersing this activity to unbuilt part of agglomeration across river at Prini where a modern Hi-Tech commercial shopping complex on international standards in the form of counter magnet to central commercial nucleus is proposed. It shall have an area of 1.35 hectares which shall cater for the additional spare requirement of 270 additional shops alongwith space for parking. Provisions for wholesale and ware housing commercial activities are made on entry points to the agglomeration at Palchan and Barod where complexes having area of 2.00 hectare and 1.50 hectare respectively are proposed. As this facility is meant for the whole region alongwith Manali Agglomeration these Complexes are proposed outside the agglomeration area. These provisions shall help in achieving better environmental quality in Manali town by providing opportunities to shift wholesale activities from the present location in model town area. Thus total proposed landuse under Commercial use is 9.05 hectares.

### **16.6 Tourism/Industry Use:**

Manali town being base for tourism industry in upper Beas Valley is having maximum concentration of tourist facility. The town has tourist accommodation bedding capacity of 15,000 beds. Apart from this commercial and

recreational facilities are also concentrated in Manali and environs causing undue congestion and thereby degradation of environmental quality. To cope up with this situation, this Plan proposes for dispersal of tourist accommodation and other infrastructure to tourist commercial nodes of Solang, Naggar and Rohtang Pass apart from the unbuilt parts of agglomeration where it is proposed that tourism related development shall take place in combination with residential and cottage handicraft industries. As such the additional requirement of 24.75 hectare land for tourism industry shall be met out in unbuilt part of urbanisable agglomeration. The Plan envisages to allow development of tourist accommodation in Manali Agglomeration in form of small cluster of cottages/guest houses and other related amenities in a dispersed manner. The Plan thus aims at increasing the duration of stay of tourists from the present level of 2 days to atleast 3 days by developing tourist complexes at Naggar, Rohtang Pass and Solang.

#### **16.7 Public and Semi-Public Use:**

The Public and Semi-Public use includes Government and semi-Government offices, educational, medical, utilities, services, civic centre, socio-cultural facilities and cremation grounds etc. These services and facilities in the existing land use have been shown as separate items but they have been clubbed for the purpose of working out proposal under the proposed land use. The total area allocation under the Public and Semi-Public use is 39.24 hectares including existing land use of 31.62 hectares. An additional area of 6.62 hectares has been allocated in Aleo out of which 1.75 hectares has been earmarked for a Senior Secondary School, 0.60 hectares for a Sewerage Treatment Plant and the balance 4.27 hectares has been added to the Mountaineering Institute for its expansion. It is proposed that a civic centre consisting of tourist related civic amenities alongwith parking, tourist information centre near Hotel Kunjam

shall be developed on a piece of land measuring 0.25 hectare which is to be made available after removing existing outdated structures of H.P. Tourism Development Corporation and H.P. Public Works Department.

The local Government hospital has an existing capacity of 30 beds and there is a proposal to increase it to 130 beds, whereas the Mission Hospital has a bed capacity of 100. In addition to this there is a private 24 bedded hospital already existing in the town. Total 254 bed capacity in different hospitals is considered to be sufficient for Manali. The Zonal Hospital at Kullu serves the entire region for specialised medical facilities. In order to serve the proposed population size of 1,85,000 persons including regional and floating population as well, during the peak season, it is proposed to have a 50 bedded hospital on the left bank of river Beas to ensure equitable spatial distribution of health facilities of higher order in the agglomeration. For this purpose an additional area of 1.00 hectares is proposed at Prini in close vicinity to proposed commercial complex with suitable vegetal buffer. Thus the total proposed land use under Public and semi Public use is 39.24 hectares which includes 31.62 hectares( existing landuse) plus 7.62 hectares(6.62+1.00) additional requirement.

### **16.8 Parks and Open Spaces:**

The reserve forests with an area of 88.87 hectares within the Manali Agglomeration are well maintained and preserved which serve as a passive recreation areas. Besides this an area of 28.99 hectares occupied by 25 metres wide strip of land on both sides from the High Flood Level(HFL) of river Beas is also serving as green belt. As for as the active recreational spaces are concerned the school ground and open area near club house is anticipated to serve

the purpose. It is proposed to develop a new playground by converting the present site of Bus stand measuring 0.31 hectares and to allocate 0.75 hectares of land under playground for new Bus stand. Therefore net land allocated from Parks and Open Spaces use to Traffic and Transportation use is  $0.75-0.31=0.44$  hectares. Thus the total existing land use under Parks and Open Spaces i.e.  $88.87+28.99=117.86-0.44=117.42$  hectares is considered sufficient and no additional land has been allocated for this use, therefore, total proposed land use is 117.42 hectares.

### 16.9 Traffic and Transportation Use:

The Plan allocates an area of 37.93 hectares of land for this use including 18.77 hectares of additional land as per schedule given below:-

<b>Sr. No.</b>	<b>Description</b>	<b>Existing area</b>	<b>Additional Area required</b>	<b>Total</b>
1.	Circulation Network	17.81 hectare	14.31 hectare	32.12 hectare
2.	Terminal Facilities	*0.31 hectare	0.44 hectare	0.75 hectare
3.	Parking and Services	1.04 hectare	4.02 hectare	5.06 hectare
	<b>Total:</b>	<b>19.16 hectare</b>	<b>18.77 hectare</b>	<b>37.93 hectare</b>

\* An area of 0.31 hectare presently occupied by existing bus stand shall be utilized as playground.

### 16.9.1 Circulation Network:

The Plan envisages to have roads with Right of Way (ROWs) of 24.00 M, 18.00 M and 7.50 M. The total length of proposed new roads is 19.078 Km. having ROW 7.50 m and covering an area of 14.31 hectares as shown in the following table:-

**Table 16.4 Proposed Roads in Manali Agglomeration, Sector wise details.**

<b>Sr. No.</b>	<b>Description</b>	<b>Length</b>	<b>Width</b>	<b>Area</b>
1.	Nagar Panchayat Sector-I	-	-	-
2.	Old Manali Sector-II	2.720 Km.	7.5 m.	2.04 hectares
3.	Vashisth Sector-II	1.146 Km.	7.5 m.	0.86 hectares
4.	Aleo Sector-IV	3.426 Km.	7.5 m.	2.57 hectares
5.	Prini-Shuru Sector-V	7.666 Km.	7.5 m.	5.75 hectares
6.	Sunisa-Rangri Sector-VI	4.120 Km.	7.5 m.	3.09 hectares
	<b>Total:</b>	<b>19.078</b>	-	<b>14.31 hectares</b>

From Barrier to bridge Beas near Tourism Hotel along the river, a bye pass has been proposed for through traffic of National Highway No.21

**16.9.2 Terminal Facilities:**

There is only one bus terminus in Manali which has an area of 0.31 hectares. As it opens directly on a over crowded road creating traffic problems and shall not be in a position to cater for the future requirement, therefore, Plan envisages to shift this bus terminus to existing school ground having an area of 0.75 hectares. The present bus stand shall be used for playground to the Senior Secondary School. Thus area required to be allocated from Parks and open spaces use to Traffic and Transportation use for the purpose of new Bus Stand is  $0.75-0.31=0.44$  hectares.

**16.9.3 Parking and Services:**

Presently an area of 0.53 hectares in Urban Estate Manali and 0.51 hectares in various other localities like near Mission hospital, Chandertal, Dhungri etc. is being used for parking and services. Thus 1.04 hectares area is under existing parkings. Beside this it is proposed to reclaim an area of 2.71 hectare from the river(Beas) bed at the entry of the town as parking space. The parking place for vehicles on left bank of river Beas shall be in Sector-IV Aleo with an area of 1.31 hectares. Thus total 4.02 hectare of additional land has been proposed for ideal parking.

**Table 16.5: PROPOSED LAND USE FOR MANALI AGGLOMERATION 2021**

Sr. No.	Land Use	Nagar Panchayat	Old Manali	Vashisht	Aleo	Prini-Shuru	Suinsa-Ranghri	Total Area (Hectare)
		(i)	(ii)	(iii)	(iv)	(v)	(vi)	
1.	Residential	21.25	37.20	40.26	43.94	32.67	55.18	230.50
2.	Commercial	4.00	0.50	0.75	1.75	1.85	0.20	9.05
3.	Tourism/ Industry	6.75	1.25	1.75	10.75	10.75	11.25	42.50
4.	Public/ Semi Public	6.37	0.75	12.00	16.12	2.00	2.00	39.24
5.	Parks and Open Spaces	70.18*	3.00	6.87	18.63	16.87	1.87	117.42
6.	Traffic and Transportation	10.27	2.62	4.01	6.99	8.10	5.94	37.93
7.	Agriculture	47.60	58.05	124.06	94.85	126.06	120.31	571.36
8.	Water Bodies	-	-	-	-	-	-	104.00
	<b>Grand Total:</b>	<b>166.42</b>	<b>103.37</b>	<b>190.13</b>	<b>193.03</b>	<b>198.03</b>	<b>196.75</b>	<b>1152.00</b>

\* Area under Parks and Open Spaces of Sector-1 Nagar Panchayat is 70.62 hectares out of which 0.44 hectares has been allocated to. Traffic and Transportation use for the proposed new bus stand, therefore, balance area is 70.18 hectares.

## **Chapter 17**

### **PLAN IMPLEMENTATION**

The Development Plan contains provision for a projected population of 50,000 people which is anticipated to occupy the Manali Agglomeration by the end of year 2021 through the period of 20 years. The total area covered within Manali Agglomeration is 1152 hectares. The 88.87 hectares of land covered under reserve forests and 28.99 hectares under green belt along river Beas has been taken into Parks and Open Spaces use and 104.00 hectares of land covered under river and nullahs has been taken independently under Water Bodies Use. An acute shortage of funds for acquisition of land for public purposes is a great challenge to the administration to ensure a sustainable integrated development pattern. It has, therefore, been proposed to adopt a people's participatory approach for an optimum accomplishment. It will only be possible with the joint efforts of the Development Authority, Nagar Panchayat and Gram Panchayats included within the Manali Agglomeration and the Department of Town and Country Planning which is nodal agency for planning in the State. Minimum acquisition of land for most essential development like circulation network has been proposed. The development of other infrastructure is proposed to be managed through public participation by way of land pooling. The development has to come up spontaneously as per the public demand and availability of developable land. Therefore, a mixed residential land use pattern in the new areas has been envisaged in the Development Plan. The area contiguous to existing developed areas are anticipated to develop first due to availability of infrastructure facilities in the neighbourhood and a gradual extension of these facilities to new areas is proposed to be ensured through public participation. The zoning regulations shall regulate

and dictate the development pattern. There are different Government departments and public sector organisations which are nodal authorities responsible to provide funds for development in their respective field through general budgetary provisions of the State Government. It is proposed to evolve a combined approach through the Development Plan to regulate different schemes of development in an integrated manner through all these departments and organisations.

### **17.1 Phasing:**

The Development Plan is a regulatory instrument to guide the development through 20 years. Since it is not possible to clearly foresee the entire scenario with reference to the financial aspects that is likely to emerge over such a long period, therefore, the Development Plan is considered to be a long term policy document which is to serve as a guide for development and must be reviewed every five years to incorporate all the changes on priorities. The first phase is very important as it gives lead to the development pattern that is to be followed in subsequent phases.

#### **17.1.1 First Phase – 2002-2006:**

First phase of the Development Plan has been proposed to have the following contents:

1. Preparation of land pooling scheme measuring 21.94 hectares of land in Aleo Sector bounded by Mountaineering Institute, Aleo Nullah, left bank road of river Beas and approach road leading to the Mountaineering Institute. For preparation of land pooling scheme as well as to execute the provisions contained in the Development Plan an office of the rank of Assistant Town Planner to be opened at Manali.
2. To arrange land for construction of internal vehicular roads with 7.50 metres ROW in various sectors by land acquisition and development.

3. Shifting of present bus stand to new site at existing play ground of Senior Secondary School near Government Hospital, Manali.
4. Reclamation of site measuring 2.71 hectares including development by way of providing protection works along bed of river Beas at Manali.
5. Acquisition of land for proposed commercial complex and hospital at Prini measuring 1.35 hectares and 1.00 hectares respectively.
6. Improvement of existing 1.50 K.M. road leading to Log Huts by widening and improvement of other major arterial roads.
7. Ware Housing Site at Palchan and Barod to be developed and necessary infrastructure to be provided.

### **17.1.2 Subsequent Phases:**

After review of the implementation process of previous phase the process shall continue as per new priorities.

## **17.2 COSTING**

**17.2.1:** The Plan envisages that the residential development is to be ensured by the land owners by sub-divisions and Nagar Panchayat and Gram Panchayats through mechanism of 'land pooling and reconstitution'. The 7.50m wide roads are to be developed by Nagar Panchayat/Gram Panchayats or concerned authorities by raising funds from the beneficiaries. Roads with a width of 18.00m and 24.00 m are to be developed by the Development Authority by raising development charges through implementation and realisation of remunerative uses in the activity zones. However, the cost of arterial roads including bye pass, bulk water and electric supply is to be borne by obtaining

funds through Plan allocation from the State Government and the same is to be realized subsequently from the beneficiaries.

### 17.2.2. Major Community Proposals and Costing:

The cost of different proposals proposed to be taken under First Phase has been worked out as under:-

**Table:-17.1 Cost Estimate for the First Phase 2002-2006**

<b>Sr. No</b>	<b>Description</b>	<b>Area (in Hectares)</b>	<b>Rate (in Lacs) Rs.- Paise</b>	<b>Unit</b>	<b>Amount (in lacs) Rs.-Paise</b>	<b>Remarks</b>
1.	Preparation of Land Pooling Scheme in Aleo and administrative expenditure on account of opening of Assistant Town Planner's office at Manali for execution of the proposals of Development Plan.					
	<ul style="list-style-type: none"> <li>Acquisition of land</li> </ul>	21.94	-	Hectare	-	Acquisition cost not taken into account as Scheme to be formulated after arranging land through Land Pooling mechanism

	<ul style="list-style-type: none"> <li>• Administrative Expenditure</li> </ul>	-	Lump Sum	-	0.80*	For opening of an office of Assistant Town Planner at Manali *Salary of staff per month.
2.	<p><b><i>Construction of internal roads</i></b></p> <ul style="list-style-type: none"> <li>• Acquisition of land.</li> </ul>	14.31	47.09	Hectare	673.86	<ul style="list-style-type: none"> <li>• Rate has been taken from H.P. Revenue authorities.</li> <li>• For list of roads see Table 16.4</li> <li>• Rate has been taken from H.P. Public Works Department.</li> </ul>
	<ul style="list-style-type: none"> <li>• Construction of roads</li> </ul>	19.078	14.80	K.M.	282.35	
3.	Shifting of present Bus Stand to Playground of Senior Secondary School near Govt. Hospital Manali.	0.75	-	Hectare	-	<ul style="list-style-type: none"> <li>• Being Government land therefore no acquisition cost is involved.</li> </ul>
4.	Reclamation of land for parking along bed of river Beas at Manali.	2.71	2.00	Hectare	5.42	<ul style="list-style-type: none"> <li>• Being Government land therefore no acquisition cost is involved.</li> <li>• Rate has been taken from H.P. Public Works Department.</li> </ul>

5.	Construction of Commercial Complex and Hospital at Prini i.e. acquisition of land.  <ul style="list-style-type: none"> <li>• Commercial Complex</li> <li>• Hospital</li> </ul>	1.35 1.00	49.43 49.43	Hectare Hectare	66.73 49.43	<ul style="list-style-type: none"> <li>• Rate has been taken from H.P. Revenue authorities.</li> <li>• Rate has been taken from H.P. Revenue authorities.</li> </ul>
6.	Improvement of existing 1.50 K.M. road leading to Log Huts.	1.50	14.80	K.M.	22.20	Rate has been taken from H.P. Public Works Department.
7.	Construction of Ware Housing at Palchan.	3.50	-	Hectare	-	Being outside Manali Agglomeration amount has not been worked out.
-	<b>Total</b>	-	-	-	<b>1100.79</b>	<b>or say Rs. 1200 Lacs only</b>

### 17.3 FINANCING

**17.3.1** The cost of residential development including road network, sewerage, drainage, electrification, parks, open spaces, parking, local/convenient shopping etc. is to be borne by the land owners either themselves in respect of their land holdings or by way of land pooling and reconstitution mechanism in respect of small irregular holdings of different owners. The benefits likely to accrue by way of sale of plots by virtue of enhancement of land values due to planned

efforts would be more than sufficient to meet with the cost of development. On the basis of demarcation of plots in view of duly approved sub-divisions/ land pooling and reconstitution schemes by the Director, Town and Country Planning Department, Himachal Pradesh, the land owners may get advance from the likely purchasers for development purposes. The new Bus stand is to be developed at the available site by the Himachal Road Transport Corporation. The respective Government Departments/ Government Undertakings by raising resources from the beneficiaries will be responsible for development of utilities, facilities and services including water supply, sewerage, drainage electrification, telephone etc at the town level by raising their own resources or by obtaining funds from the Government. The parking lots are to be developed by Development Authority. The wholesale and ware housing is to be developed by Marketing Committee.

**17.3.2**In case the “Land Pooling and Reconstitution” mechanism does not succeed, the entire Land has to be acquired for implementation of the Development Plan. In such circumstances the cost of land 21.94 hectares to be acquired shall be @ Rs. 49.43 Lacs per hectare i.e. Rs.1084.49 Lacs and the development cost of the land shall be @ Rs. 2.00 Lacs per hectare i.e. Rs. 43.88 Lacs. Thus total cost works out to be Rs.1128.37 Lacs or say **Rs. 1129 Lacs**. This will be in addition to Rs. 1200 Lacs as estimated under Table 17.1 above. In view of above explained circumstances the total cost shall be Rs. 1200 Lacs + Rs. 1129 Lacs = **Rs. 2329 Lacs** only.

#### 17.4 IMPLEMENTATION :

Besides landowners, Nagar Panchayat, Gram Panchayats, the Development Authority shall be responsible for creation of serviced land. However, overall control on implementation of proposals of Development Plan in terms of landuse, zoning and sub-division regulations shall vest with the Director, Town and Country Planning Department, Himachal Pradesh. In order to ensure co-ordination, monitoring and effective implementation of Development Plan, a Plan Implementation Committee shall be constituted comprising following members:-

1.	Deputy Commissioner, Kullu	Chairman
2.	Director, Mountaineering Institute & Allied Sports, Manali	Member
3.	President, Nagar Panchayat, Manali	Member
4.	Executive Engineer, B&R, HPPWD, Kullu	Member
5.	Executive Engineer, I&PH Division, Kullu	Member
6.	Executive Engineer, N.H. Division, Pandoh	Member
7.	Executive Engineer, HPSEB, Manali	Member
8.	Divisional Forest Officer, Kullu	Member
9.	Sub-Divisional Magistrate, Manali	Member
10.	Regional Manager, HRTC, Kullu	Member
11.	Divisional Tourism Officer, Kullu	Member
12.	Assistant Environmental Engineer, H.P. Pollution Control Board, Kullu	Member

13	Assistant Engineer, H.P. Housing Board, Kullu	Member
14	Tehsildar, Manali	Member
15	All Pradhans of Panchayats in Manali Agglomeration of Kullu Valley Planning Area.	Member
16	Town and Country Planner/Assistant Town Planner, Kullu	Member Secretary

To assess achievements of each phase and to orient the Development Plan according to changing needs as well as to cater for unforeseen factors, it is envisaged to review this Plan after completion of the period of each phase.

**CHAPTER-18**  
**ZONING AND SUB-DIVISION REGULATIONS**

**18.1 Regulations**

**18.2 Procedure**

- (a) The application for development of land to be undertaken on behalf of the Union or State Government under Section 28 and under Section 29 by a local authority or any authority specially constituted under the H.P. Town and Country Planning Act, 1977 shall be accompanied by such documents as prescribed under Rule-11 of the H.P. Town and Country Planning Rules, 1978.
- (b) The application for development of land to be undertaken under Section 30 by any person not being the Union or State Government, local authority or any authority specially constituted under the H.P. Town & Country Planning Act, 1977 shall be in such forms along with the specifications sheet and schedule attached with these forms and containing such documents and with such fee as prescribed under Rule 12 of the H.P. Town and Country Planning Rules, 1978.
- (c) The application under Section 30 "A" for construction of farm house for agricultural purpose shall be a simple application to the Director for seeking his permission subject to the conditions as envisaged under Section 30 "A" of the H.P. Town and Country Planning Act, 1977.
- (d) Apart from above the applicant shall furnish the following additional documents namely:-

- (i) Location Plan in the scale 1:1000, indicating the land in question, main approach roads important physical features of the locality/area, important public buildings like school, Hospital, Cinema, Petrol Pump etc. and surrounding ownership.
- (ii) Site Plan in, the scale of 1:200 indicating the proposed site, approach road, adjoining buildings, the existing sewerage and drainage showing the built up and open area clearly. Site must tally with the shape and dimensions of plot shown in the tatima. Otherwise suitable revenue document supporting/verifying the change in shape and area to be enclosed.
- (iii) Five sets of Plans, Elevations and Sections in the scale of 1: 100 or 1:50.
- (iv) The Architectural drawings duly signed by the Registered Architect/ Planner/ Engineer/ Draughtsman along with his/her address and registration number.
- (v) Copy of Treasury Challan Form vide which requisite fee has been deposited.
- (vi) Latest original Khasra map showing Khasra number of land in question, adjoining Khasra numbers from all sides of plot and approach path with dimensions.
- (vii) Ownership documents such as copy of latest Jamabandi and attested photo copy of Registration deed.
- (viii) In the site plan the distance of electricity line, from development as per Indian Electricity Rules (as amended upto date) in case any electricity line is passing over or nearby the proposed site for development, be shown.
- (ix)** A certificate from the Nagar Parishad / Nagar Panchayat and Revenue authority shall be enclosed in support of taking over the land surrendered for development of road or path and designing it as public

street as per the provisions of the Himachal Pradesh, Municipal Act 1994 in case own share land is made available by the owner of such land and where no public road or path exists.

- (x) For the plots abutting National Highways, State Highways, bye-passes and other Public Works Department scheduled roads the No Objection Certification (NOC) from Public Works Department shall be submitted as per the format appended below:-

**NO OBJECTION CERTIFICATE FROM H.P. PUBLIC WORKS DEPARTMENT**

The Himachal Pradesh Public Works Department has no objection on carrying out any development on land bearing Khasra Number \_\_\_\_\_ of revenue village/ mohal \_\_\_\_\_ abutting National Highway/ State Highway/ Schedule Road \_\_\_\_\_ by the owner Sh./Smt. \_\_\_\_\_ resident of \_\_\_\_\_ with respect to the provisions of the H.P. Road Side Land Control Act, 1968 in this behalf as shown in the site plan.

Seal Competent Authority of  
H.P.PWD

- (x) Applicant shall have to submit any other certificate/documents/Plan e.g. No Objection Certificate (NOC) from the H.P. State Pollution Control Board, water and electricity availability certificates from the concerned

departments etc. as may be required by the Director. For obtaining NOC from H.P. State Electricity Board, the same shall be submitted as per format appended below:-

### **NO OBJECTION CERTIFICATE FROM HIMACHAL PRADESH STATE ELECTRICITY BOARD**

The Himachal Pradesh State Electricity Board has no objection on carrying out any development on land bearing Khasra Number \_\_\_\_\_ of revenue village/ mohal \_\_\_\_\_ under the \_\_\_\_\_ line by the owner Sh./Smt. \_\_\_\_\_ resident of \_\_\_\_\_ with respect to the provisions of Indian Electricity Rules, 1956 inforce in this behalf as shown in the site plan.

Seal Competent Authority of  
H.P.S.E.B.

- (xi) Demarcation Certificate from revenue authority shall be submitted.
- (xii) The structural design of the building at the time of submission of planning permission cases and structure stability certification on its completion shall be submitted.

### **18.3 General Regulations**

The following general regulations shall apply to all development activities in each of the Landuse Zones in the Manali Agglomeration of Kullu Valley Planning Area :-

- (i) No building or other structure shall be erected, re-erected or materially altered without the permission of the Director.
- (ii) General land use in the Development Plan has been contemplated for specific uses. However, mixed land use shall not be prohibited unless otherwise a particular land use is hazardous, contiguous in nature to the predominant use and fulfills the regulations fixed for the same at the time of coming into force of these regulations.
- (iii) No yard or plot existing at the time of coming into force of these regulations shall be reduced in dimension or area below the minimum requirement set forth herein. The yards or plots created after the effective date of

these requirements shall meet at least the minimum requirements established by these regulations. All the plots registered prior to coming into force of these regulations shall be treated as plots irrespective of their size subject to the condition that 3.00 metres wide path abutting one side of the plot will be the basic requirement. If 3.00 metres wide path is not available at site and if it is lessor in width then the owner should surrender the remaining area from his plot to make the path 3.00 metres wide.

- (iv) Areas zoned for Public/ Semi Public use and Parks and Open Spaces shall not be built upon in any way or use etc. for any purpose other than parks, play grounds and recreations. These may, however, with the prior permission of the Director be permitted temporarily for a period not exceeding 30 days to be used for public entertainment purposes and shall be removed at the end of the period and shall in no case be permanently erected.
- (v) The height limitations of these regulations shall not apply to all kind of religious places e.g. temples, Mosques, Gurudwaras and Churches etc. provided it is so designed and approved by the Director. The chimneys, elevators, poles, tanks and other projections not used for human occupancy may extend above the prescribed height limits. The cornices and window sills may also project into any required yard.
- (vi) In the public interest and in the interest of town design or any other material consideration the Director may permit change of landuse on specific ground(s) and may relax minimum size/area of plot, plot coverage, set backs, number of storeys and floor area ratio (F.A.R) etc. The decision of the Director shall be final.
- (vii) The existing non-confirming uses of land and structures shall not be allowed in contravention of provisions of Section-26 of the H.P. Town & Country Planning Act 1977.

- (viii) Natural nullahs which passes through land involving division shall be developed and maintained according to discharge of water.
- (ix) Where it is essential to develop a plot by cutting, it shall be the responsibility of the plot owner to provide according to the engineering specifications, retaining and breast walls so that such cutting of natural profile of the land may not harm the adjoining uphill side properties. However, cutting of natural profile shall not exceed more than one storey (3.50) metres in any case having a provision of diaphragm wall for step housing.
- (x) Development proposal for a part of land or Khasra number shall not be considered and proposal for complete land holding shall be submitted even if planning permission is required for a part of the land holding. For rest of the land, if not proposed to be developed by the owner and also not proposed to be acquired by any authority for any development purpose, the owner shall have to submit an undertaking in this behalf that the rest of the land shall not be sub-divided and shall not be developed upto the plan period of the Development plan.
- (xi) No wall fence and hedge along any yard or plot shall exceed 1.50 metres in height.
- (xii) On a corner plot bounded by a vehicular road in any land use zone, nothing shall be erected, placed, planted or allowed to grow in such a manner so as to materially impede vision to avoid accidents and for smooth running of vehicular traffic.
- (xiii) No planning permission for development shall be granted unless the road/path on which land/plot abuts is properly demarcated and developed.
- (xiv) In case of existing areas the Front and Rear set backs need not to be left and existing buildings line can be maintained provided further that the existing buildings are approved by the local body.

- (xv) Drainage shall be regulated strictly according to natural profile of land with a view to prevent land slides and soil erosion and also to maintain sanitation and public health.
- (xvi) No building shall be erected on slope forming an angle of more than 45<sup>0</sup> slope on individual sites basis after considering the stability of ground/ natural profile, view point or any other material consideration.
- (xvii) In case of plot or land abutting existing road or path, width of the same shall be increased to meet requirements of the Development Plan by getting additional strip of land surrendered by the land owner(s) on either sides of each road or path equitably or in accordance with topography of land and feasibility. Right of ownership of use of such land which is earmarked for path or road shall be surrendered or transferred to the Development Authority or local body by owner(s) of the plot(s) without any compensation for maintenance purpose. The registering authority shall have binding with this provision to effect all registrations as per approved layouts from the Director Town and Country Planning or through authorize officers. In this, registering authority shall be effecting transfer of mutations to Government for surrendered lands for public roads, paths and facilities.
- (xviii) The constructions conferring to the traditional Hill Architecture with conical roof should be encouraged in hilly areas.
- (xix) Roof slab/chajja projection over door/ window openings shall be limited upto 0.45 metre over set backs on all sides.
- (xx) Maximum height of plinth level shall be 4.00 metres.

- (xxi) The set backs shall not be applicable to services like Electric Sub-Station, road side infrastructure/facilities. Such as rain shelters, auto services, landscaping etc. which are specifically permitted by the H.P.Public Works Department on the acquired width of a road with temporary structures.
- (xxii) In case of Petrol filling station the layout plan/norms of the Indian Oil Corporation (I.O.C.) shall be adopted. However, on National Highways and State Highways the front set back shall be kept 5.00 metres. If the rear and side set backs are not mentioned in the layout plan of (I.O.C.) then the minimum sides and rear set backs shall be 2.00 metres.
- (xxiii) No construction shall be permitted on a piece of land left with buildable width less than 5.00 metres after maintaining set backs with reference to the size/area of plot when the same lies in between the two roads.
- (xxiv) Not more than three dwelling units per floor shall be permissible in residential building constructed on plot having an area upto  $250\text{m}^2$ . For plot measuring more than  $250\text{m}^2$  one additional dwelling unit for every additional  $100\text{m}^2$  area shall be permissible in each floor.
- (xxv) Minimum size of different parts of a building shall be as under:-

a.	Habitable Room	Minimum floor area	9.50 m <sup>2</sup>
		Minimum width	2.40 m
b.	Kitchen	Minimum floor area	4.50 m <sup>2</sup>
		Minimum width	1.80 m
c.	Bathroom	Minimum floor area	1.80 m <sup>2</sup>
		Minimum width	1.20
d.	W.C.	Minimum floor area	1.10 m <sup>2</sup>
		Minimum width	0.90 m
e.	Toilet	Minimum floor area	2.30 m <sup>2</sup>
		Minimum width	1.20
f.	Corridor	For residential	1.00 m wide minimum
		For other uses	1.20 m wide minimum
g.	Stair	(i) For residential	1.00 m wide minimum
		(ii) For Hotel/ Flats/ Hostel/ Group Housing/ Educational Institutions like School, College etc.	1.50 m wide minimum

		(iii) Hospital/ Auditorium/ Theatre/ Cinema Hall	2.00 m wide minimum
h.	Width of treads Without nosing	For residential	25 cm. minimum for internal stair case.
		For other uses	30 cm. minimum for internal stair case.
i.	Height of riser	For residential	19 cm. maximum (15 nos. maximum in a flight).
		For other uses	15 cm. maximum (15 nos. maximum in a flight).
j.	Spiral Stair Case	In commercial building of three or more storeys, provision of spiral stair case not less than 1.50 m dia with adequate head height other than regular stair case shall be permissible as fire escape in addition to regular stair case.	
	Openings	For sufficient air and light the windows and ventilators provided should have minimum area equivalent to 1/6th of the floor area.	

1. Balcony                      1.20 m wide balcony complete open at two sides with restriction  
projections                    upto 50% of building frontage where minimum front set back is 3.0  
m shall be permissible.
  
- (xxvi)    Parking floor shall be allowed on floor which comes at road level, subject to the condition that the height of parking floor shall be 2.30 metres. This parking floor shall be over and above the permissible FAR limits.
- (xxvii)    (xxvii)In case space as per requirement for parking is available in open over and above the set backs, condition of parking floor shall not be insisted.
- (xxviii)    Minimum and maximum height of floor shall be 2.70 m and 3.50 m respectively (for all land uses) and 25% variations in floor heights, if required, for specific functional requirement of an activity shall be permissible with restriction of overall height of the structure.
- (xxix)    Height of sloping roof zero at eaves and maximum 2.50 m. at centre shall be maintained.
- (xxx)    Construction in terraces shall be allowed to have a provision of storeys as permissible subject to fulfillment of F.A.R. provision.
- (xxxii)    1/3<sup>rd</sup> area of the top floor shall be allowed as open terrace wherever sloping roof is provided.
- (xxxii)    Minimum front set back from the line of controlled width of National/State Highways and other H.P. Public Works Department roads (Scheduled roads) falling within the Planning Area limits shall be 3.00 metres ( except on land included in the inhabited sites of any village as entered and demarcated in the revenue

records or on sites in Municipal notified area or town area that are already built up). The minimum front set back from other roads and Municipal roads shall be 3.00 metres.

- (xxxiii) The competency for preparation of structural design and its certification shall be as under:-
- (a) For residential buildings to be constructed/ completed on plot area upto 500 M<sup>2</sup> and upto 3 storeys or 11.00 m. height. = Registered Architect.
- (b) For buildings to be constructed/ completed on plot area upto 500 M<sup>2</sup> and upto 5 storeys or 16.00 m = Graduate Civil Engineer having minimum 3 years experience in engineering structure practice with design & field work.
- (xxxiv) Building shall not be put to use prior to issue of completion certificate by the Director, Town and Country Planning Department in areas falling outside Municipal Corporation/Nagar Parisahad/ Nagar Panchayat but within the Planning Area.
- (xxxv) The procedure for issuance of No Objection Certificate (N.O.C.) for water supply and electricity connections shall be as under:-

- (a) Temporary = At plinth level.
- (b) Permanent = On completion of dwelling unit/ floor  
/whole building.

- (xxxvi) Any No Objection Certificate (NOC) issued by the Town & Country Planning Department shall be liable for withdrawal on breach of terms and conditions of references of the issuance of such NOCs and undertaking to this effect shall be rendered by the applicant.
- (xxxvii) No construction shall be allowed within a radius of 5.00 metres from the Forest/Green belt boundary and within a radius of 2.00 metres from an existing tree. The distance shall be measured from the circumference of the tree.
- (xxxviii) Reconstruction shall be permissible on old lines. Any addition, if required, shall be allowed to the extent of 20% of existing built up area of ground floor subject to fulfillment of other planning regulations.
- (xxxix) No construction shall be permissible above vision line (1.50 metres) on the valley sides of National Highways and State Highways and other major roads to the status of National Highways or State Highways.

#### **18.4 Sub Division of Land Regulations**

- (i) The Sub Division of land into plots amounts to “Development” under H.P. Town & Country Planning Act, 1977 and as such whenever the provision of the H.P. Town & Country Planning Act, 1977 shall be implemented, no person will subdivide the land unless permitted to do so as per Rules/Regulations framed under the Act *ibid*.
- (ii) Similarly no ‘Registrar or the Sub-Registrar can register any deed or documents of any sub-division of land unless the sub-division of land is duly approved by the Director as per provisions contained under Section 16 of the H.P. Town & Country Planning Act, 1977 and sub division of land regulations as contained in this Development Plan under regulations.
- (iii) The application for sub-division of land shall be submitted as per the procedure laid down under regulation 18.2.
- (iv) The General Regulations as laid down under regulation 18.3 shall be kept in view while permitting sub-division of land.
- (v) The sub-division of land shall be permitted in accordance with natural profile topography(shown on a contour map) along with drainage of the land, access, road orientation, wind direction and other environmental requirements and according to prescribed landuse in the Development Plan. Natural flora and fauna shall be preserved. Unless site conditions prohibit plots shall be permitted at right angle to the road with proper shape and dimension, so that optimum use of the land is ensured.

- (vi) The development of land shall not be permitted in area where basic services like paved roads, drainage, water supply, sewerage disposal, electricity, street lighting etc. do not exist or unless the applicant undertakes that these services shall be provided at his own cost.
- (vii) The minimum width of path/road abutting one side of plot shall be 3.00 metres to cluster of plots not exceeding 5 in number. If number of plots exceeds 5 the minimum vehicular access shall be 5.00 metres ( with cul-de-sac) at the end and, for group of plots between 10 to 20 in number (1500 to 3000 m<sup>2</sup> ) on one particular access, the minimum vehicular access shall also be 5.00 metres width. In case of plots exceeding 21 in number (3001 m<sup>2</sup> ) the minimum width of road shall be 7.00 metres.
- (viii) In case of plots or land abutting the existing or proposed roads/paths, width of the same shall be increased to meet requirements of the Development Plan.
- (ix) Average slope gradient for regional roads shall have to be 1:20. However, local roads in town may be allowed with slope gradient upto 1:10 and additional width of carriage way shall be provided on curves for ensuring smooth flow of vehicular traffic which may not obstruct view or vista.
- (x) Minimum area of a plot for a detached house shall not be less than 150 sqm. In case of plot meant for semi-detached and row housing, the minimum area shall be 120 sqm. and 90 sqm. respectively.
- (xi) Semi-detached house construction shall be allowed on upto 120 sqm. or more area and row housing on plots upto 90 sqm., subject to maximum number of such plots do not exceed 8 in a row after which a gap of 7.00 metres shall be left. Although minimum size of plot for construction in a row, with two common walls, has been kept as 90 sqm, yet in exceptional circumstances, considering economic/site conditions the minimum

size of plots in a row, with two common walls, upto 60 sqm. for houses may be allowed so as to provide smallest possible residential construction in a planned manner for the benefit of economically weaker sections of the society. Minimum permissible distance between two blocks constructed on a plot shall be 5.00 metres.

- (xii) The plots allotted by the Government under Gandhi Kutir Yojna, Indira Awas Yojna and Economically Weaker Section (E.W.S.) Schemes may be considered and permission accorded in relaxation of regulations.
- (xiii) Minimum area of a plot for residential development in Group Housing Scheme shall be 0.50 Hectares(5000 sqm.)
- (xiv) The minimum area for open/green space for the scheme having more than 5 plots ( $750 \text{ m}^2$ ) shall be 10% of the scheme area. Where a sub-division of land involving plots exceeding 10 in number ( $1500 \text{ m}^2$ .) by individual colonizer or any Society is proposed the provisions of parks/tot-lots and open spaces shall be made on a suitable location in the scheme. Such parks can not be built upon and sold in any manner in future. Provision shall also have to be made for education, religious, socio-cultural and other community facilities based on actual requirements in the cases of sub division of land involving more than  $5000 \text{ m}^2$  area. The ownership of such land shall be transferred/surrendered to the Development Authority/Local body for its development and future maintenance without any compensation. Similarly, the area earmarked for roads/path shall also be transferred/ surrendered to the Development Authority/Local Body without any compensation for development and maintenance as per provisions made under General Regulations 18.3 (xvii) and necessary entry in this effect shall be made in the revenue records.

- (xv) While carving of plots the orientation of the plots shall be provided in such a manner so as to be in conformity with the integration of existing plots/infrastructure, wind direction, natural flow of surface drainage to allow unobstructed rain water discharge.
- (xvi) Minimum area for septic tank and soak pit etc. irrespective of number of plots shall be 5% of the scheme area.

### **18.5 Regulations for each landuse zone:**

The following regulations shall apply to each of the landuse zones as specified below:

#### **18.5.1 Residential Zone**

18.5.1.1: The General Regulations as laid down under regulation 18.3 shall be kept in view while permitting any development in this zone.

18.5.1.2: Minimum area of plot.

- (a) The minimum area of residential plot of this zone shall be 150 m<sup>2</sup>. for detached house. For semi detached and row housing the minimum area of plot shall be 120 m<sup>2</sup>. and 90m<sup>2</sup> respectively. In exceptional circumstances the area upto 60 m<sup>2</sup> may be allowed considering economic/site conditions as explained in para 18.4.(xi) and 18.4(xii).

- (b) The plot area as mentioned in Clause (a) above would not be applicable in the cases where the sub-division of land has taken effect before the commencement of the Development Plan.

18.5.1.3 Maximum number of storeys: For residential houses the maximum number of storeys shall be 4+1 parking floor wherever feasible.

18.5.1.4 Maximum height of building.

- (a) Without Parking Floor:- 16.50 metre(including 2.50 metres maximum height of sloping roof).
- (b) With Parking Floor:- 18.80 metre( including 2.50 metres maximum height of sloping roof and 2.30 metres height of parking floor where feasible).

18.5.1.5 The plot size/plot area, maximum coverage, set backs and maximum F.A.R. shall be governed by following table.

Sr. No.	Plot size in square Metres	Type of Housing	Maximum Coverage	Set backs in Metres				Maximum F.A.R.
				Front Side	Left Side	Right Side	Rear Side	
1.	2.	3.	4.	5.	6.	7.	8.	9.
1.	Upto 120	Row	65%	3.00	-	-	2.00	2.00
2.	121 to 250	Semi Detached		3.00	2.00	-	2.00	2.00
	121 to 250	Detached	60%	3.00	2.00	2.00	2.00	1.75
3	251 to 500	Detached	55%	3.00	2.00	2.00	2.00	1.50
4.	501 and above	Detached	50%	3.00	3.00	3.00	3.00	1.25

- Note:**
1. Row housing means where two side walls are common walls and plots created specifically for row houses.
  2. Semi-detached housing means where one side wall is common wall and plot created as such for this purpose.

3. Detached house means where there are no common walls and plots created as such for independent houses and above 150 sqm. in area.
4. Maximum permissible coverage shall be subject to fulfillment of prescribed set backs
5. In case of corner plots width of plot and side set backs at one side of a plot shall be increased by 2.00 metres for providing proper sight distance on the curve.
6. Floor Area Ratio(F.A.R.) means the ratio between the area of the plot and the total floor area of all the floors of the building i.e.

$$\text{F.A.R.} = \frac{\text{Total covered area of all floors}}{\text{Plot Area}}$$

7. Minimum and maximum floor height for residential building shall be 2.70 meters and 3.50 meters respectively. For this purpose the basement/attic/mezzanine floors shall be counted as a storey.
8. Maximum width of path/road abutting one side of plot shall be 3.00 meters. In case the plot is located on existing or proposed roads/path having following Right of Ways (ROWs), the Front Set Back shall be left as under:-

<b>Sr. No.</b>	<b>Proposed Right of Way</b>	<b>Front set back</b>
(i)	24 Metres	8.00 Metres
(ii)	18 Metres	8.00 Metres
(iii)	12 Metres	3.00 Metres

(iv)	09 Metres	3.00 Metres
(v)	07 Metres	3.00 Metres

9. No projections and opening shall be provided on the sides of common walls in case of row housing and semi-detached housing. However, the owner of plots of either sides shall have an option to construct a common wall.
10. In case of irregular size of plots the set backs shall be governed by the set backs prescribed for the corresponding regular plot size.

### **18.5.2 Commercial Zone:**

The General Regulations as laid down under regulation 18.3 shall be kept in view while permitting development in this zone.

#### 18.5.2.1.1 Minimum area of plot.

**(a) Shops:** The minimum size of plot for shopping booth shall be 2.50 metresx3.50 metres and for shop it shall be 3.00 metresx6.50 metres which can be, if required, relaxed in planned commercial area keeping in view the site conditions and existing pattern of development .

**(b) Organised Shopping Centre:** The maximum coverage of the commercial area shall not be more than 50%. The 25% of the area for development shall be kept for parking in planned commercial complexes and remaining area shall be kept for movement space, landscape and for re-creation. The layout indicating location of parking areas shall depend on the size of the commercial centres and its location and design which shall be approved. Maximum permissible built up area for individual plot shall not be more than 80% of the plot area.

(i) The maximum F.A.R. for these shopping centres shall be 2.00.

**(c) Cinema:**

(i) The plot area required for cinema is directly related with the capacity adequate vehicular parking within premises, incidental shops and open spaces around the Cinema building for ventilation and safety measures against the fire hazards. The area thus required for cinema plots shall be at the rate of 3.70 sqm. per seat capacity.

(ii) The permissible coverage of total area shall be 50% of the plot area.

(iii) Front set back will depend upon the location of Cinema plot and shall be between 8.00 metres to 10.00 metres. The set backs at sides and rear shall be 5.00 metres each. Adequate parking space for cars, scooters and cycles shall be provided.

- (iv) After permissible coverage of 50% of plot area, the balance area shall be used for parking space for cars, scooter, cycles etc. and for movement space, landscape and for recreation within the premises and for other incidental uses.

**(d) Hotels/Guest Houses.**

- (i) The Hotels shall be permitted in specified commercial areas. Minimum plot size for Hotel shall be 1000 m<sup>2</sup>.

18.5.2.3: Maximum number of storeys: For hotels maximum number of storeys shall be 4+1 parking floor compulsory. The short fall in parking, if any, shall be met out in open over and above the set backs.

18.5.2.4 Maximum height of building: (a)The maximum height of hotel building shall be 18.80 metres ( including 2.50 metres maximum height of sloping roof and 2.30 metres height of compulsory parking floor).

18.5.2.5: The plot size/plot area, maximum coverage, set backs and F.A.R. shall be governed by following table:-

Plot size in Square Metres	Maximum Coverage	Set backs in Metres				Maximum F.A.R
		Front Side	Left Side	Right Side	Rear Side	
1.	2.	3.	4.	5.	6.	7.
<i>Hotel</i>	-	-	-	-	-	-
Upto 1000	40%	10.00	5.00	5.00	5.00	1.75
Above 1001	40%	10.00	5.00	5.00	5.00	1.40
<i>Guest Houses</i>	-	-	-	-	-	-
250 to 1000	50%	3.00	2.00	2.00	2.00	1.75

The Hotels/Guest Houses shall be permitted provided following regulations are met with:-

- (i) The proposed Guest Houses/Hotels must have a vehicular access atleast with a width of not less than 3.00 mtrs.
- (ii) The proposed Guest Houses/Hotels must have congenial environment including open spaces around and should not in any manner be disturbing to the residential houses around.
- (iii) Each suit shall have an attached independent toilet.

- (iv) Guest Houses can also be permitted in Residential landuse.

*Note:-*

- (i) The minimum and maximum plot size/area as mentioned above shall not be applicable in the cases where sub division of land has taken effect before the commencement of this Development Plan.
- (ii) Front set back 3.00 metres which will from an arcade and rear set back of 2.00 metres is must for commercial plots i.e. shops upto 20 m<sup>2</sup>
- (iii) The side set backs shall not be necessary in commercial zone having common walls of shops, but in newly developed commercial area 7.00 metres wide alley(gap) shall be left after each block of not more than 45.00 metres in length.
- (iv) If a commercial building/plot abuts on two or more streets (path/roads) the building/plot shall be deemed for the purpose of this regulation to face upon the street(path/road) that has greater width.
- (v) Every commercial plot should have minimum vehicular access at least with a width of not less than 3.00 metres.
- (vi) Parking floor shall be compulsory for Hotels. The short fall in parking, if any, shall be met out in open over and above the Set Backs.
- (vii) Adequate parking space for cars, scooters, bicycles etc. shall be provided in case of Cinema/Guest House plots.
- (viii) Parking if proposed on existing/proposed roads shall not be permitted in any case.

- (ix) Maximum width of path/road abutting one side of plot shall be 3.00 meters. In case the plot is located on existing or proposed roads/path having following Right of Ways (ROWs), the Front Set Back shall be left as under:-

<b>Sr. No.</b>	<b>Proposed Right of Way</b>	<b>Front set back</b>
(i)	24 Metres	8.00 Metres
(ii)	18 Metres	8.00 Metres
(iii)	12 Metres	3.00 Metres
(iv)	09 Metres	3.00 Metres
(v)	07 Metres	3.00 Metres

### **18.5.3 Tourism/ Industrial Zone**

- 18.5.3.1 The General Regulations as laid down under regulation 18.3 shall be kept in view while permitting any development in this zones.
- 18.5.3.2 For Tourism use/activities the regulations as prescribed for Commercial Zone under regulation 18.5.2.(d), 18.5.2.3, 18.5.2.4 and 18.5.2.5 shall also be applicable to the Tourism use/zone.

18.5.3.3 : For Industrial use/activities following regulations shall be applicable:-

- (i) Minimum area of plot
  - (a) The minimum area of an industrial plot for small scale industry shall be 250 Sqm.
  - (b) The services/light manufacturing industries shall have plot area between 501 Sqm. to 1000 Sqm.
  - (c) The minimum area of medium industry shall be from 1001 sqm. to 5000 sqm.
  - (d) The minimum plot area for a heavy industry shall be above 5000 Sqm.
  - (e) The plot area as mentioned in Clause(a) to (d) above would not be applicable in the cases where the sub-division of land has taken effect before the commencement of this Development Plan.
  - (f) The individual plots, if any, created/allotted by the H.P. State Industrial Development Corporation or any other authority prior to coming into force the commencement of this Development Plan, the above plot area under clause (a) to (d) would not be applicable.
  - (g) The layout and design of industrial area if any, shall be as per requirement of the Industry and shall be got approved from the Director.
  - (h) Height of building

**18.5.3.4 Height of Building:**

The minimum floor/storey height of industrial building shall be 3.60 metres and sloping roof height shall be 2.50 metres.

18.5.3.5 The plot size/area, maximum coverage, set backs and F.A.R. shall be governed by following table:-

Sr. No.	Type of Industry	Minimum plot size	Maximum size Coverage	Minimum Set back in Metres				Max. FAR	Max. height (in metre)
				Front Side	Left Side	Right Side	Rear Side		
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
1.	Small Scale Industries	250 to 500	60%	3.00	2.00	2.00	2.00	1.50	15.00
2.	Services/Light Industries	501 to 1000	60%	5.00	2.00	2.00	3.00	1.25	15.00
3.	Medium	1001 to 5000	55%	10.00	5.00	5.00	5.00	1.00	15.00
4.	Heavy	Above 5000	50%	15.00	7.50	7.50	7.50	0.90	15.00

**Note:-** (i) Maximum height of industrial shed will be 15.00 Metre. or depending upon the nature of requirement of particular industry. In case of roof trusses, height of building should be adjusted/relaxed accordingly.

- (ii) Service are required for pharmaceutical units of such type of Industries under requirement of G.M.P.(Good Manufacturing Practice) shall not be included for calculation of F.A.R. provided it is only used for utilities and services but not in any case for production.
- (iii) Minimum width of path/road abutting one side of plot shall be 5.00 Metre. In case the plot is located on existing or proposed roads/path having following Right of Ways (ROWs), the minimum Front Set Back shall be left as under:-

<b>Sr. No.</b>	<b>Proposed Right of Way</b>	<b>Front set back</b>
(i)	24 Metres	8.00 Metres
(ii)	18 Metres	8.00 Metres
(iii)	12 Metres	5.00 Metres
(iv)	09 Metres	4.00 Metres
(v)	03Metresto 07 metre	3.00 Metres

#### **18.5.4 Public & Semi Public Zone**

- 18.5.4.1 The General Regulation as laid down under regulation 18.3 shall be kept in view while permitting any development in this zone.

## 18.5.4.2 Minimum area of plot

The minimum area/size of plot shall depend on the specific requirements, however it should not be less 150 m<sup>2</sup>.

## 18.5.4.3 Maximum number of storeys

For Public and Semi Public buildings maximum number of storeys shall be 4+1 parking floor compulsory. The short fall in parking, if any, shall be met out in open over and above the set backs.

## 18.5.4.4 Maximum height of building.

The maximum height of Public and Semi Public buildings shall be 18.80 metres ( including 2.50 metres maximum height of sloping roof and 2.30 metres height of compulsory parking floor).

## 18.5.4.5 The maximum coverage, set backs and F.A.R. shall be governed by following table:-

Sr. No	Description	Maximum Coverage	Set Backs in Metres				Maximum F.A.R.
			Front Side	Left Side	Right Side	Rear Side	
<b>1.</b>	<b>2.</b>	<b>3.</b>	<b>4.</b>	<b>5.</b>	<b>6.</b>	<b>7.</b>	<b>8.</b>
1.	Educational Building	40%	7.50	2.50	2.50	2.50	2.00
2.	Police Station, Fire station	40%	7.50	2.50	2.50	2.50	2.00-

3.	Medical	40%	7.50	2.50	2.50	2.50	2.00
4.	Community Hall	40%	7.50	2.50	2.50	2.50	2.00
5.	Library/Religious Building	40%	7.50	2.50	2.50	2.50	2.00
6.	Govt. & Semi Govt. Office.	40%	7.50	2.50	2.50	2.50	2.00

**Note:-**

1. Upto 50% of open area shall be utilized for open parking and roads and the rest shall be land scaped.
2. Maximum width of path/road abutting one side of plot shall be 3.00 meters. In case the plot is located on existing or proposed roads/path having following Right of Ways (ROWS), the Front Set Back shall be left as under:-

<b>Sr. No.</b>	<b>Proposed Right of Way</b>	<b>Front set back</b>
(i)	24 Metres	8.00 Metres
(ii)	18 Metres	8.00 Metres
(iii)	12 Metres	3.00 Metres
(iv)	09 Metres	3.00 Metres
(v)	07 Metres	3.00 Metres

3. In case of petrol/diesel filling stations, the layout plan/norms prescribed for set backs etc. by the Indian Oil Corporation (I.O.C.) shall be adopted. However, on National Highway and State Highways the front set backs shall be kept 5.00 metres. If the rear and sides set backs are not mentioned on the layout plan (I.O.C.) then the sides and rear set backs shall be kept as 2.00 metres.
4. In the case of godowns for Liquefied Petroleum Gas (LPG) cylinders. The norms as prescribed by the Oil and Natural Gas Commission(ONGC) shall be adopted. However, on National Highway and State Highways the front set backs shall be kept 5.00 metres. If the rear and sides set backs are not mentioned on the layout plan (I.O.C.) then the sides and rear set backs shall be kept as 2.00 metres.
5. The set back shall not be applicable to services like Electric Sub-Stations, Road side infrastructure/facilities such as rain shelters, land scapping/auto services etc. which have specially been permitted by the H.P. Public Works Department(Building and Roads) in the acquired width of roads.
6. In case of existing institutional buildings, Govt./Semi Govt. office buildings in zones other than this zone the permission on special grounds may be given by the Director to construct such institutional buildings according to the requirements and regulations of that particular zone.
7. Every plot should have minimum vehicular access of 3.00 metres.

**18.5.5. Parking and Open Spaces Zone**

- 18.5.5.1 The General Regulations as laid down under regulation 18.3 shall be kept in view while permitting any development in this zone.
- 18.5.5.2 In case of construction of any building incidental to Parks and Open Spaces use such as stadium, sports room etc. the regulations as applicable to the Public and Semi Public Zone as envisaged under regulation 18.5.4 shall also be applicable to this zone.

**18.5.5.3 Traffic & Transportation Zone**

- 18.5.5.4 The General Regulations as laid down under regulations 18.3 shall be kept in view while permitting any development in this zone.
- 18.5.5.5 In case of construction of any building incidental to Traffic & Transportation use, such as convenient shopping, hotel, ware housing, waiting hall etc. the regulations as applicable to Commercial Zone shall also be applicable to this zone as envisaged under regulation 18.5.2.

**18.5.6 Agriculture Zone and Water Bodies Zone**

- 18.5.6.1 The General Regulations as laid down under regulation 18.3 shall be kept in view while permitting any development in this zone.

18.5.6.2 A person who, owns 2 bighas of agriculture land, (however this condition shall not apply in family sub-division of land) inherited or his successor and intends to construct a farm house for agricultural purposes shall make a simple application to the Director for seeking permission and it shall be allowed subject to following conditions:-

The farm House shall be:-

- (i) comprised of covered area not exceeding 200 m<sup>2</sup>.
- (ii) shall not be having more than two storeys including basement, attic and mezzanine floor.
- (iii) shall provide minimum 2.00 metres set backs on all sides.
- (iv) shall not be put to any other use.
- (v) for the purpose of this regulation the expression “Farm House” shall include a Cattle Shed.

18.5.6.3 Though no construction other than Farm House and Cow Sheds etc. should be allowed in this zone, however, uses incidental to agricultural use such as plaggary, poultry farming, quarring, minning. Bee keeping, Godowns line kilns, brick kilns, servicing and repair of farm machinery, cold storage, bus stand, parking, transit visitor’s camps etc. shall be allowed. In case of any other construction purely incidental to Agricultural use, if bound to come and to be allowed in this zone, in that case the regulations as applicable to Residential Zone under regulation 18.5.1. should be made applicable.

**18.6 Abadi Deh:**

Unless otherwise specified under all the above regulations no such planning permission shall be required for village “Abadi Deh” as defined in the Revenue records. Construction in Abadi Deh area shall continue to be covered/governed as per existing village conventions. Change of landuse for development in this zone, other than a farm house, can be permitted only in exceptional case subject to following conditions:-

- (a) A simple application shall be submitted to the Director for construction of two storeys structures with two metres set backs on all sides for self employment activities e.g. Shop, Atta Chakki, Poultry Farm, Dairy, Godowns for food, seeds, fertilizers, agricultural equipments/instruments. Service industries and small scale industry promoting agriculture. The application shall contain the following description:-
- (i) Name and Father’s name of the applicant alongwith correspondence and permanent address.
  - (ii) Description of land and activity proposed.
  - (iii) A location/site plan describing the exact location of the site (with or without scale).
  - (vi) Line plan of the proposed construction (Scale 1:100). However, each of such application shall be accompanied with a recommendation of the Pradhan of the area that the proposed activity/construction is not going to cause any nuisance and that there is a proper approach path existing or proposed by the applicant.

### 18.7 Special Regulations:

Notwithstanding any thing to the contrary as contained in above Regulations, the Manali Agglomeration shall be grouped in following areas:-

- (a) Core Area.
- (b) Restricted Area.
- (c) Forest Area.
- (d) River Front Area.
- (e) Other Area.

The planning regulations for each of above grouped areas shall be as under:-

18.7.1 **Core Area:** The Core Area shall comprise of the area as delineated below:-

“Area bounded by the Mall and the Circuit House road on west, D.P.F. Dana Bihal limit on north, the river Beas on east and present main bus stand on the south and comprising of the Manu Market and Nagar Panchayat office complex.”

All construction activities in Core Area shall be governed by following regulations:-

- (a) Development shall be allowed with prior permission of the State Government.
- (b) Landuses permissible shall be for Residential/related infrastructural developments.
- (c) Minimum plot size shall be 250.00 m<sup>2</sup>.

- (d) Maximum number of storeys shall be 2( including parking within the premises).
- (e) Maximum F.A.R. shall be 1.00.
- (f) Maximum building height shall be 9.50 metres ( including 2.50 metres maximum height of sloping roof).
- (g) Minimum width of path/road shall be as under:-
  - (i) For sub division of land having plots more then 5 Nos. it shall be 5.00 metres.
  - (ii) Otherwise (including pedestrian walkways) it shall be 3.00 metres.
- (h) Reconstruction shall be permissible on existing old lines.
- (i) Change of landuse shall not be permissible.
- (j) Sub division of land shall be permissible.
- (k) For development on vacant plots the set backs shall be governed as per table under regulation 18.5.1.5.

18.7.2. **Restricted Area:** The Restricted Area shall comprise of the area as delineated below:-

“Bounded by Manlsu nallah on north, western boundary of D.P.F. Dana Bihal and following the Mall road and upto Nagar Panchayat, Manali limits in the south. Further on western side following Nagar Panchayat Manali limits and upto Dhungri nullah, thereafter, western limits of Khasra number 1656,1657,1659,1660,1662,1665,1722(Nala), 1719 (Nala), 1710 (Path), 1787, 1783, 1782, 1781, 1749, 1950, 1955, 1940, 1933, 1919 (Nala), 1888,1890 and 1892.”

All construction activities in Restricted Area shall be governed by following regulations:-

- (a) Development permission shall be allowed by the Principal Secretary (TCP) to the Government of H.P./ Director (TCP).
- (b) Landuses permissible shall be for all uses.
- (c) Minimum plot size for residential building shall be 150 m<sup>2</sup> and for Hotel buildings 1000 m<sup>2</sup> where as for other uses it will depend as per specific requirements of the use.
- (d) Maximum number of storeys for residential building shall be 3+1 parking floor wherever feasible and for Hotel and Public/Semi Public buildings it shall be 4+1 compulsory parking floor. The short fall in parking if any, shall be met out in open over and above the set backs.
- (e) Maximum F.A.R. for residential building shall be 1.50 and for Hotel building it shall be 1.75 subject to maximum plot coverage of 40%. The minimum 10.00 metres front set back and 5.00 metres set back on other sides shall be kept for Hotel buildings. The F.A.R. for Public and Semi Public buildings shall be 2.00 subject to minimum 7.50 metres front set back and 2.50 metres set back on other sides.
- (f) The Maximum building height for residential building shall be as under:-
  - (i) Without parking floor it shall be 13.00 metres ( including 2.50 metres maximum height of sloping roof).
  - (ii) With parking floor the height shall be 15.30 metres ( including 2.50 metres) maximum height of sloping roof and 2.30 metres height of feasible parking floor).

The maximum building height for Hotel and Public and Semi Public buildings shall be 18.80 metres (including 2.50 metres maximum height of sloping roof and 2.30 metres height of compulsory parking floor).

- (g) Minimum width of path/road shall be as under:-
  - (i) For sub division of land having residential plots more then 5 numbers it shall be 5.00 metres.
  - (ii) Otherwise ( including pedestrian walkways) it shall be 3.00 metres.
  - (iii) For Hotel and Public and Semi Public plots minimum width of path/road shall be 5.00 metres.
- (h) Reconstruction shall be:-
  - (i) Permissible on existing old lines and
  - (ii) Any addition, if required, shall be allowed to the extent of 20% of existing built up area of ground floor subject to fulfillment of other planning regulations.
- (i) Change of landuse shall be permissible.
- (j) Sub-division of land shall be permissible.
- (k) For development on vacant plots, the set backs shall be governed as per table under regulation 18.5.1.5.

18.7.3. **Forest Area:** The Forest Area comprise of the area as delineated below:-

“All three patches of thick forests within Nagar Pachayat Area namely Dhungri-R-I ( 12.54 Hect.), R-2 ( 22.26 Hect.), Dana Bihal R-3 ( 10.93 Hect.) and Van Vihar R-4 (24.68 Hect.) falling within the purview of Forest Conservation Act, 1980”.

No development shall be permitted in these woodlands except laying of utility net works such as water supply, sewerage, electricity and communication lines etc. However, infrastructural development for promotion of tourism shall be carried out by the Forest Department on its own within and as per permissible extent under the Forest Conservation Act, 1980 and shall be permitted by the State Government.

**18.7.4. River Front Area:** This area is demarcated to comply with the essence of the ban order of the Hon'ble High Court and subsequent report of the 'Expert Group' adopted by said Court. The area is as under:-

- (i) The land below the High Flood Level (H.F.L.) shall be treated as river land and no construction activities of any kind except erosion checking measures shall be allowed in this belt.
- (ii) Beyond the H.F.L. a belt of 25 metres width along river Beas shall be developed exclusively as a "Green Zone" by the Department of Forest. No construction development other than one related to soil conservation, afforestation, landscaping for tourism and public utilities such as line of movement, water pump houses, sewerage treatment plants, solid waster management plants shall be allowed in this zone.

**18.7.5 Other Areas.:** The development activities falling under "Other Areas" shall be governed as per the Regulations i.e. 18.1 to 18.6 depending upon the Land Use so proposed. The area starting from the Prini Nallah in North alongwith boundary of Kullu Valley Planning Area and upto Urbanisable boundary of Manali Agglomeration in South and then following left bank of river Beas in the West and upto meeting point of Prini Nallah with river Beas in the East

containing village Suru will be out of the preview of the provisions of Draft Development Plan for Manali Agglomeration as well as Kullu Valley Planning Area.

**18.7. Note:**

The Manali is an old town and is being governed by the Rules/Regulations/Bye Laws as framed by the Nagar Panchayat, Manali. Therefore, all its schemes/layouts and permissions granted before coming into force of this Development Plan shall have to be honoured and need not to be got sanctioned from the Director. However, after coming into force of this Development Plan prior approval of the Director shall be mandatory and binding to all concerned including Nagar Panchayat, Manali.



