Preparation of The Master Plan of
Banihal Town (J & K)

Final Master Plan Report

06th October 2020

Submitted to:
Town Planning Organization Jammu
Last Morh, Gandhi Nagar - 180004

Submitted by:
B – 30, Kailash Colony
New Delhi - 110048

Team- Town Planning Organisation Jammu

Sl. No.	Designation	Name
1	Chief Town Planner, TPO, Jammu	Iftikhar Ahmad Hakim
2	Senior Town Planner, TPO, Jammu	Anil Raina
3	Assistant Town Planner, TPO, Udhampur	Manoj Kumar
4	T. O. to CTP, TPO, Jammu	Sunil Nagari

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Preface

Cities and towns are vital for livelihood, economic progress and quality of life for its inhabitants. It is in these locations that the division of human and land resource is prime focus. A very simple factor of availability of infrastructure, connectivity and economic setup attracts people from surrounding places. The opportunity to improve financial status attracts surplus population for which the city is not planned. This additional population induces pressure on the available social and physical infrastructure system. Infrastructure system, comprising of water supply, sewerage, drainage system, electricity demand etc. collapses.

Urbanization is occurring speedily all over the world. With urbanization, come negative consequences such as disturbances in environmental and ecological systems. Not only it consumes more resources, but also generate huge amount of pollution. Thus it is evident that cities impose, and will continue to impose, in an increasing measure disproportionately heavy burden on earth.

This failure in urban dynamics does not limit itself to urban system, but to whole region. The rural areas and the surrounding areas which were directly or indirectly connected to that urban area also suffer. The financial support from urban areas and provision of raw resources from surrounding rural areas are all inter-related and inter-dependent. Therefore the health or the performances of the surrounding areas behave similarly as an urban area near them.

Thus, a city or any urban area is not merely a place with better infrastructure facilities and economic opportunities but far dynamic then it appears. It should be planned and designed keeping those areas in mind which are directly or indirectly connected in any manner. The city should be designed in an integrated and holistic way, not only it should be practically and financially viable but also environment friendly in behavior.

1. Introduction and Regional Profile

1.1 Background – Theoretical Framework

A Master Plan serves as an important instrument to guide the process of urban development. It has emerged as an important approach to urban planning in the country and helps in regulating and channelizing the development and growth of cities and towns. Master Plan is a statutory plan approved and adopted by the local body for implementation with the help of schemes and projects. It presents to the people and the state government, the objectives regarding development of the town/urban center. Thus, Master Plan provides necessary details and intended actions in the form of strategies and physical proposals for various policies depending upon the socio-economic needs and aspirations of the people.

The concept of Master Plan has no doubt made a discernible impact in regulating and channelizing the development and growth of cities and towns. The Master Plan (Perspective: 2034) provides a policy framework which will serve as a guide in the preparation of five year Development Plans and Annual Plans for implementation of the proposals. It lays down broad policies in term of land utilization, residential densities and qualitative and quantitative aspects of infrastructure development.

The Master Plan will be prepared considering URDFPI guidelines (Urban and Regional Development Plans Formulation & Implementation Guidelines, 2014), Town and Country Planning Organization (TCPO) guidelines, and other planning norms. The provision and guidelines issued by Urban Development Department (UDD), Government of Jammu and Kashmir (GoJ&K) will also be followed in the Master Plan. With full consideration to the context, decisions will be rational and will be based on the understanding of dynamics of growth. The planning aspects will provide the structure to the natural growth and thus will aim towards holistic and integrated development.

1.2 Location of the town

Banihal is a town and a Municipal Committee in Ramban district in the Indian state of Jammu and Kashmir. The town is also the Tehsil headquarter of Banihal Tehsil. Banihal also known as the “Gateway to Kashmir” is a small hill town located on the foothills of Pir Panjal range. Banihal means ‘blizzard’ in Kashmiri language.

1.2.1 Regional Context

1.2.1.1 Location

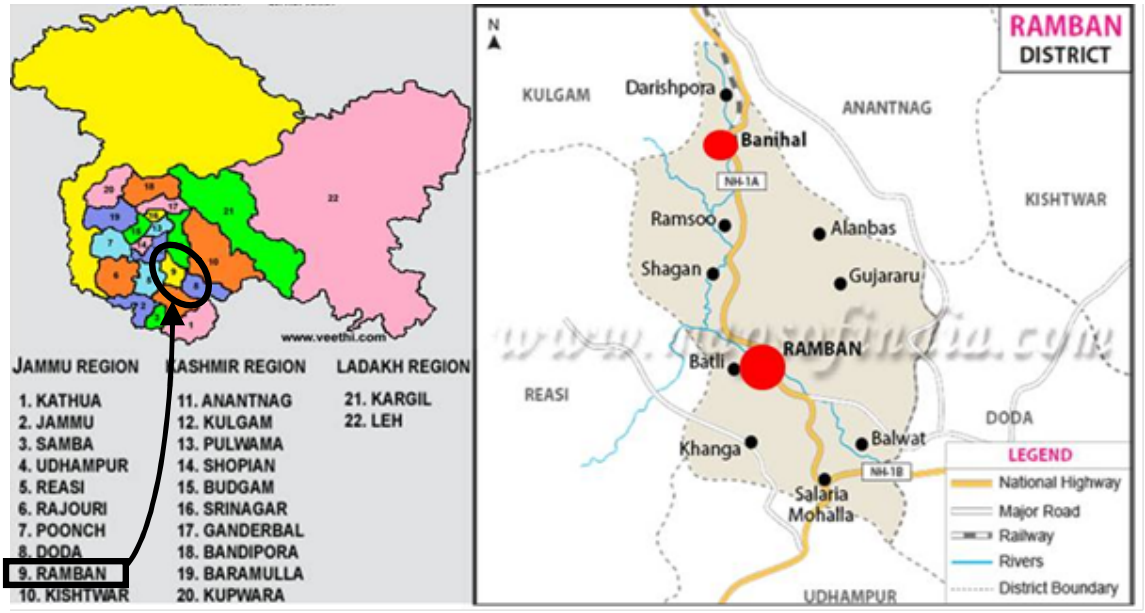


Figure 1-1 Location of Ramban District in the state and location of Banihal in Ramban District

(Source: mapsofindia.com)

The town is located at 33.42°N 75.2°E with an average elevation of 1,666m. The boundary of the town is surrounded by Jagir Namdar on north, Deogoal on south, Kaskoot and forests on north-west and army base areas and Chanchloo on East. Physiographically, the state of Jammu & Kashmir is divided into 3 divisions namely Jammu, Kashmir valley and Ladakh. The town of Banihal lies in Jammu division of Ramban district. Ramban district is a newly formed district in the state of Jammu & Kashmir (1st April 2007), located at 33°14'N and 75°17'E with an average elevation of 1,156 metres.

The town serves as an important urban centre for the nearby villages of Asher, Naugam, Kaskoot, Kheri, Nagam, Bankote, Temer, Tenha, Thathte, Chareel for all the day to day activities. The town is famous for its natural beauty of Deodar forests.

Transport Linkages

Road: The town is connected by road with other towns and cities as it is located on National Highway-1A which is the only highway connecting Kashmir valley with the rest of India. Jawahar Tunnel, a 2.5km long tunnel through Pir Panjal mountain range connects Banihal with Qazigund on other side of the mountain. Banihal is about 100km from summer capital Srinagar, 190km from winter capital Jammu, 35km from Qazigund, 25km from district headquarter Ramban. Apart from NH, there are few more roads which are connecting the town to the surrounding villages like Bankote, Chanchloo, etc.

Bus services (both private and state owned) are the most common mode of public transportation to and from Banihal. Frequent connections to the Kashmir Valley and Jammu are easily available.

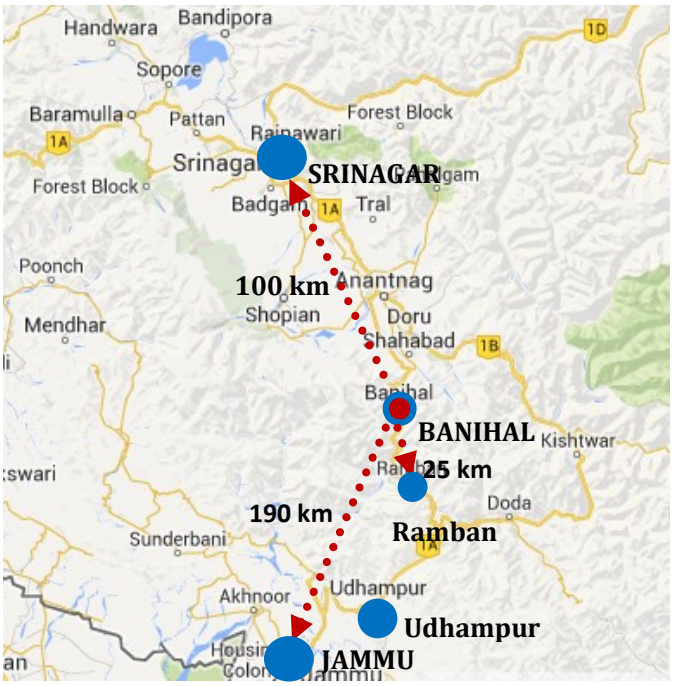


Figure 1-2 Location of Banihal town with respect to other major towns

The widening of existing 1 lane of NH-1A (now NH-44) to 4/6 lane is under construction as part of the National Highway Development Programme (NHDP) of NHAI. The construction is under progress, this will be a double tube tunnel consisting of two parallel tunnels one in each direction. This will reduce the road distance between Banihal and Qazigund by 16km.

Rail: The town was recently connected by the railway line which is a part of the project to connect Kashmir with the rest of the region. The railway station in the town was commissioned in June 2013 and passenger trains run from Banihal to Qazigund. The railway line will act as a growth impetus and usher development in the region.

Town also has a Helipad for the air connectivity if required.

Civil Administration

There are two tehsil in Ramban District namely Ramban and Banihal. Banihal is the Tehsil headquarter and an important town of the hinterland. The town is a Municipal Committee and looks after the maintenance of physical infrastructure like drains, solid waste, street lighting etc. Banihal Municipal Committee area includes forest, agricultural areas, water bodies, built up areas etc. The town is divided into 7 wards covering an area of 5.0 sqkm. As per Census 2011, the population of the town is 3900.

1.2.1.2 Regional Resources

Jammu and Kashmir is located in the northern part of the Indian sub-continent in the vicinity of the Karakoram and western mountain ranges. It falls in the great northwestern complex of the Himalayan Ranges with marked relief variation, snow-capped summits, antecedent drainage, complex geological structure and rich temperate flora and fauna. The forests of the state are a natural tonic wrapped up in a wonderland – a paradise for the stressed city folk from all over the country. Within its hectares of heavily forested mountains, lowlands and wetlands there are numerous varieties of plants and trees, innumerable species of animals and a myriad of birds and insects. Walking through the forest floor, one can discover a treasure trove of curious insects and flowers. More than just ethereal beauty, the state has majesty, grandeur and eeriness. The water bodies provide an unparalleled window in the wonders of the magnificent forest regions.

Jammu region comprises the plains, hills and mountains, towards south and west lies the mighty Pir Panjal range that separates Kashmir Valley from the plains of the subcontinent. At present Jammu region comprises the districts of Kathua, Jammu, Samba, Banihal, Reasi, Doda, Rajouri, Pooch, Kishtwar and Ramban.

Agriculture and livestock rearing are the main sources of livelihood. The region is also well known for traditional handicraft like Gabbas and wooden craft. The district, enriched with perennial streams with clean water has developed commercial fishing activities with a scattering of trout farms.

The *Chenab* river rises in the Himalayan contour of Lahul and Spiti. Two streams, more or less parallel, the Chandra and the Bhaga, form the Chandrabhaga, or the Chenab. It drains the eastern section of the southern slope of Pir Panjal.

Flora: Jammu and Kashmir abounds in rich flora (vegetation, forests). The state, described as *'paradise'* on earth, is full of many hues of wood and game. The trees present in various enchanting colours through the cycle of the seasons among which the autumnal look is breathtaking. The most magnificent of the Kashmir trees is the *Chinar* found throughout the valley, which grows to gigantic size and girth. Walnut, willow, almond and cider also add to the rich flora of Kashmir. In Kashmir Valley, the well-marked vegetation is willow, which covers the marshy areas only.

Jammu and Kashmir State is full of natural resources of great economic potential. The physiographic location imposes a number of constraints, particularly in agriculture and allied sectors. The initial land-use pattern in the state was purely agriculture. It has changed over a period of time to agri-horticultural-silvi-pastoral.

Industries: The thick forests of Kashmir provide raw material for several industries. Important industries dependent on forests are*:*

- Poplar wood available in the Valley of Kashmir is mainly used by match industry. A large government match factory was established at Baramulla but it has not been functional for more than a decade.
- Wood of poplar and willow trees is used for making cricket bats and bringi wood is used for making hockey sticks.
- Walnut trees are grown in abundance in Kashmir. Walnut wood is suitable for woodcarving. The carved goods are exported to foreign countries also. Baramulla also manufactures walnut wood rifle-butts.

- At Pampore (Kashmir) and Bari Brahmana (Jammu) plywood, hardboard and chipboard manufacturing factories have been established. Pulp required for the manufacture of hand-made paper, strawboard and cardboard is also obtained from the forests.

Kashmiris have won a great reputation as artisans. The chief center of Kashmiri industries is of course Srinagar, but other localities are famous for their special crafts. Kulgam is famous for its lacquered woodwork and Bijbihara has a reputation for woodcarving. The basket industry is also important and most villages have artisans who make baskets for agricultural purposes. The lacquered work, which had a great reputation, is now declining. The other industries that have developed from the rural crafts include handloom weaving of local silk, cotton, carpet weaving and woodcarving. Such industries together with silver and copper work got impetus in the past by the presence of the royal court and later by the tourist trade; they also owe something to the important position achieved by Srinagar in the west Himalayan trade. Handicraft manufacture is also important in Ladakh, particularly production of pashmina shawls, carpets and blankets.

The state is rich in water resources, which can generate electricity on a large scale. The other natural resources include fruit, timber minerals and herbs which are found in abundance. As far as the social sectors are concerned, education is free for all. The state has two major institutes of higher education, namely, University of Kashmir and University of Jammu.

1.2.2 Local Area (Planning Area) of the Master Plan

1.2.2.1 Introduction

The urban area notification of the town is the initiation of the process of the preparation of master plan. In this process, the town and its influence area are delineated. Banihal Local Planning Area covers an area of 1972.81 hectares (19.72 sq.km) with a total population of 21,156 (as per Census 2011).

Basic assumptions in notifying the Urban Area

The process of delineation of the boundary of the urban area will be on the basis of the following parameters:

a. Land use suitability analysis based on existing physical thresholds, topography, land productivity and identification of prime agricultural areas
b. Assessment of areas of influence based on flow of goods and services to and from the town
c. Existing demographic profile of the town
d. Existing tourist flows and projections for the horizon year
e. Population projections for the horizon year
f. Land Requirement for different uses as prescribed in URDPFI guidelines for hill towns

a. Land use suitability analysis based on existing physical thresholds, topography, land productivity and identification of prime agricultural areas

The process of site suitability requires the identification of the appropriate locations for a particular land use activity by considering the following:

Physical resources: elevation, slope, aspect, climate

Existing land use and development: manmade facilities such as transportation systems, existing urban areas and utility networks

These different types of information constitute the "criteria" based on which the areas under consideration are individually considered to identify areas of opportunity (areas suitable to the land use under consideration) and constraints (areas not suitable to the land use under consideration).

Slope: As mentioned previously, the terrain of the town is hilly and most of the area is not suitable for habitation. Steep slope not only causes high construction cost and delay in production, it is also prone to landslides. A slope analysis for overall area has been carried out to identify the parcel of land that is suitable for development. In this process the land having slope more than 15 degrees are avoided and marked as unbuildable area.

Climate: The town experiences very harsh winter climate. During winters, the town gets fully covered with snow. Thus, the areas with permanent glaciers and which occur due to changes in climatic conditions like avalanches and landslides are not recommended for development.

Elevation: According to slope analysis, there are few parcels of land available along the bank of Bichalari nallah. This land may not be suitable for development as water level of the river basin tends

to rise. So the area comparatively at lower level and along the nallah should be avoided for development.

Existing land use and development: The developed part of the town is located along the highway and Bichlari nallah. The forest division along the south-west and a sharp elevation towards south-east & north-east restricts the growth. The possible areas/ land parcels for future growth of the town will be near railway station, near Patwari office where the slope is gentle for habitation. The existing developed area also needs infill development.

Impact of railway station: Brief analysis is made to assess the impact of the new railway station which was commissioned in the year 2013 on the urban form of the town. The station will have a major impact on the town to stimulate economic growth, attract businesses and can also serve as a regional gateway, as Banihal is also referred as Gateway to Kashmir. The impact of station will help in regeneration, local impacts and wider economic development. The town is now connected with the summer capital of the state, Srinagar and other major towns/cities. This will attract the business from nearby urban centres and generate employment in the town. The people from surrounding villages can also go to bigger towns for selling the agricultural goods.

The areas near the station will become a focal point of development due to its accessibility and commercial potential. There may be a new development along this area leaving the core of the town. It will also offer development opportunities in the form of higher density development, land value, quality retail and leisure opportunities. Thus, while preparing the planning concept, development scenarios, and proposed land use plan of the town the impact of railway station area studied in detail. Thus, the land parcels have been identified near the railway station, which are suitable for future development.

Natural Features: The urban sprawl tends to destroy the natural feature of an area, in the process of identifying of suitable land for development; the natural features like stream, river, nallah, forest area etc. should be retained and conserved to the fullest.

b. Assessment of areas of influence based on flow of goods and services to and from the town

Being the Tehsil headquarter, Banihal is an important town of the hinterland. The spatial linkages are important while assessing the influence areas based on flow of goods and services from nearby villages of Kaskoot, Bankote, Deogoal etc. to the town. The study of flow of goods and service will be essential when proposing the development strategy due to the importance of agro based economy in the town. The influence areas have been identified with further emphasis on economic linkages and physical infrastructure of the rural settlements with the local and external markets.

c. Existing demographic profile of the town

Banihal is a small town with a population of 3900 based on Census 2011. The existing demographic pattern has also been studied while doing the land suitability analysis.

d. Existing tourist flows and projections for the horizon year

As per discussions with various stakeholders and local people in the town, the town does not have any tourist potential and does not attract any tourists. The only floating population currently seen there is of tourists who change their medium of transportation from road to railways. But soon railway connectivity will reach up to Jammu and as a consequence no floating population will devote time for changing the medium of transport.

e. Population projections for the horizon year

As per the estimation, the average population of the planning area will be 36,000 by the year 2034. The methods for the population projection have been discussed in the Chapter 5 of the report.

f. Land Requirement for different uses as prescribed in URDPFI guidelines for hill towns

Banihal is a small hill town located along NH-1A and one of the important centers for the surrounding villages. Urbanization and migration from surrounding villages which is a global phenomenon puts pressure on the existing infrastructure and amenities of the town. The increase in urban population leads to haphazard & unplanned growth, encroachment of agricultural land, degradation of environmentally sensitive areas, inadequate housing facilities, traffic congestion, deficient infrastructure etc.

The land requirement for the projected population will be estimated according to the context of the planning area. Influencing factors such as socio-economic character and its trend in coming future will decide the activities which will prevail in future. Economy will guide the activities and transformation within the planning area. Hence the planning area requirement will be a rational decision to evolve sustainable development of the town. Once the idea of growth will be clear and the kind of development can be worked out. Area requirement will be as per the context but for reference URDPFI guidelines will be considered.

Villages under Urban Notification

With an increase in population, the town is expected to spread spatially thereby encompassing the villages surrounding it. While notifying the urban limits for 2034, the adjacent villages would be notified that are adjoining the Municipal boundary. The following are the positive outcomes of the Notification:

- Restriction of haphazard growth and development
- Restriction of unauthorized construction
- Provision of housing facilities
- Improvement in infrastructure
- Development of rural settlements as urban extension of the town

Discussions regarding the urban area boundary, both existing and future, were conducted with the officials at Banihal Municipal Committee and Town Planning Organisation, Jammu. The villages have been selected based on following three criteria:

Adjacency: These villages are adjacent to the existing urban limit**.** Hence, with the increase in population pressure, as the town expands, these villages are likely to be converted to urban areas in the near future.

Location: Preliminary analysis of the growth pattern of Banihal shows that the town is likely to expand along the corridors, mainly along the corridors of the highway and near the railway station. Hence, the villages along these major roads have been given higher importance.

Regulated Development: The villages will be formally notified within the proposed urban limit for 2034 to initiate proper zoning of land use, provision of infrastructure and to ensure that all development regulations are systematically implemented in the expansion areas also. This would prevent haphazard and uncontrolled growth in future. For future development of the town, 8 revenue villages have been included in the proposed urban area boundary which will be notified as per the Town Planning Act.

Table 1.2-1: Villages under proposed Urban Area Notification

S. No.	Name of Village	Tehsil	Area in Ha.	Population 2011
1.	Bankote	Banihal	471.87	1860
2.	Charel Lamber (Dershipora)	Banihal	1066.36	4454
3.	Deogoal	Banihal	221.37	340
4.	Gund Adalkoot	Banihal	947.38	3507
5.	Karawa	Banihal	485.22	1877
6.	Kaskoot	Banihal	762.03	2104
7.	Nagam	Banihal	365.03	1826
8.	Zanhal	Banihal	116.96	1288

Source: For Area - Directorate of Economics & Statistics, Government of Jammu & Kashmir & For Population - Census of India, PCA Tables, 2011

Urbanizable Limit - Banihal

Urbanizable limit is the land to be earmarked for accommodating all the proposed development, mentioned in Master Plan. On the basis of land suitability analysis of the town area and surroundings, few parcels of land are identified. To accommodate the proposed activities, the available and buildable lands are identified in the surrounding areas of Banihal town. The settlements will act as urban extension of the town which will house mostly residential activity with adequate amenities and facilities. Banihal being the Tehsil headquarters will act as main administrative and central business district for the area. (Refer: Banihal Notification Map: Annexure 1)

1.2.2.2 Planning Area

Planning area is the area for which decisions will be made and implemented. These areas will experience development directly as compared to surrounding outer periphery. The planning area comprises of one town i.e. Banihal (Banihal municipal committee) and surrounding eight villages, namely:

1. Bankote
2. Charel Lamber (Dershipora)
3. Deogoal
4. Gund Adalkoot
5. Karawa

6. Kaskoot
7. Nagam
8. Zanihal

Thus the total planning area comprises of Banihal town and surrounding eight villages shown in the table below:

Table 1.2-2: Planning area – Household and Population (Census-2011)

S. no.	Name	Level	Rural/Urban	Households	Population
1	Ward no. 1	Ward	Urban	110	532
2	Ward no. 2	Ward	Urban	74	351
3	Ward no. 3	Ward	Urban	71	366
4	Ward no. 4	Ward	Urban	69	351
5	Ward no. 5	Ward	Urban	94	427
6	Ward no. 6	Ward	Urban	123	580
7	Ward no. 7	Ward	Urban	104	1293
Sub Total	Banihal (MC)	Town	Urban	645	3900
1	Bankote	Village	Rural	404	1860
2	Charel Lamber (Dershipora)	Village	Rural	1026	4454
3	Deogoal	Village	Rural	68	340
4	Gund Adalkoot	Village	Rural	765	3507
5	Karawa	Village	Rural	422	1877
6	Kaskoot	Village	Rural	437	2104
7	Nagam	Village	Rural	377	1826
8	Zanhal	Village	Rural	298	1288
Sub Total	Banihal (Villages within planning area)	Village	Rural	3797	17256
Total				**4442**	**21156**

Source: Census of India, PCA-Tables, 2011

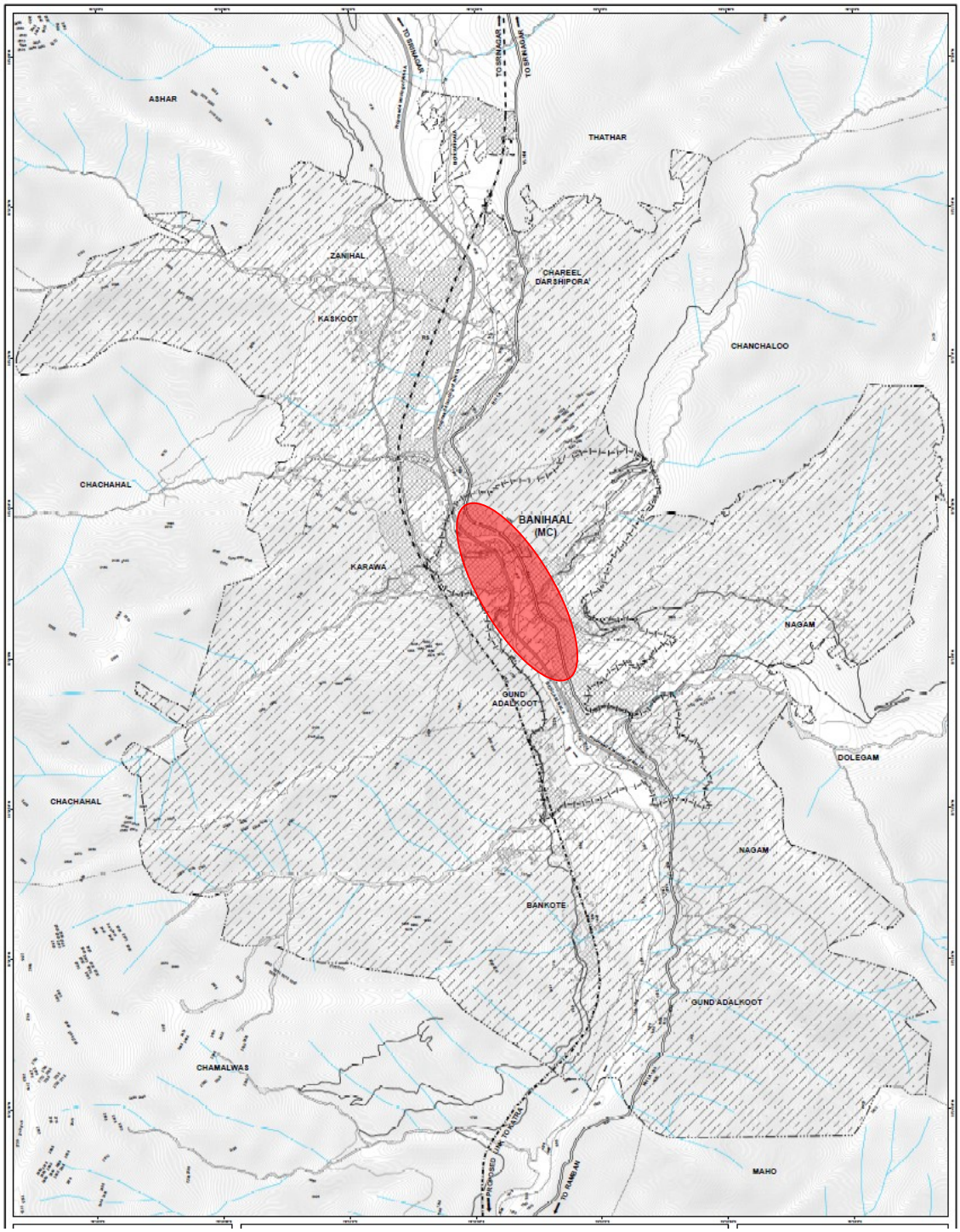


Figure 1-3: Planning area Map comprising of Banihal (MC) and surrounding villages

(Attached as Annexure No. 1)

The red patch on the map represents Banihal (MC). The grey patch around it is Banihal, municipal committee. The northern boundary of the planning area covers Charel Lamber (Dershipora) village, this settlement spreads both (east and west) sides of the NH. Zanhal and Kaskoot villages are situated to the North west of the Banihal town. It is these areas where new railway station is making changes

in the land use and activities. To the east of municipal committee is the Deogal village. Bankote and Gund Adalkoot villages are on the Southern limit of the planning area.

1.3 Physical characteristics

1.3.1 Topography

The town falls in Jammu region which comprises of the plains, hills and mountains south and west of Pir Panjal ranges. The district is all mountainous with very difficult rough terrain. The town lies at an elevation of 1666m. The town is surrounded by high mountains and forests. The general slope of the town is from north to south. The highest elevation in the town is 3147m and lowest is 1488m. Banihal consists of the following mountain regions, highland pockets and mini valleys:

(a) Pogal: is the mountainous region drained by Pogal stream, a tributary of Bichlari that comes from the eastern mountains of Banihal. The area is rugged and mountainous. Pogali is the dialect spoken by about 12000 people. Cattle rearing are the main occupation and Maize is the main staple crop of the region.

(b) Peeristan or Paristan: The area beyond Pogal is called Paristan or Peeristan, which literally means the abode of Fairies of high miraculous powers. The area is rugged and mountainous with little inhabitation. This area also includes Neel mountainous region.

(c) Mahu - Mangat: In Banihal there is another mountainous region towards west side, drained by the rivulet of the same name, another tributary of Bichlari. The area is rugged with long grassy slopes.

1.3.2 Climate and other features

The climate of the state varies greatly owing to its rugged topography likewise, the climate of the district also varies according to the altitude. The temperature rises as high as 42°C in the low lying areas between step Mountains and seldom goes below 1.5°C in the high altitude areas. The working season in a year remains restricted to eight months because of typical weather conditions of the district. The district Ramban has recorded an average rainfall of 1,118mm.

The climate of the town is moderate hot during the summer season and very cold during the winter season. The town becomes snow bound during the winter season. The maximum temperature goes up to 31.3°C and minimum temperature -5.5°C in winters. The annual average rainfall is 748mm.

Agro ecological region: The town lies in the warm sub-humid to humid agro-ecological region with inclusion of per humid eco region with Brown forest and Podzolic soils

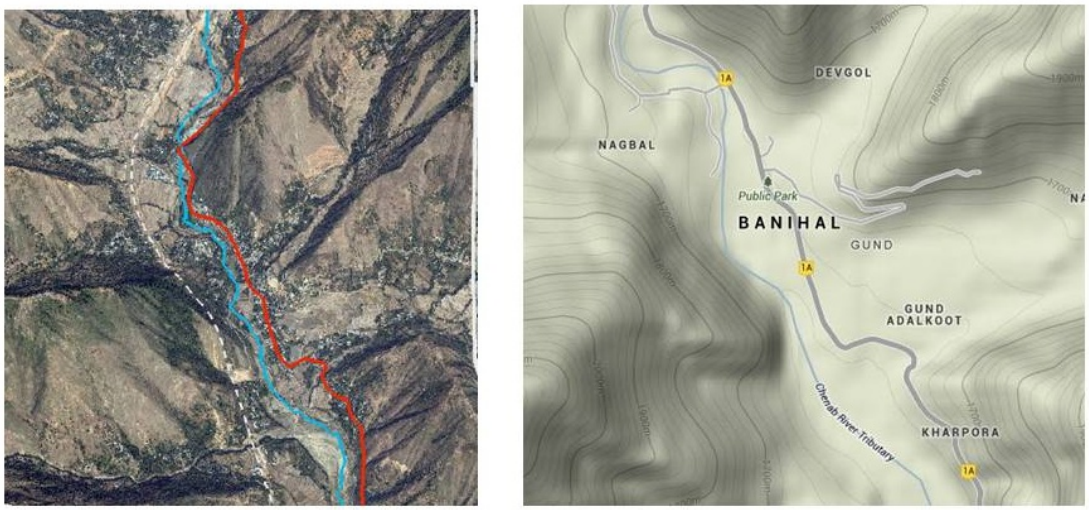


Figure 1-4: Satellite Map of Banihal Town showing Surrounding villages

1.3.3 Pattern of growth

Banihal town, said to be the "Gateway to Kashmir", is a small settlement running along Chenab river and NH 44 (former named as NH 1A). The town had normal growth rate majorly driven by two forces, one was connectivity, i.e. NH, and another was land use (basically agriculture). To gain or grab more economic opportunity the commercial character grew along the highway. To generate more and more raw material and productivity the fringe areas were occupied for agricultural use, as this being main occupation there.

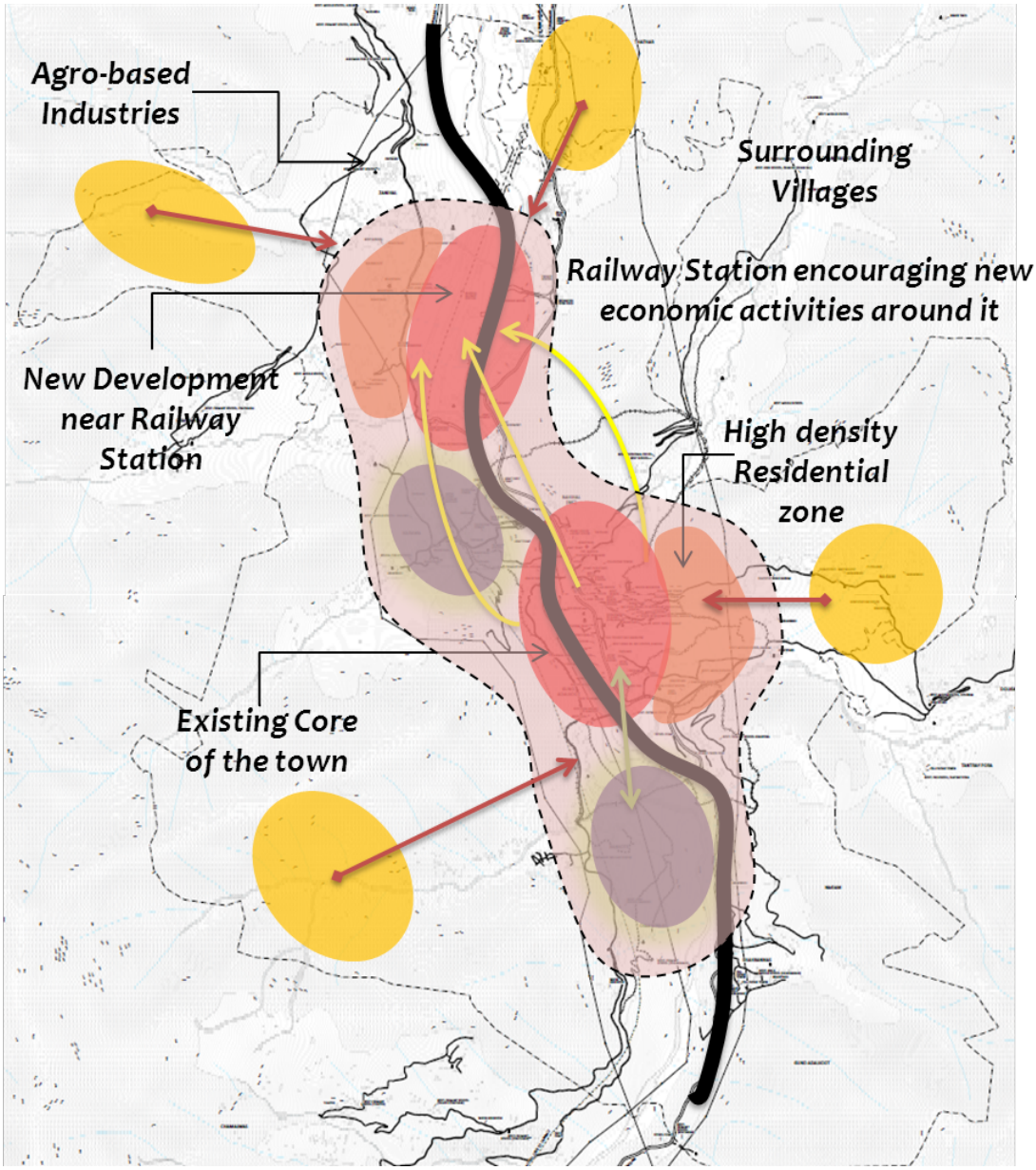


Figure 1-5: Growth pattern showing the shift

Till 2013, the growth pattern did not show any crucial transformation. But after 2013, when major part of Banihal to Kashmir railway line was done, scenario changed drastically. It was obvious that introduction of railways to the town will bring trade and business to the city. It became a point for commuters to change the mode of travel. Thus, to create market and then profit out of that market, direction of growth pattern drew towards railway station. Spatial growth is directed towards northern side of the city. The railway line and the station located towards the west side of the river Chenab and the highway. Hence the major growth pattern is observed along the connectivity between city's bus stand to the railway station.

1.3.4 Urban Landscape

Being a very rigid site in terms of terrain and climatological aspects, the scope of urban landscape becomes limited. There is a helipad situated towards south of the town, adjacent to the highway. A public park is situated almost at the middle of the town towards east of the highway. A 'hospital road' just ahead to the park (towards north) leads to the town's only hospital. Further moving towards north is situated Banihal town's bus stand, which becomes an attraction point for economic activities. Further towards North West to the bus stand, across the river is newly built railway station.

This new railway station is the highest hierarchy of center for economic activities, which has come up recently. Due to this railway station, character around the station is changing and expected to change in future. Commercial activities and markets are going to come up not only from the local residents but also by the migrants from the nearby rural areas.

1.3.5 Built up environment

The town is along the highway which in turn runs along one of the tributary to Chenab river, aligned north south direction. The character of built structure and pattern which has developed over the period of time is very organic in nature. Tapered or sloping roof with small structures due to undulating surface is the general fabric of the town. The grain of built structure runs along the national highway where relatively less sloppy surfaces are available.

To develop detailed built-up data in the form of map comprehensive survey was conducted. Google images with structures marked were cross-checked with specification. This detailed data base was created by the information collected for every individual dwelling. The GIS data base was then created by collecting spatial data from different sources such as - Toposheets, forest department, National Highway Authority of India, Local bodies. Etc. The Base Map made with all relevant and required information was prepared (given below). The source of information and the data collected is based on the actuals at the time of survey in the year of 2014.

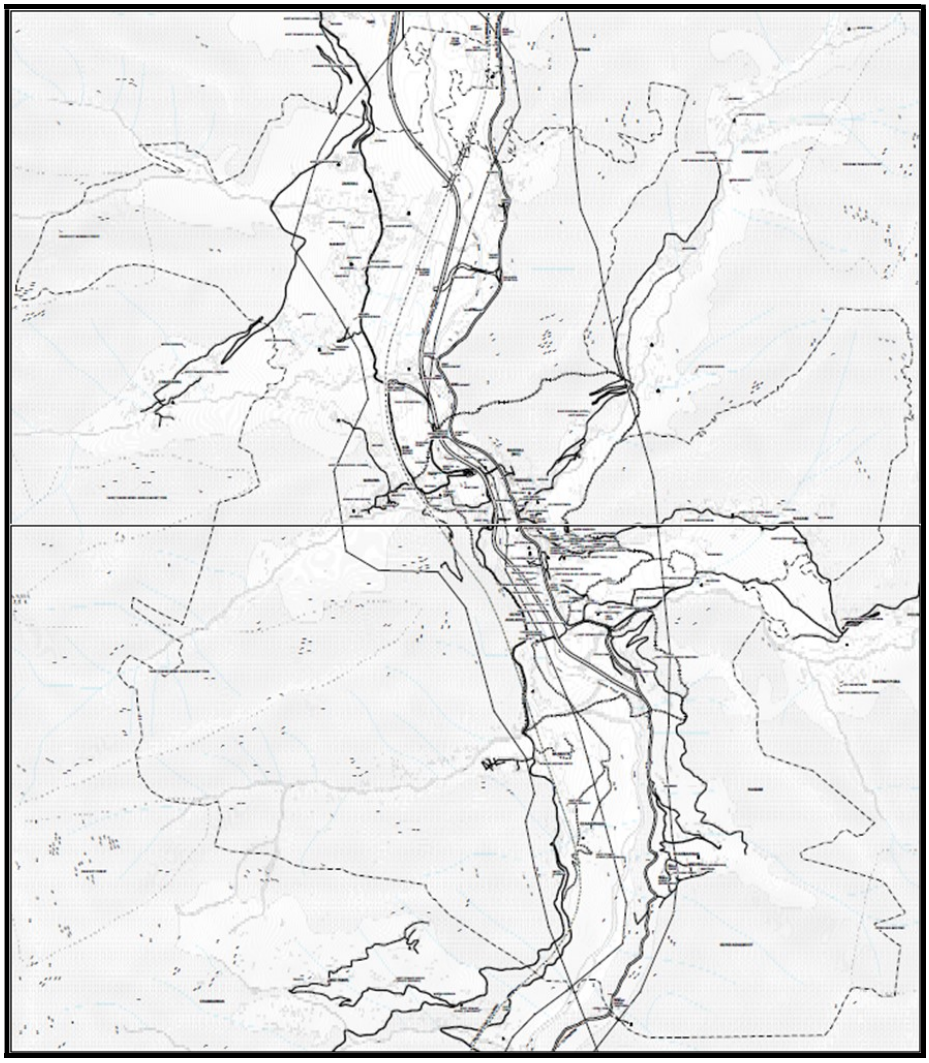


Figure 1-6: Base Map showing level of details

(As annexure 5)

The major connectivity to the whole town is the National Highway 1A. Therefore, this highway acts as a datum to the basic social infrastructure. Adequate amount of plain land has been utilized to provide social infrastructure. Plain areas which are far from the highway and where availability of water is not a problem are being utilized as agricultural fields. These areas away from highway or main town give rise to leap frogging settlements. The accesses to these remote areas give rise to small structures within the route to avail facilities and remain connected to the primary occupation. This nature of development is completely organic and obvious in the absence of any restrictions in the development scenario.

1.3.6 Natural Resources

As this town is situated in foothills of Himalayas, it has abundance of natural beauty along with rich flora and fauna. In the context of Banihal town, the best natural resources present are the tributaries to Chenab River. The fresh water resource flowing through the town not only provides scenic beauty but also freshness to the surroundings.

2 Socio – Economic Profile

2.1 Demographic profile

The State of Jammu & Kashmir is located in the northern most part of the country. It is surrounded by China in North, Pakistan in West, and Punjab & Himachal Pradesh in South and South West. It consists of three divisions i.e. Jammu, Kashmir Valley and Ladakh and having two capitals Jammu, the winter capital and Srinagar, the summer capital. The state is divided into 22 districts within 3 major divisions as per Census 2011.The economy of the state is largely agrarian with varied agro climatic conditions for growing a variety of horticulture crops like fruits and vegetables, plantation crops and floriculture. The State holds first position in the country in the production of saffron.

The population of Jammu and Kashmir as per Census 2011 is 12 million, making it the 19th most populated state with area of about 220000 sq. km. making it the 10th largest state in the country in terms of area.

The study and the survey cover the planning area shown in Annexure 3. Analysis of the context and other infrastructure details comprise of the area under planning.

2.1.1 Population

The decadal population growth rate at a national level is 17.7% for the period 2001-2011 based on Census of India population of 1.21 billion in 2011. India has emerged as the second largest populated country in the world. During the same period (2001-2011) Jammu and Kashmir has registered a higher growth rate of 23.64%. The state contributes about 1.04% of the population of the country. Ramban district has a total population of 2.8 lakhs sharing almost 2.26% of the total population of J &K state.

Table 2.1-1: Comparison of Growth Rate for State, District and Town

Region	2001	2011	Growth Rate (2001-2011)
Ramban District	214944	283713	32.0
Banihal (Tehsil)	94487	125045	32.3
Banihal (MC)	2729	3900	42.9

Source: PCA, Census of India, 2001 & 2001

2.1.2 Population Growth Trend

As per Census 2011, the population of the town is 3900 persons with a growth rate of 42.91 percent in the decade 2001-2011. The decadal growth rate of the town is quite high than the state (23.71%) and district (32.0%) during the same period i.e. 2001-2011. The reason may be in-migration of the people from surrounding villages, development of the railway station, increasing connectivity with the nearby towns and employment opportunities. From the table, it can be seen that the population almost doubled during 1971-1981 decade, reason being employment opportunities, better amenities & facilities etc.

Table 2.1-2: Population Growth Rate

S. No.	Year	Population	Increase in Population	Decadal Growth Rate (%)
1	1961	803	-	-
2	1971	753	-50	-6.23
3	1981	1656	903	119.92
4	1991*	2153	497	30.01
5	2001	2795	642	29.82
6	2011	3900	1105	39.53

Source: Census of India, *assumption as No Census was conducted in J&K in the year 1991

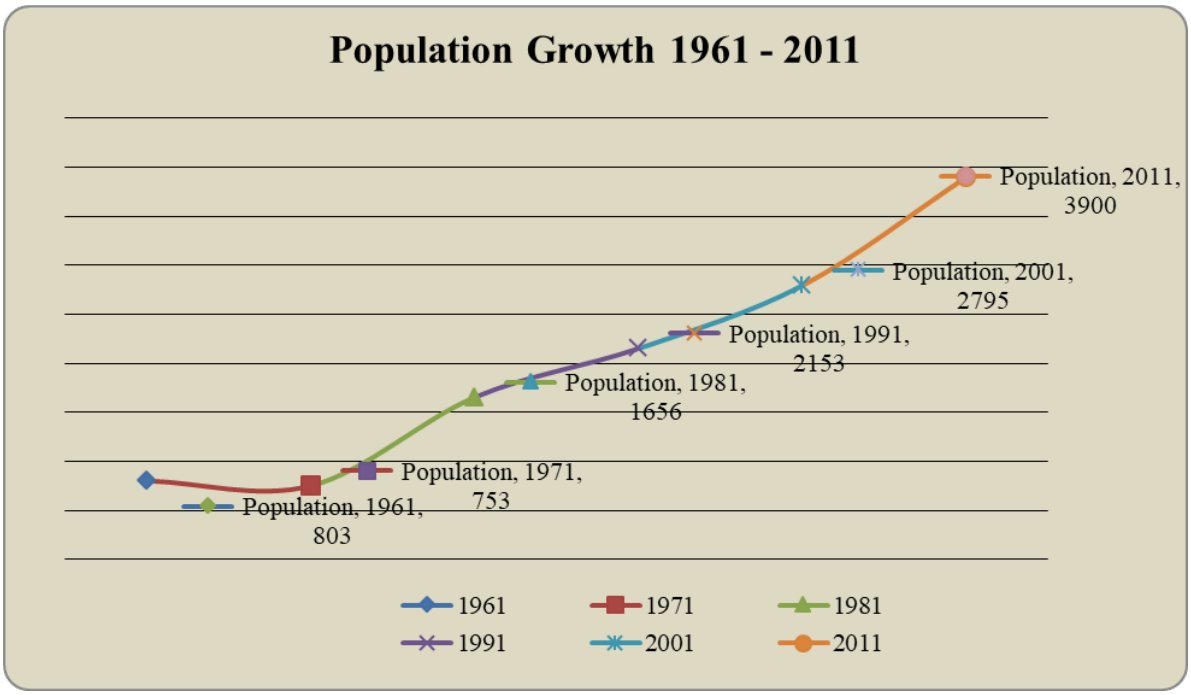


Figure 2-1: Population Growth (1961-2011)

A sample survey was conducted on 6% Household of the study area (sample size as per RFP, Point 2.4.(i). The survey in planning area was conducted to collect data on Socio Economic parameters, traffic movement, and land use pattern. Random selection method in densely populated area was adopted to select Household for conducting Socio-Economic Survey. The main objective of sample survey was to collect existing socio economic details of planning area. The details of sample size selected for both rural and urban area is given in Annexure -2.

Table 2.1-3: Sample Size selected for Primary Survey

S. No.	Town/ Village Name	Urban/ Rural	No. of HHs as per Census 2011	No. of Sample HHs	Sample Size
1	Banihal	Urban	645	51	7.91%
2	Bankote	Rural	404	32	7.92%
3	Chachhal	Rural	214	10	4.67%
4	Charel Lamber (Darshipora)	Rural	1026	66	6.43%
5	Gund Adalkoot	Rural	765	15	1.96%
6	Karawa	Rural	422	15	3.55%
7	Kaskoot	Rural	437	31	7.09%
	Total		**3913**	**220**	**5.62%**

Source: Socio-Economic Survey conducted by Consultants, 2014

For socio economic details of the sample survey kindly refer Annexure: 2

2.1.3 Population Density

The gross population density of Banihal was 558 persons per sq. km in the year 2001, which increased to 798 persons per Sq. km in the year 2011. The increasing density is also an indicator of higher concentration and worsening living environment in the town.

2.1.4 Population Distribution

Sex Ratio

Town: As per 2011 figures, the male population constituted 62.9% and female population constituted 37.1% of the total population with a sex ratio of 590. Banihal town has shown a very steep decline towards the sex ratio. It declined from 864 in the year 2001 to 590 in 2011. The sex ratio is very low as compared with the district and state levels. The reasons for adverse sex ratio in any region may be high mortality rates among women, high maternal mortality ratio, practice of female feticides (sex selective abortion) and female infanticide and neglect of the health of the girl child, especially on nutrition front, resulting in higher mortality; besides immigration of single male population to a region.

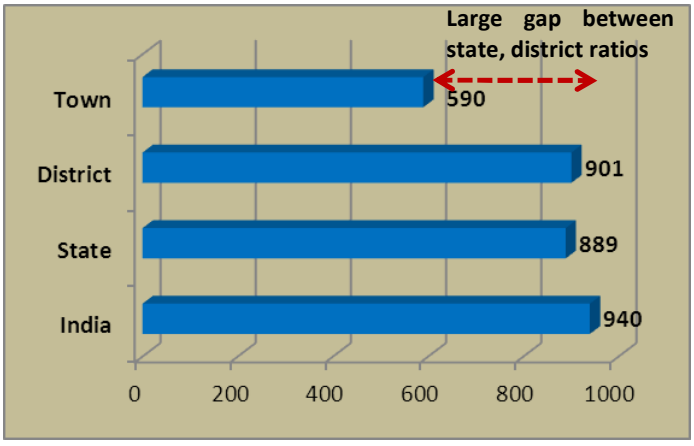


Figure 2-2: Comparison of Sex Ratios 2011

Table 2.1-4: Planning area – Male & Female Population and Sex Ratio

S. No.	Name	Level	Total Population	Census-2011		
				Male Population	Female Population	Sex-Ratio
1	Ward no. 1	Ward	532	260	272	1046
2	Ward no. 2	Ward	351	186	165	887
3	Ward no. 3	Ward	366	193	173	896
4	Ward no. 4	Ward	351	175	176	1006
5	Ward no. 5	Ward	427	213	214	1005
6	Ward no. 6	Ward	580	311	269	865
7	Ward no. 7	Ward	1293	1115	178	160
Sub Total	Banihal (MC)	Town	3900	2453	1447	590
1	Bankote	Village	1860	988	872	883
2	Charel Lamber	Village	4454	2269	2185	963
3	Deogoal	Village	340	182	158	868
4	Gund Adalkoot	Village	3507	1792	1715	957
5	Karawa	Village	1877	995	882	886
6	Kaskoot	Village	2104	1125	979	870
7	Nagam	Village	1826	943	883	936
8	Zanhal	Village	1288	660	628	952
Sub Total	Banihal (Villages within planning area)	Village	17256	8954	8302	927
Total			**21156**	**11407**	**9749**	**855**

Source: Census of India, Primary Census Abstract, 2011

It is clearly evident that the sex ratio is very poor in this region. Most of the villages have un-favorable sex-ratio. Ward number 7 in Municipal limit has worse ratio with only 160 women in 1000 men and highest sex ratio is in Ward No. 1 of Banihal Town. Comparatively rural areas have better sex-ratio in comparison to Banihal town. One of the reasons behind this fluctuation may be that only

male members migrate from the surrounding rural areas to the Banihal town. These male family members come and settle down to work and avail economic opportunities, earn money, and fulfill the needs of their family. Relatively this ratio is better in rural areas, where on average it is 927 females per 1000 male population. The sample survey also shows low sex ratio of 835 female per 1000 males in study area. For further Sample Survey details kindly refer Annexure- 2-Table 2.

Social Composition

As per the Census 2011 data there are only 2 SC members in ward number 7, within municipal limit. There is no SC population in rural areas of the planning boundary. Similarly there is no ST population in the municipal limit of the planning area. On the contrary to it, rural areas within the planning area have considerable ST population. Excluding Deogal and Zanhal settlements, which do not have any ST population, the other rural areas contribute to the total of 1501 of ST population.

Table 2.1-5: Planning Area – Population Social Composition (Census 2011)

S. no.	Name	Level	SC	ST	Others
1	Ward no. 1	Ward	0	0	532
2	Ward no. 2	Ward	0	0	351
3	Ward no. 3	Ward	0	0	366
4	Ward no. 4	Ward	0	0	351
5	Ward no. 5	Ward	0	0	427
6	Ward no. 6	Ward	0	0	580
7	Ward no. 7	Ward	2	0	1291
Sub Total	Banihal (MC)	Town	2	0	3898
1	Bankote	Village	0	408	1452
2	Charel Lamber	Village	0	252	4202
3	Deogoal	Village	0	0	340
4	Gund Adalkoot	Village	0	522	2985
5	Karawa	Village	0	224	1653
6	Kaskoot	Village	0	93	2011
7	Nagam	Village	0	2	1824
8	Zanhal	Village	0	0	1288
Sub Total	Banihal (Villages within planning area)	Village	0	1501	15755
Total			**2**	**1501**	**19653**

Source: Census of India, Primary Census Abstract, 2011

It was observed that, majority of households comprised of OBC Muslims. The total Muslim population comprises of more than 95% of the total population. The proportions of physically handicapped population were 1.62% and chronically ill households were 2.88%. The study area also comprised of 45.45% BPL Household.

Literacy Rate

As per census 2011, Banihal Municipal Committee has a literacy rate of 83.77%, which is higher than the district average of 54.27%. In congruence to the phenomenon at the district level, where a large disparity exists between male and female literacy, the comparatively less disparity is evident in case of Banihal. The reason may be attributed to the low status of women in the society; women are not allowed to attend schools and are restricted to household activities. The low female literacy rate has direct repercussions on the work-force participation rate, involvement of women in decision making activities, ownership rights and health care.

Rural areas within the planning area have about half literate population, which is only 61.36%. The highest literacy rate of 94.42% can be observed in ward number 7 of municipal limit, contrary to sex-ratio of 160. This data reveal the most probable phenomenon that residents of ward number 7 mostly consists of migrated male population, who are literate and migrated to Banihal town for job. Overall, literacy rate of the planning area is 65.74% only.

Table 2.1-6: Planning area – Population Literacy Rate (Census 2011)

S. No.	Name	Level	Literate	Illiterate	Literacy Rate
1	Ward no. 1	Ward	372	160	79.66
2	Ward no. 2	Ward	251	100	80.97
3	Ward no. 3	Ward	268	98	83.75
4	Ward no. 4	Ward	231	120	74.52
5	Ward no. 5	Ward	261	166	75.65
6	Ward no. 6	Ward	375	205	74.11
7	Ward no. 7	Ward	1184	109	94.42
Sub Total	Banihal (MC)	Town	2942	958	83.77
1	Bankote	Village	942	918	57.79
2	Charel Lamber	Village	2666	1788	71.06
3	Deogoal	Village	166	174	58.87
4	Gund Adalkoot	Village	1328	2179	47.6
5	Karawa	Village	886	991	57.05

S. No.	Name	Level	Literate	Illiterate	Literacy Rate
6	Kaskoot	Village	1258	846	69.89
7	Nagam	Village	991	835	63.81
8	Zanhal	Village	630	658	57.8
Sub Total	Villages	Village	8867	8389	61.36
Total			**11809**	**9347**	**65.74**

Source: Census of India, Primary Census Abstract, 2011

2.1.5 Migration

Migration trend in this region is very dynamic in nature. The introduction of railway line through this region has completely changed the urban setting. Since June 26, 2013 after introduction of Banihal town railway connectivity towards northern areas, the dynamics have changed majorly in two ways:

i. The comfortable and time saving journey through railways provided connectivity to higher hierarchy of town. Local people from Banihal district started commuting out for trade commerce and other economic opportunities.

ii. Before this railway facility from Banihal to further north, road was the only mode of travel after Jammu. The visitors or tourists used to come till Jammu via railway and change their mode to road if heading towards Kashmir region. After June 2013, this trend changed, now visitors travel by road only till Banihal, and catch train for Kashmir region.

This halt caused due to change in transport medium brought influx of people, and consequently their needs or requirements, such as eateries, hotels, market etc. This verve suddenly attracted local people to set up market or other commercial activities to gain economic opportunities.

But this immigration mainly was from rural area of planning region to urban area of the same region.

2.1.6 Occupation

Economic Base of the Town

A brief analysis of occupational pattern of workers in town shows that, the proportion of population involved in primary sector activities (cultivators and agricultural labourers) have decreased in Banihal town. While a majority of workers i.e. 96.54 % are engaged in tertiary sector, which include all government servants, municipal employees, teachers, factory workers, plantation workers, those engaged in trade, commerce, business, transport banking, construction, political or social work, priests, entertainment artists, etc. The number of workers engaged in household industry has also increased slightly.

Table 2.1-7: Occupational structure of Banihal Town

Type of workers	No. of Workers		% to Total no. of Workers	
	2001	2011	2001	2011
Primary sector				
Cultivators	12	6	1.38 %	0.35 %
Agriculture workers	52	48	5.96 %	2.81 %
Secondary sector				
Households Industrial workers	1	5	0.11 %	0.29 %
Other industries				
Tertiary sector	807	1647	92.55 %	96.54 %
Total	**872**	**1706**		

Source: Primary Census Abstract, Census of India, 2011

The economy of the town is dependent on agriculture and cattle rearing activity. As per discussions with the officials of the local body 65% of the population is involved in cattle rearing. The agriculture is restrained to the cultivation of vegetables for day to day needs. Being tehsil headquarter there is a huge floating population from nearby villages in the town. The local people also work on daily wages on the construction sites for upgrading of NH-1A, railway station etc. as per the data available from Animal Husbandry there are about 1441 cattle population in the town which includes poultry, sheep and goat.

As per Socio Economic Sample Survey data, it was observed that half of work force (nearly 50.49%) are travelling to Banihal Town, followed by Adalkoot, Kaskoot and Bankoot village.

2.1.7 Workforce participation and dependency ratio

Employment Structure of the Town

The **workforce participation rate (WFPR) in Banihal is 43.74%.** Considering the male-female distribution among workers, the participation rates are 65.6% (1609) male and 6.7% (97) female. The reason may be lack of employment opportunities, women are not allowed to work, lack of awareness etc. as cattle rearing is the major economy of the town so women must not be involved in these activities. Thus, there is a need for employment generation activities, programmes for improving the economy of the town, investment in HH industries and other industrial establishments by the government.

Table 2.1-8: Economic Base of the town

Workers			Main Workers			Marginal Workers		
Total	Male	Female	Total	Male	Female	Total	Male	Female
1706	1609	97	1635	1544	91	71	65	6

Source: Census of India, 2011

Major export commodities of the town are Walnut, Pulses and Fruits, and it is famous for manufacturing of blankets. Further major import commodities are Grocery, Cloths and Medicines.

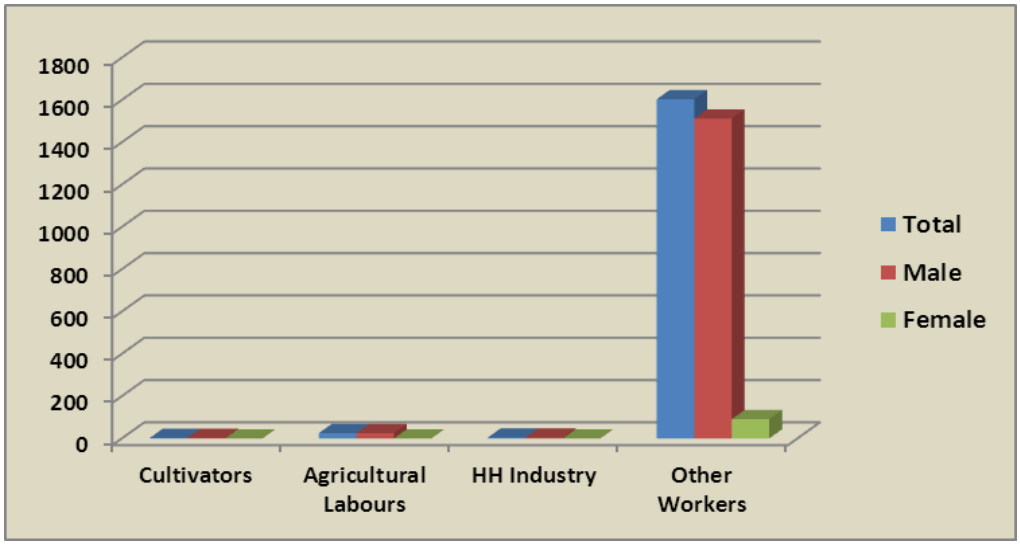


Figure 2-3: Worker Distribution in Banihal: Census 2011

It can be seen from the Figure 2.1-3 that people involved in agriculture sector is almost negligible. The work population are majorly involved into other activities like cattle rearing, hotel and *dhaba* business etc. The female participation is also very nil in almost all sectors except in other workers category. Thus, it can be inferred that primary sector is almost insignificant and tertiary sector which includes trade and commerce is prevalent in the town.

Also the graph below shows that majority of the working members are male. Total working population comprises of 94% male and only 6% of the female members. This data also supports the reason of huge difference in sex ratio in the town. Male members from remote areas migrate and stay in town to work and earn money. But for the overall imbalance in the society, awareness and education should be promoted and discrimination among girl and boy child should be eradicated from the society.

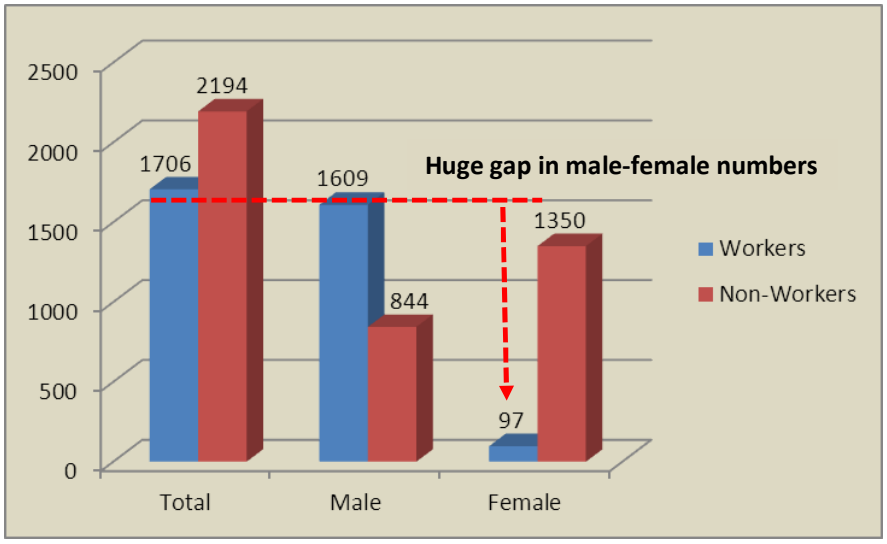


Figure 2-4: Worker Non-Workers Distribution, Banihal-2011

Further, it can be observed that in rural area 4208 of work population are engaged as main and marginal workers. The WFPR in rural area is 24.39%, which is nearly half of the urban area WFPR. The male-female distribution among workers, the participation rates is 43.89% (3930) male and 3.35% (278) female.

Table 2.1-9: Economic Base of the – Planning area villages

S. no.	Village Name	Main Workers			Marginal Workers			Total Workers		
		Total	Male	Female	Total	Male	Female	Total	Male	Female
1	Bankote	301	283	18	201	190	11	502	473	29
2	Charel Lamber	809	746	63	207	197	10	1016	943	73
3	Deogoal	90	88	2	10	10	0	100	98	2
4	Gund Adalkoot	598	560	38	237	224	13	835	784	51
5	Karawa	438	412	26	46	41	5	484	453	31
6	Kaskoot	397	344	53	162	158	4	559	502	57
7	Nagam	289	273	16	137	130	7	426	403	23
8	Zanhal	223	214	9	63	60	3	286	274	12
Total		**3145**	**2920**	**225**	**1063**	**1010**	**53**	**4208**	**3930**	**278**

Source: Census of India, Primary Census Abstract, 2011

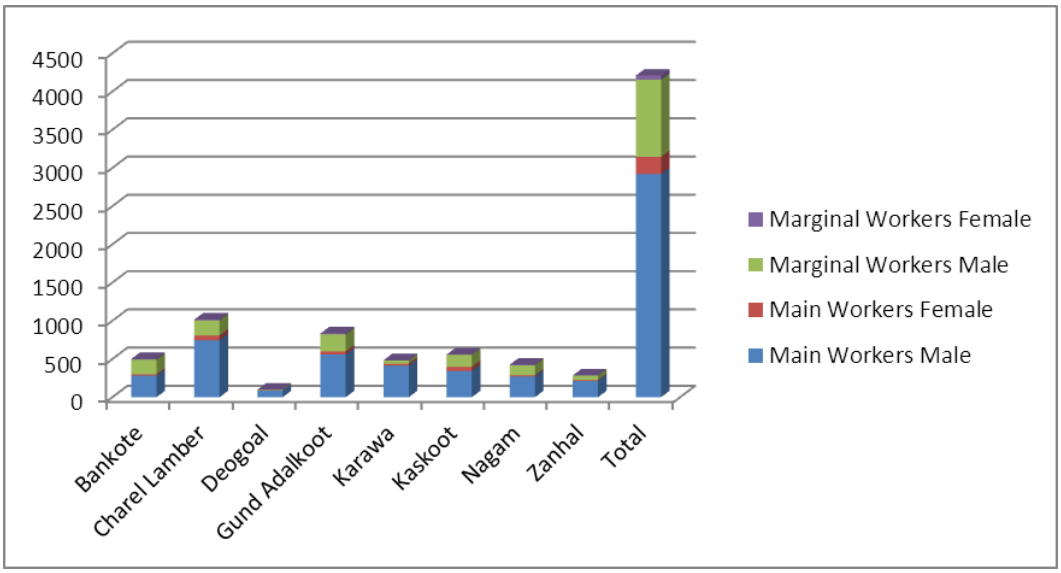


Figure 2-5: Main and Marginal Worker Distribution in planning area - Census 2011

It can be seen from the above figure that significant people are involved as Cultivators and Agricultural Laborers. The female participation can be observed in Agriculture and cultivation activities. The major crop cultivates in the area are paddy and maize. Further, it can be inferred that HH industry are lacking in both rural and urban areas.

Sample Survey conducted in the Study area reveals that, WFPR for the rural area is 24.84% wherein Male (WFPR) is 39.25% and the same for female is 5.03%. While WPRT for male in urban area is 42.96% and female is 2.89%. A slight higher rate of female work participation rate can be observed in rural area, due to engagement of female as laborers in agricultural and cultivation activities in rural areas. As per survey it was also observed that, a majority of work population travel to Banihal town for work related activity. It was also observed that majority of workers are engaged in other activities like laborers, street vendors etc.

Household Income and Expenditure data was also collected during sample survey, as per data analysis it was revealed that Bankote village household have the lowest income and Gund Adalkoot village household have the highest income, while income in urban areas varies from 4000 to 28000. In majority of Household it was observed that, monthly HHs income and monthly expenditure are almost equal. This shows that the savings among the households is almost negligible.

Trade and Commerce

The commercial activities are significant along NH-1A. The commercial activities are majorly concentrated From Patwari office till the PHE office. Apart from the market place, Municipal Committee office, Police Station, Patwari office, J&KTDC hotels, Bus stand all are located in this area. Some of the shops are also located near the Taxi Stand. There are about 300 registered shops with the Municipal Committee (as per MC, Banihal). There are number of dhabas, tea stalls, fruit & vegetable shops, meat shops, general stores etc. in the town. Some of the showrooms are also along the highway near Patwari office. There is great potential of commercial establishments near the railway station area which will be studied in detail while framing the concept plan of the town.

Figure 2-6: Commercial activities in Banihal town

2.1.8 Industrial Base

There is no formal industrial set up in Banihal town. Informal small scale manufacturing/ producing activities in small scale are scattered at different places. Activities such as Honey production and Saw mill can be observed in an unorganized manner within the town area. There are eight established units in Ramban District, wherein four units are of service sector and four belongs to Industrial sector. The district also does not have any Large Scale Industries/ Public Sector undertaking.

Table 2.1-10: Number of Established Units by sector

	Business	Service	Industry
Ramban District	0	4	4

Source: District Statistical Handbook, Ramban District (2011-12)

Out of the four Industrial units two units are established under food sector, and one each in metallic and non-metallic sector.

Table 2.1-11: Number of Established Units by sector

S. No.	Type of Industry	Number of Units
1.	Food	02
2.	Metallic	01
3.	Non - metallic	01
	Total	**04**

Source: District Statistical Handbook, Ramban District (2011-12)

Honey Production in Banihal Town

Saw Mill activity in Banihal Town

Figure 2-7: Industrial activities in Banihal town - 1

2.1.9 Eco-friendly Industrial Units

Sericulture is an agro-based industry prevalent in Ramban district. It involves rearing of silkworms for the production of raw silk, which is the yarn obtained out of cocoons spun by certain species of insects. The major activities in sericulture comprises of food-plant cultivation to feed the silkworms which spin silk cocoons and reeling the cocoons for unwinding the silk filament for value added benefits such as processing and weaving. At present, 13,802 Kg. of cocoons are produced in Ramban district. The industrial activity have High employment potential, Provides vibrancy to village economies, Low Gestation and High Returns, Women friendly Occupation and Eco-friendly Activity.

Table 2.1-12: Production of Cocoons (Sericulture)

	Seed distributed in (ozs)	Cocoons produced (Kg.)	No. rearing families
Ramban District	725	13802	694

Source: District Statistical Handbook, Ramban District (2011-12)

Beekeeping and honey production offers high potential returns to small farming households; it has low opportunity cost and minimal space requirement. At present, the district of Ramban comprises of 40-50 functional units of Honey production. The honey production units are also prevalent in Banihal Town; however the cluster is not in organized form.

Table 2.1-13: Number of functional Units in Honey production cluster

	No. of functional units	Employment in cluster	Major Issues/ requirement
Ramban District	40-50	150	Marketing and Credit

Source: Brief Industrial profile of Ramban District, MSME Development Institute, J&K

Bee Keeping for Honey Production

Sericulture

Figure 2-8: Industrial activities in Banihal town - 2

2.1.10 Potential- Industrial and Eco-Friendly Industrial Units

Agriculture is the mainstay of Jammu and Kashmir State economy. More than 70% of the state population depends upon agriculture for their livelihood. The State is endowed with large natural resources and tremendous potential for growth in the agro- horti- forestry. Horticulture is emerging as a fast growing sector of the economy which has a great potential for further development. In horticulture the state shares around 3% of all India production of fruit. Almost 45 percent of economic return is from horticulture sector.

Thus, at town and district level following potential areas can be explored for industrial and eco-friendly industrial development.

Potentials areas for service industries are

a) Repairing & Servicing of Automobiles

b) Repairing & Servicing of Electronics Items

c) Repairing & Servicing of Electrical

Potential for new MSMEs (Micro, Small and Medium Enterprises)

a) Food Industries

b) Thermo/Plastic ware

c) Mineral Water

d) Agriculture Implement/Tools

e) Steel Almirah Fabrications

g) Medicinal Aromatic Plants

Potential for eco-friendly industrial unit

a) Horticulture based Industries

b) Floriculture

c) Bee Keeping

2.1.11 Street Vending activities

The "street vendor" means a person engaged in vending of articles, goods, wares, food items or merchandise of everyday use or offering services to the general public, in a street, lane, side walk, footpath, pavement, public park or any other public place or private area, from a temporary built up structure or by moving from place to place and includes hawker, peddler, squatter and all other synonymous terms which may be local or region specific.

As per the data provided by the Banihal, Municipal Corporation there are 180 street vendors throughout the town. The street vendors' activity is an informal activity throughout the planning area; it lacks adequate facility and does not have any formal designated place to carry vending activity. At present dense Street Vending activity within the Banihal Town can be observed near town Public Park, market area, along NH-1 and near town taxi stand. Moderate level street vending activities are also prevalent near Banihal Railway station.

Figure 2-9: Street Vending Activity along Public Park-Banihal

Key Issues / Problem:

a) The markets of the Banihal Town are highly congested and have high density. Due to absence of adequate parking and organized commercial area the movement in these areas has been hampered.

b) The narrow streets and road encroachments have further degraded the aesthetic and potential of the area. This has affected the trade of the markets and thus their existence.

c) No institution dedicated to research and development of traditional industrial products of the city, like wooden and forest products, is established to improve their quality, cost effectiveness and marketing.

d) No organized space is available for the informal sector of the city. So that they don't create problem rather help in economic generation of the city.

Measures for rehabilitation:

It is strongly recommended that the Banihal Development Authority shall prepare a Detailed Project Report (DPR) in line with the guidelines prescribed in the Street Vendors (Protection of Livelihood and Regulation of Street Vending) Act, 2014 and identify compatible areas for activities of this Informal Sector. Adequate facilities for street vendors for carrying out their business activities honorably have to be provided through an 'Action Plan'. Through an appropriate action plan, a

formal place is to be allocated to Street Vendors to carry out vending activities. Along with formal space, adequate infrastructure, source of electricity and mode of disposal generated shall also be taken into consideration.

2.1.12 Agriculture and allied activities

The rural areas of proposed planning area are moderately dependent on agriculture activity; however it is least in the Banihal town. The planning area economy is predominantly dependent on tertiary sector or other works. The district level area under Agriculture is given below.

Table 2.1-14: Number of functional Units in Honey production cluster

(Area in hectare)

Area available for Cultivation		Area not available for Cultivation			Other uncultivated land excluding fallows					Fallow Land			
Reported Area	Area Under Forest	Land put to Non-Agriculture Uses	Barren Cultivable	Total	Social Forestry	Permanent Pasture & Other gazing lands	Land under misc. tree, crop not included in the area sown	Cultivable waste land	Total	Fallow land other than current fallow	Current fallows	Total	Net area sown
13787	60717	11780	11066	22846	1218	3399	2533	4609	11759	42	0	6131	18423

Source: District Statistical Handbook, Ramban District (2011-12)

The cropping pattern of major crops of Ramban district is shown in Figures 2.6. The total area sown in Ramban district is 24,847 hectare. Majority of the agriculture area is under sowing of Maize crop, followed by Wheat and paddy. The proportion of sown area of vegetables is least and other crops like Fruits, Spices, and Fodder are not sown throughout the district.

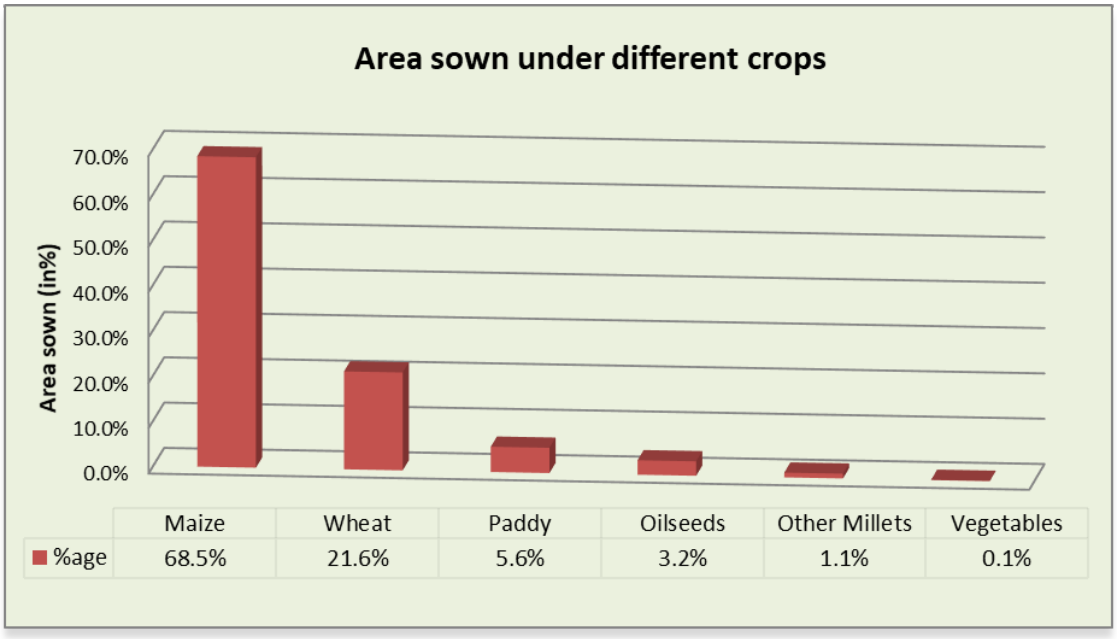


Figure 2-10: Percentage of area sown under different crops

2.2 Issues

The average household size of study area (Banihal town and study area villages) is 5 (4.81) as per Census 2011. The town comprises of 33.02% of the district urban population. The major problems and issues observed in the study area are as follows:

- Banihal town is marked with very low sex ratio i.e. 590 female per 1000 male.
- Female Literacy rate for the study area is 49.25% as per Census 2011.
- As per primary survey, planning area comprise of 45.45% BPL household.
- Lacks household industries in the town and village area.
- Majority of work population are daily/weekly wage earner and they have to travel 3 - 5 Kms for work.
- As per Survey it was observed that, only 2.88% sample population possessed skill training like tailoring, electrician, plumbing/repair work etc.
- Low developed agricultural field, as source of irrigation for majority of the agriculture land holders are water stream and rivers.

Thus, for overall socio-economic development of the area, the major focus may be given on female education, agriculture development in rural areas and skill development of population for employment generation. Special care should also be taken for implementing the developmental programs at the town level as high proportion of BPL household are located in planning area.

3 Physical Growth and Infrastructure services

Infrastructure is the basic requirement of urban life and its adequacy and accessibility are two important ingredients and key contributors in the up gradation and enrichment of quality urban life. Infrastructure is divided into two parts viz. Physical Infrastructure and Social Infrastructure.

3.1 Existing Physical Infrastructure

3.1.1 Water distribution system

The whole system is explained below (as per officials managing the system, Banihal):

i. Water Supply Source

Existing source: Shofa pani spring source

50,000 Gallon per day

30,000 Gallons per day from Nallah source

Proposed source: Thandi shah Nallah source has a discharge of 5 lac Gallons per day

Tube well: water available from tube well is 4000 Gallons per hour, assuming 12 hours pumping per day provides 48,000 gallons.

ii. Quantity and Quality

The quality of water is good and about 80,000 gallons of water is available at preset in town.

iii. Present demand supply: 116088 GPD

iv. Area covered by the pipe line: 5 Sq.Mt.

v. Existing system

Banihal town has piped water supply to almost all the households. There are 186 legal water connections and an estimated 250 numbers of illegal connections, efforts are to legalize those connections also. There are 15 numbers of public stand posts to cater the demand of public places and public in general. Still there are some areas where full coverage as regards water supply is not there. Localities like Khan Mohalla, Gund Adalkote, Kharpora, Hollin and Rallu are suffering from water scarcity.

vi. No meter system has been started yet.

vii. One time supply is given to the Banihal town from the two service reservoirs of capacity 30,000 gallons each. One direct pipe from Shafa pani 80 mm dia supplies drinking water to Bazzar Bus stand area and further up to T.C.P. reaches to Hollina village in the peak seasons as well as in the winter season.

viii. Tariff structures

Total number of domestic connections	167 @ Rs 1040 = Rs 173680
Total number of institutional connections	14 @ Rs 3170 = Rs. 44380
Total number of commercial connections	5 @ Rs 1725 = Rs 8625
Total	Rs 226685

ix. Infrastructure

There existing storage capacity R.C.C. reservoirs with one being used for Banihal is as follows:

a. R.C.C. reservoir at Nagbal = 30,000 gallon of capacity, fed from Shafa pani spring
b. R.C.C. reservoir at Higher secondary school = 30,000 gallons capacity fed from Daligam Nallah

x. Number of tube wells = Nil (two new tube wells have been proposed for new project)
xi. Number of hand pumps = 32, in which 25 hand pumps are functional
xii. There is no power demand for the old system

Two number of independent feeder for tube wells have been proposed, one at Shafa pani and other at Gund Adalkot. Two tap lines have also been proposed along with the proposed sub-station. For this purpose two numbers of 100 KVA transformers and 763 KVA transformers are required.

Also 4 numbers of submersible pump set, 10000 GPH x 30 meter for lifting water from tube well to tank are required.

Also for lifting water 4 numbers of Rlutroil motor of capacity 50 HP are required

2 numbers of voltage stabilizers of capacity 250 KVA are also required.

Almost all areas have public hand post as their source of water. Few households also depend on the ground water or natural spring for the source of water. The supply majorly is around 500 liters per day. Though the supply is generally for around 4 hours per day but the quality of water is poor and unsatisfactory for majority of households.

Piped Water supply network from natural spring-Banihal

Water stand post for public use- Banihal

Figure 3-1: Existing water facilities-Banihal

3.1.2 Sewerage and sanitation system

As per primary survey, there is no sewerage and sanitation facility available within the planning area. Approximately 70 per cent of households have septic tank. Other options for the households where septic tank is not available, there soak pit and open defecation is the general phenomenon. The operation and maintenance is again a challenge where majority lacks the same.

Sewerage and sanitation facility are considered as one of the critical component of urban infrastructure determining the quality of life in urban sector. As per 2011 Census, 84.72% households in Banihal town have latrine facility within premises while the same in rural area of Banihal tehsil is

25.34%.However, as per Socio- Economic Sample Survey it was observed that 79% of households in planning area have water sealed latrine and 64% has septic tank. The survey also revealed that, planning area lacks Municipal Connections and it does not have appropriate system for maintenance of sanitation.

Table 3.1-1: Households with Sewerage and Sanitation facility – Primary sample Survey

Town/Village		No. Of HHs	% of HHs with facility of				
			Water seal latrines	No Latrine	Municipal Connection	Septic Tank	Soak Pit
Banihal	Khanpara/ Eidgah Colony	13	85	15	8	38	0
	Kharpora	5	80	20	0	20	0
	Hollina	5	80	20	0	0	0
	Naikpora	4	50	50	0	100	0
	Rallu	5	100	0	0	100	0
	Chinargali	9	100	0	0	33	0
	Toll Post	10	90	10	0	0	0
Villages	Bankote	32	66	34	0	88	0
	~~Chachhal~~	10	100	0	0	90	0
	Charel Lamber (Darshipora)	66	71	29	0	68	0
	Gund Adalkoot	15	80	20	7	40	13
	Karawa	15	87	13	0	60	0
	Kaskoot	31	87	13	3	81	0
	Total	**220**	**79**	**21**	**1**	**64**	**1**

Source: Primary Sample Survey, conducted by consultant in May'2014

3.1.3 Drainage system

Drainage generally is open in most of the areas including core municipal areas, this gives raise to foul smell and habitat to bacteria. Waste water from many of the households do not even connects to drainage system. Due to natural sloppy terrain the waste water easily flows and water logging is not usually seen. But mixture of waste generated in the nearby areas is released freely to these open drains. This phenomenon makes situation even worse. The garbage in these drainage systems gives rise to water logging, foul smell, dirty visuals and diseases. Maintenance by committee is done, but irregular supervision becomes ineffective where drainage system is accompanied by several other problems. As a result almost whole of the population is unsatisfied by the existing drainage facility.

As per Directorate of Economic and Statistics, Amenities Directory for Villages/ Town, 2009-2010'

Figure 3-2: Open Drain within Banihal town

by Government of Jammu; drainage facility is partially available in all the wards of Banihal Town. The analysis of Socio- Economic Sample Survey data for the planning area shows that only 9% HHs have covered drainage, while rest 91% HHs have open drainage. Waste water disposal into drain is also available to only 24% HHs. Due to lack of proper drainage system, planning area face problem of water logging.

Table 3.1-2: Drainage facility – Primary Survey

Town/Village		No. Of HHs	% of HHs with facility of		
			Drainage		Waste water disposal into drain
			Open	Covered	
Banihal	Khanpara/Eidgah Colony	13	100	0	8
	Kharpora	5	100	0	0
	Hollina	5	100	0	0
	Naikpora	4	75	25	25
	Rallu	5	100	0	0
	Chinargali	9	100	0	22
	Toll Post	10	100	0	0
Villages	Bankote	32	100	0	3
	Chachhal	10	100	0	0
	Charel Lamber (Darshipora)	66	92	8	61
	Gund Adalkoot	15	100	0	20
	Karawa	15	100	0	7
	Kaskoot	31	58	42	10
	Total	**220**	**91**	**9**	**24**

Source: Primary Sample Survey, conducted by consultant in May'2014

3.1.4 Electricity

Banihal town is fully connected with electricity, as per Census -2011; electric connections are available to 99.67% HHs and the same in rural areas of Banihal tehsil is 62.31% HHs. The analysis of Socio- Economic Sample Survey data for the planning area shows that 97% HHs have regular power supply. However, power cuts are experienced very frequently on daily basis for 2-5 hours.

Table 3.1-3: Electricity supply – Primary sample Survey

Town/Village		No. of HHs	% HHs with regular Power Supply	Frequency of Power Cuts	Hours of Power Cuts
Banihal	Khanpara/Eidgah Colony	13	100	Daily	2-5 hrs.
	Kharpora	5	100	Daily	2-5 hrs.
	Hollina	5	100	Daily	2-5 hrs.
	Naikpora	4	100	Daily	2-5 hrs.
	Rallu	5	100	Daily	2-5 hrs.
	Chinargali	9	89	Daily	2-5 hrs.
	Toll Post	10	100	Daily	2-5 hrs.
Villages	Bankote	32	100	Daily	2-5 hrs.
	Chachhal	10	100	Daily	2-5 hrs.
	Charel Lamber (Darshipora)	66	97	Daily	2-5 hrs.
	Gund Adalkoot	15	100	Daily	2-5 hrs.
	Karawa	15	100	Daily	2-5 hrs.
	Kaskoot	31	87	Daily	2-5 hrs.
	Total	**220**	**97**		

Source: Primary Sample Survey, conducted by consultant in May'2014

3.1.5 Solid Waste Management

There is absolutely no solid waste management system existing in the town. The unplanned development and mixed activities gave rise to different type of solid waste generation. Due to absence of waste collection and management system, is thrown away and left out exposed. This waste is dumped either at the sides of streets or in drains. Not only this spoils the appearance (in the given pictures) but also harms the environment and surroundings.

Socio-Economic sample Survey shows that negligible proportion of households have door to door garbage collection. Frequency of street cleaning on daily basis is prevalent in only few wards of town and negligible in rural areas. Majority of households expressed that, solid waste collection system is poor in entire planning area.

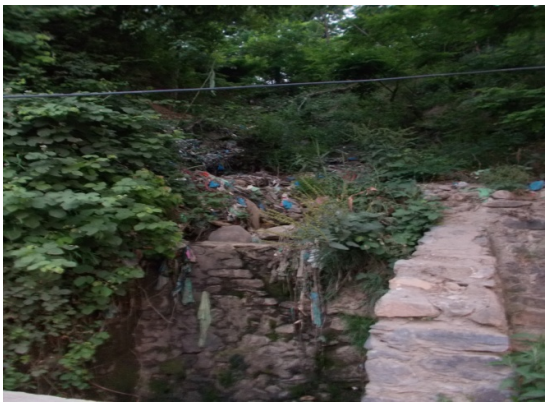


Figure 3-3: Banihal Town - Garbage disposal in vacant land and along road

Waste from commercial activities near taxi stand (main market), food waste, hazardous waste from the hospital and all other places are thrown away from respective premises. This waste ultimately is dumped or directed to the existing drains (Nallah). This contaminates the water, surroundings and spoils the whole environment. Same polluted water further going towards downstream is used for various purposes. Control, collection, transportation and treatment system is to protect environment, health and aesthetics of the town

Generation

The total generation of solid waste in the city of Banihal is estimated to be 2.5 to 3.0 tons per day (TPD) and for planning area is estimated to be 8.0 to 10.0 tons per day (TPD). This large amount of solid waste generated is disposed outside the town and in drains. The planning area lacks appropriate solid waste collection system. At present only 20-25 street sweepers are deployed by Municipality.

Composition

Solid waste comprises of waste generated from different sources. Major sources of generation are individuals, households, industries, trade and commerce, hotels and restaurants, healthcare institutions including dispensaries and hospitals, animals and floating populations in terms of tourists, hawkers, etc. Solid waste generated can be broadly classified into five categories

a. Organic Waste: includes kitchen waste (food items) generated at household level, leaves, animals slaughtered.
b. Recyclable Waste: includes paper, plastic, glass, metal, rags, packing materials, twigs, bark, etc.,
c. Inert Waste: bricks, cement, building debris, furniture waste, etc.
d. Industrial Waste: generated by industrial activities, hospitals, dispensaries and other health care institutions etc.
e. e-Waste: generated from electronic products like computers etc.

Disposal

At present there is no systematic solid waste collection system throughout the town. Most of the solid waste generated is collected in garbage cart/trolley and dumped in barren / vacant land and in nalla by residents themselves or municipal sweepers. The collected solid wastes are segregated near nalla under Hollina Bridge and send to Jammu town for recycling and further processing.

Garbage collection Cart

Garbage collection trolley

Garbage- Segregation

Segregated Garbage packed for transportation to Jammu

Garbade disposal in nalla by residents

Private vendor segregation shop

Figure 3-4: Solid waste collection and storage system

3.1.6 Land use distribution pattern and challenges

The total planning area comprising of Banihal Town and eight surrounding villages is 1972.81 hectares (19.72 sq.km). An analysis of land uses pattern has been done to understand and determine the forces responsible for shaping the urban morphology of a town or city. It would also help to give an insight into the future direction in which town has the potential to grow. Micro-level land use

survey was conducted by the consultant. The land use pattern is broadly classified as Developed and un-developed land use. The term 'Developed' indicates the land that is being used for the purposes which are urban in character including Open Spaces like Parks and Playgrounds and other uses like Residential, Commercial, Industrial, Public and Semi-Public etc. 'Undeveloped' land use has been defined as the land not specifically mentioned above under urban use even though it may have the potential for land is considered as undeveloped Land Use.

The existing land use distribution pattern is shown in the map below, and as an Annexure No. 4.

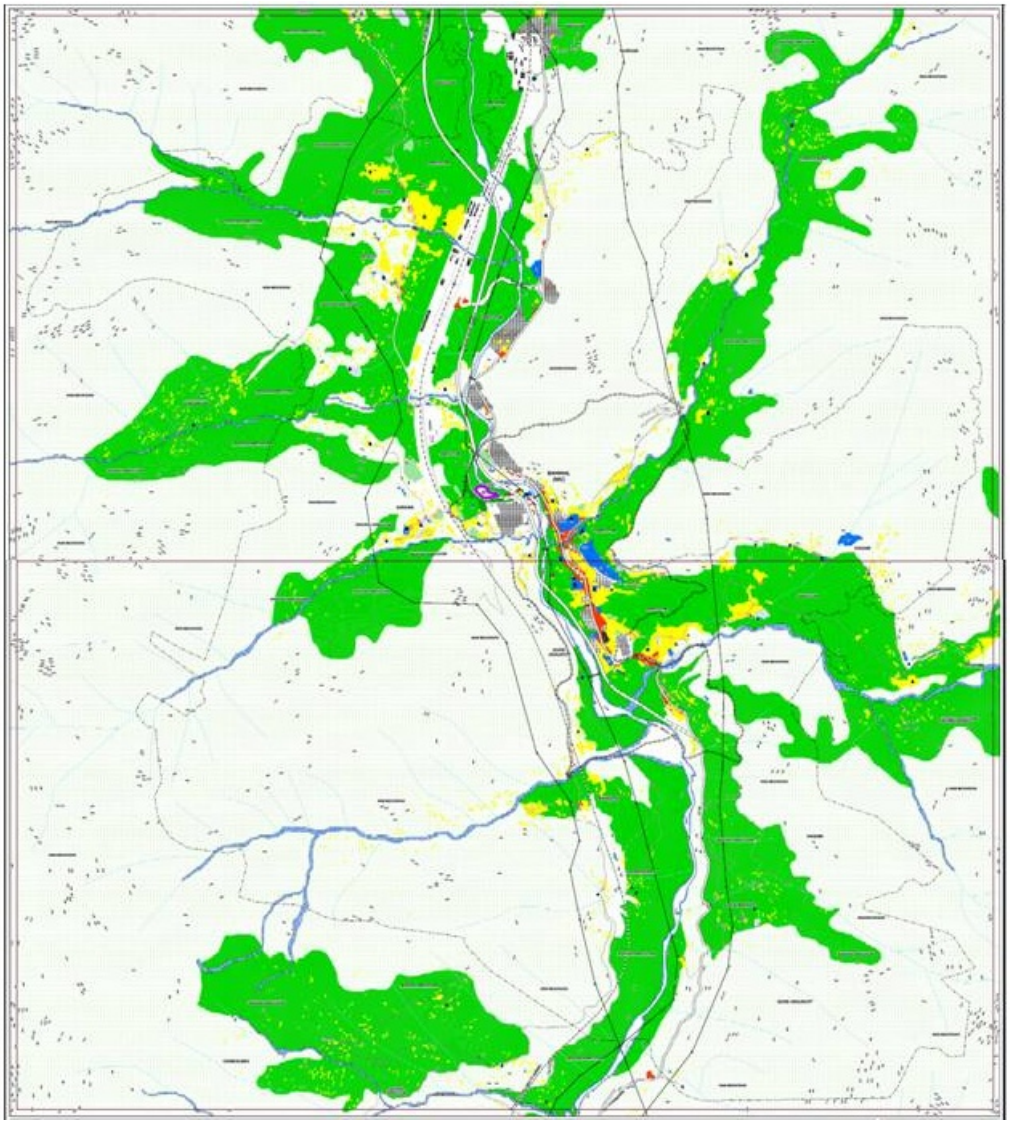


Figure 3-5: Banihal- Existing Landuse Map

The detailed analysis of the existing land use reveals that only 6 per cent of the Planning Area is Developed Area, while rest 94 per cent of the total Planning Area constitutes Undeveloped Area. Majority of land use i.e. 61% falls under Forest area, followed by agricultural area. Residential use covers an area of 49.48 hectares in the Planning Area, constituting 44 per cent of the Developed Area and 3 per cent of the Planning Area. The details of planning area land use pattern are given in table below and for map showing planning area land use pattern refer Annexure 5.

Table 3.1-4: Planning area – Land Use Analysis (2014)

Sr. No.	Existing Land Use	Area (Hectares)	% of Developed Area	% of Planning Area
A	**Developed Land use**			
1	Residential	49.48	44.39	2.51
2	Commercial	4.33	3.89	0.22
3	Mix use	1.29	1.16	0.07
4	Industrial & Manufacturing	0.14	0.13	0.01
5	Public and Semi Public			
i	Government	6.77	6.07	0.34
ii	Education & Research	3.87	3.47	0.20
iii	Social, Cultural & Religious	3.60	3.23	0.18
iv	Defense	9.35	8.39	0.47
v	Others	0.60	0.54	0.03
6	Recreational (parks and playgrounds)	0.15	0.13	0.01
7	Traffic & Transportation	31.87	28.59	1.62
	Sub Total	**111.46**	**100**	**5.65**
B	**Un-developed Land Use**			
7	**Agriculture**		**% of Un-Developed Area**	
i	Agricultural land	468.89	25.19	23.77
ii	Orchards	3.26	0.18	0.17
iii	Plantation & Nursery	1.54	0.08	0.08
iv	Vegetation	78.62	4.22	3.99
8	Vacant Land	50.65	2.72	2.57
9	Water Bodies	46.73	2.51	2.37
10	Natural Vegetation	1211.66	65.10	61.42
	Sub Total	**1861.35**	**100**	**94.35**
	Grand Total	**1972.81**		

Source: Land Use Survey-2014

The observation regarding above mentioned land uses as per primary survey is as following:

1. Residential –Terrain being constraint here, the character observed is leap frogging settlements. The density adjacent and along the NH44 is more to achieve better connectivity to facilities and opportunity to avail economic benefits.
2. Commercial – Commercial activities are majorly located along the NH44
3. Mix Use – As the concentration of commercial and residential is mainly along the NH44, the resultant land use becomes mixed one. Most of the structures have commercial activity on the ground and residential activity on the upper floors.

Figure 3-6: Mix use development along highway (commercial on ground floor and residential use over it)

4. Industrial & Manufacturing – the small scale industries and production houses are less in the region and location emerged as per requirement. No specific zone can be announced under industrial use.
5. Public and Semi Public – offices, institutes, defense, and other social infrastructure are again located along the NH, but relatively towards southern side of the town.
6. Recreational – there is very small percent of land under recreational land use.
7. Traffic & Transportation – The need of infrastructure recently was addressed and proposals for 4-lane by-pass and railways are under implementation phase now, which will resolve the traffic and transportation problems.
8. Vacant land – the land has been used tightly in the region here, the vacant land visible is majorly due to terrain constraints.
9. Water bodies – water channels, Nallah, tributary is as per naturally occurring directions due to contours. These streams provide very good opportunities for the agriculture and vegetation to flourish.
10. Natural Vegetation – most of the land is not suitable for development because of terrain. Difficult approach, danger from landslides, earthquake prone zone and care towards the nature leads majority of the land untouched. This land is under natural vegetation, which helps in providing food and fodder for the local people. **Forest land** is even beyond from this natural vegetation. Neither planning area nor the complete area shown in the map covers any forest land (as per Forest Range officer, Banihal).

Spatially majority of government offices are located towards the south west (opposite helipad) of the town. Due to these government offices this zone is majorly under public and semi-public use. Commercial land use is seen all along the highway, and it emerged naturally to generate economic benefits from the floating population or the commuters passing through NH44. Towards north of the town are three sites under army settlements. Due to recently introduced connectivity through railways commercial activities have crept near the station and commuting points.

3.2 Existing Social Infrastructure

3.2.1 Education facilities

As per 'Directorate of Economic and Statistics, Amenities Directory for Villages/ Town, 2009-2010' by Government of Jammu; the information regarding education facilities is as following.

Ward number 4, 6 and 7 have government primary schools (common for both boys and girls) within the ward themselves. Ward number 2, 3 and 5 have it at the distance of half a km. and ward number 1 has it at the distance of one km.

Government middle school is in proximity to ward number 1. Same is at the distance of half km from ward numbers 2, 3 and 7. For ward number 4, 5 and 6 it is at the distance of one km.

Government high school is in proximity to ward number 1. Same is at the distance of 250 mtr from ward numbers 2. For the rest of the wards it is at the distance of half a km. Private high school on the other hand is located in close proximity to ward number 4, 6 and 7. It is half a km away from ward number 2, 3 and 5, and one km away from ward number 1.

Regarding higher secondary schools, two separate government institutes for boys and girls are again in close proximity to ward number 1 and 2. Same is at the distance of half km from ward numbers 3 and 7 and at the distance of a km from rest of the wards. Same level of private institute is located 50 kms away from the town.

There is no government college near the town. Private college is at the distance of 50 kms from the town.

3.2.2 Health facilities

As per 'Directorate of Economic and Statistics, Amenities Directory for Villages/ Town, 2009-2010' by Government of Jammu; the information regarding health facilities is as following.

District hospital, Allopathic/ Ayurveda / Unani Dispensaries and Primary/ Subsidiary health center (PHC/ SHC) are far from the town, at the distance of 34 kms, 20 kms and 15 kms respectively.

Medical Sub-Center/ Medical Aid Center (MSC/ MAC) are located at the distance of 5 kms from the town. Sub District hospital is half a km away from wards number 1, 6 and 7, and one km away from rest of the wards. Family planning center, private clinic and medical shop are all located in close proximity to each other. These facilities are very near to ward number 2 and 7. Same are half a km away from ward number 1 and 3, and one km far from ward number 4, 5 and 6.

3.2.3 Commercial facilities

As per 'Directorate of Economic and Statistics, Amenities Directory for Villages/ Town, 2009-2010' by Government of Jammu; the information regarding commercial facilities is as following.

In general, markets or commercial land use is located along the national highway, which passes through ward number 1, 2, 3, 4 and 6. In these wards ward number 4 and 6 are towards the fringes, and ward number 1, 2 and 3 are situated relatively towards the core of the town. Therefore the general market, vegetable/ fruit market, plant distribution and forest sale depot are in close proximity to ward number 1, 2 and 3. Same facilities are max at the distance of one km from the rest of the wards. Market for improved/ hybrid seeds center is 5 to 6 km away from the municipal limit

Similarly other commercial establishments such as Ration/ Food store depot dealer, Kerosene oil depot, Cooking/ LPG sale outlet, fair price shop run by department, Any cooperative society, Banking

facility, Post office, STD/ PCO telephone facility, Community hall/ center, and Tourist hotel/ hut/ guest house are all located maximum at the distance of one km from any of the wards. Ware house facility is 183 kms away from the town.

3.2.4 Other amenities

As per 'Directorate of Economic and Statistics, Amenities Directory for Villages/ Town, 2009-2010' by Government of Jammu; the information regarding other facilities is as following.

The official establishments such as, Animal Care Center, Sheep/ Goat Care Center, Fire Fighting Station, Police Station/ Police Post, Judicial Court, Judicial Court, Block Development Office, are all located at the distance of one km from all the wards. District development office is at the distance of 34 kms from the town and Nari Niketan is 120 kms far from the town.

3.3 Housing

Housing Condition and Household size

Majority of the houses in the town are Pucca. As per Census 2001, Banihal had a total of 479 households and in the year 2011 there are 645 households. The average household size is 5.7 for the year Census 2001 which has increased to 6.0 in the Census 2011. The state has an average HH size of 6.23 and the district has a size of 5.1. Thus, it can be seen that the town has almost household size between that of the state and the district.

Figure 3-7: Pucca House in Planning Area

3.3.1 Housing – Type of House Structure

The data collected under primary survey conducted on sample households, shows that majority of house structure are Pucca. Household size for planning area is 5.05 persons per HHs wherein it is observed to be varying from 4 to7 for urban areas and 5 in rural areas. The highest household size of 7 persons per household is observed in Naikpora area in Banihal, the reason may be high concentration of population due to nearby work opportunity.

Table 3.3-1: Type of House Structure – Primary sample Survey

Town/Village		Household Size	No. Of House	Type of House Structure (In %)		
				Pucca	Semi-Pucca	Kutcha
Banihal	Khanpara/Eidgah Colony	4.38	13	92.31	0.00	7.69
	Kharpora	5.00	5	40.00	40.00	20.00
	Hollina	4.80	5	80.00	20.00	0.00
	Naikpora	7.00	4	50.00	25.00	25.00

Town/Village		Household Size	No. Of House	Type of House Structure (In %)		
				Pucca	Semi-Pucca	Kutcha
	Rallu	4.20	5	80.00	0.00	20.00
	Chinargali	4.22	9	77.78	11.11	11.11
	Toll Post	4.50	10	70.00	20.00	10.00
Villages	Bankote	5.00	32	31.25	9.38	59.38
	Chachhal	5.50	10	90.00	0.00	10.00
	Charel Lamber (Darshipora)	5.05	66	65.15	18.18	16.67
	Gund Adalkoot	5.73	15	86.67	6.67	6.67
	Karawa	5.20	15	80.00	13.33	6.67
	Kaskoot	5.16	31	90.32	6.45	3.23
	Total	**5.05**	**220**	**69.55**	**12.27**	**18.18**

Source: Primary Sample Survey, conducted by consultant in May'2014

3.4 Public land

The region comprises of forest land, army settlements, railways and other geographical constraints, therefore the land parcels under public ownership are more as compared to private ownership within the Local Planning Area.

The map showing Public land within Local Planning Area is given below:

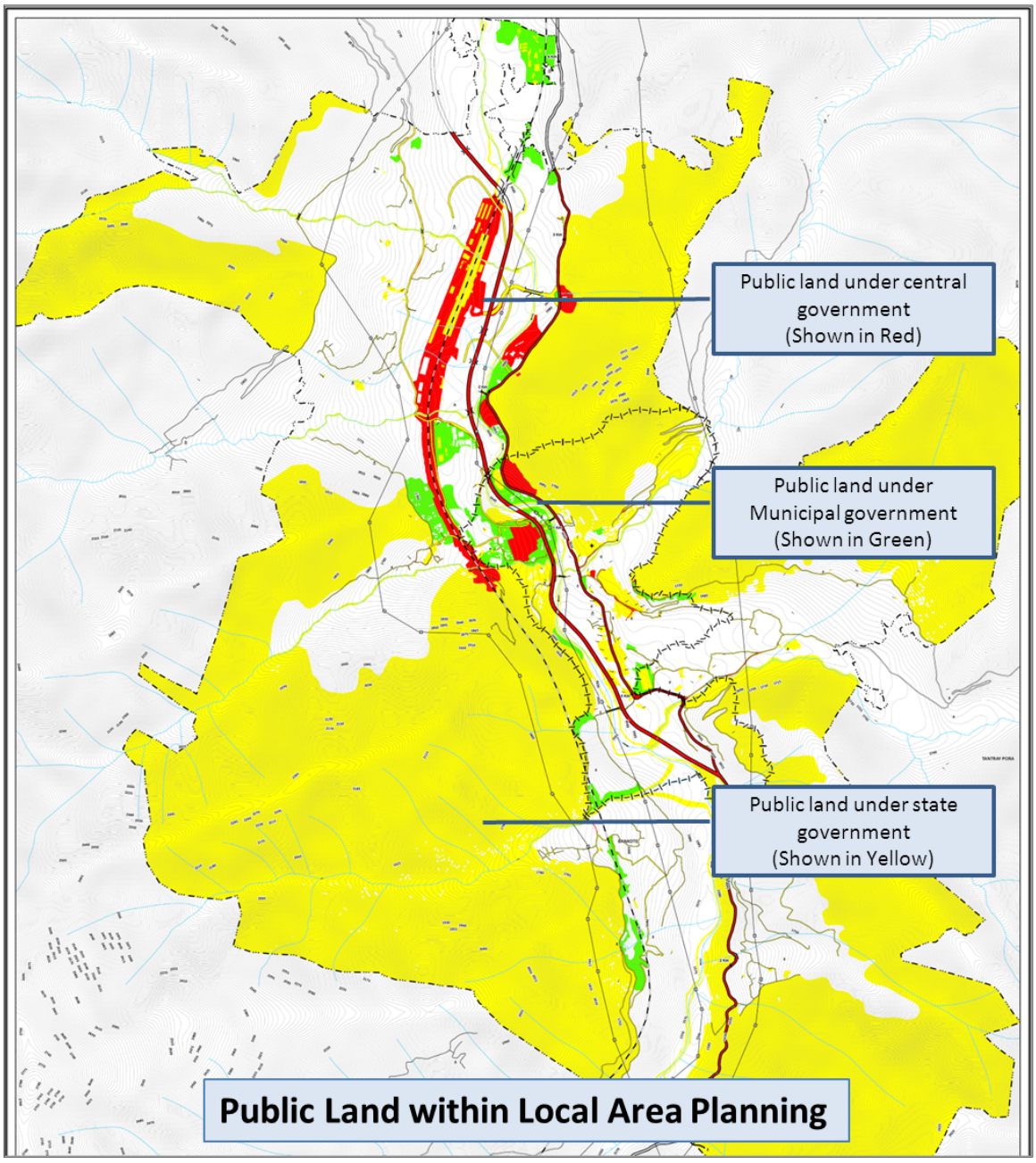


Figure 3-8 Public land within LPA

Source: Survey and Khasra information

A. Public Land and Private Land within Local Planning Area

The Public and Private land distribution is almost 70 and 30 percent respectively. The public land collectively under central, state and local jurisdiction is 1373 hectares in total and private only 600 hectares.

Table 3.4-1: Public and Private land within Local Planning Area

Sr.No.	Central, State, Public Land and Private Land	Area in Sq Mts	Area in Hectare	Area in %
1	Central, State, and Public Land within Local Planning Area	13,726,359.42	1,372.64	69.58
2	Private Land within Local Planning Area	6,001,752.69	600.18	30.42
	Total Local Planning Area	**19,728,112.11**	**1,972.81**	**100.00**

B. Central, State, and Public Land within Local Planning Area

The distribution of the public land under three hierarchies of government bodies is given in the table below. The Public land distribution among central, state and ULBs is 94, 3.4 and 2.4 percent respectively. The public land under central, state and local jurisdiction is 46, 1293 and 33 hectares in total.

Table 3.4-2: Distribution of Public land within Local Planning Area

Sr.No.	Public Land / Government Land	Area in Sq Mts	Area in Hectare	Area in %
1	Central Government Land	464523.4032	46.45	3.38
2	State Government Land	12930712.39	1,293.07	94.20
3	Public Land	331123.6316	33.11	2.41
	Total	**13,726,359.42**	**1,372.64**	**100.00**

C. Public and Private Land within Municipal Area

The Public and Private land distribution within Municipal boundary is given below. Unlike above the private land within MC shares 94 percent of land share as compared to 6 percent of public land. The Private and public land occupy 179and 11 hectares of land area respectively.

Table 3.4-3: Public and Private land within Municipal Area

Sr.No.	Public and Private Land	Area in Sq Mts	Area in Hectare	Area in %
1	Public Land within Municipal Area	107,824.49	10.78	5.69
2	Private Land within Municipal Area	1,787,481.33	178.75	94.31
	Total Municipal Area	**1,895,305.82**	**189.53**	**100.00**

3.5 Existing transportation network

3.5.1 Railways

Railway connectivity has been introduced in the zone recently. The proposal of connecting Jammu to Srinagar (through Banihal) is under implementation. The project is being implemented in phases. Currently connectivity from Banihal to Srinagar has been laid and commuters prefer travelling by train as the mode is efficient, both money and time wise.

Further, it is expected that the line will connect Jammu by 2017. The trend prevailing here is that working population from Banihal commute to higher hierarchy urban areas to avail economic opportunities.

3.5.2 Roads

Banihal town is situated on NH 44 (former named as NH1A), the only existing road connectivity from Jammu to Srinagar. For immediate connectivity to different places and to avail economic benefits from floating population this town grew along this NH. Thus this national highway serves as an important linkage for the town, and majority of facilities are located along the same. This two lane highway acts like a datum to the whole structure of the town. Lower hierarchy roads are connected to this highway to provide access to the villages adjacent to the town.

There are 5 main roads known as Doligam road, Hospital road, Chanjloo road, Bankoot road and Krawa road. All these roads are named on the important locations to which they connect.

As per 'Directorate of Economic and Statistics, Amenities Directory for Villages/ Town, 2009-2010' by Government of Jammu (Annexure-5); the information regarding roads is as following.

As there are total seven wards in the town, out of which ward number 2, 3 and 6 do have metaled and black topped roads. These roads are at half a kilometer distance from ward number 1, 4, and 7. These roads are the distance of one km from ward number 5. Otherwise fair weathered road has approach to all the wards. Passenger shed and bus stop is only located in ward number 2 and distance from other wards vary from half km to one km.

Doligam road is in ward number 1 and 2, and connects Doligam area to NH. Hospital road lies in ward numbers 2, 3 and 7, and leads to the hospital. Chanjloo road is the further extension of Hospital road; this connects to Chanjloo through ward number 7. Bankoot road leads to Bankoot village through ward numbers 3, 4 and 5. Krawa road leading to Krawa lies in ward number 4. There are several lanes running all over the town. As per 'Directorate of Economic and Statistics, Amenities Directory for Villages/ Town, 2009-2010' by Government of Jammu; the information regarding road network facilities based on the quality of the roads is as following.

Table 3.5-1: Nearest distance from village up to corresponding amenities (in kilometers)

S.no.	Name of revenue village/ Ward number	Motorable roads				
		Black Topped	Metaled	Shingled	Fair weathered	Passenger shed/ Bus stop
1	Ward no. 1	½	½	½	0	½
2	Ward no. 2	0	0	0	0	0
3	Ward no. 3	0	0	½	0	½
4	Ward no. 4	½	½	1	0	½
5	Ward no. 5	1	1	1	0	1
6	Ward no. 6	0	0	0	0	1
7	Ward no. 7	½	½	½	0	½

Source: Directorate of Economic and Statistics, Amenities Directory for Villages/ Town, 2009-2010'

The table given above shows the various types of roads and the distance to which they are situated from all the wards. Black topped and metaled roads are max at half a kilometer distant away, except ward number 5 where it is one kilometer away. Fair weathered roads are available in all the wards.

In the table given below, classification of roads is done as BT – black topped, MT – metaled, SH – shingled, FW – fair weather. The unit for cost of construction is given in Lakhs.

Table 3.5-2: Status of work on Roads as per PWD

S. No.	Name scheme	Length of road in kms.	Administration Approval Accord cost		Road Status			
			Sanctioned Schemes	NABARD	BT	MT	SH	F/W
1	Construction of Banihal Mohumangit road	5.25	320	-	5.25	-	-	-
2	Ext/up-gradating of Banihal Changloo road upto Gujjarnar	8	443	-	1.3	0.7	2.7	-
3	Construction of road from Nowgam to Zaban via Danar	3	261	-	-	-	-	0.45
4	Construction of road from NH44 to Gund Tethar	2		-	Under Land Disputes-			
5	Construction of road from Doligam to Gugthal	2	253	-	Tender-			
6	Construction of road from Shaligardi Nowgam via Krachihall	2	250	-	-	-	-	1
7	Construction of Chamalwas Neel road	26	-	-	8	11	6	1
8	Construction of Tethar-Tekya road via to Peer Pora road	1.5	10	89	-	-	-	1.2
9	Construction of road from NH44 Kharpora to Rattanbass road	6	36	324	-	-	-	3.5
10	Construction of Nagam Doligam road	2	13	114	-	-	0.5	0.2
11	Construction of road from Kherkote to Zabim	4	5.5	210	-	-	-	0.4
12	Ext/up-gradating of Banihal Doligam road upto Thandi chowal	10	33	297	-	-	-	0.8
13	Improvement of Banihal Lamber road	10	-	-	2	-	2	-

S. No.	Name scheme	Length of road in kms.	Administration Approval Accord cost		Road Status			
			Sanctioned Schemes	NABARD	BT	MT	SH	F/W
14	Construction of Chacknarwah road	9	318.5	-	5	2	1	1
15	Construction of approach road to railway station Banihal	650mt.	713.5	-	650mt.	650mt.	650mt.	650mt.
Total		**91.4**	**2655.07**	**1035.31**	**22.2**	**14.35**	**12.85**	**10.2**

Source: PWD office, Banihal

The table above shows the ongoing projects by Public Works Department and the status of the work. Total 91 kilometers of length of work on roads is in progress.

3.5.3 Level of operations and coverage

Existing network covers almost all surrounding villages. The availability of four wheelers is according to the number of commuters and places, which is not constant. Four wheelers on sharing basis bring passengers from scattered area of the region to the taxi stand. Taxi stand which is at the middle of the market runs to national highway for other required destinations. Due to introduction of railways and proposed 4 lane bypass, the options and importance of connecting to different places is coming into existence. And thus the competition among service providers has increased. As a result the level of operations and coverage are extending its reach.

3.6 Public and Freight Transport

As a matter of fact roadway (major NH44) is the only connectivity after Jammu to the further north. Therefore transportation of all the goods, raw materials, food materials, and all other items are done by vehicles which run on road. Trucks categorized as LCV, 2-excel and 3 excel rigid run and pass through the town in huge numbers. The survey conducted shows that more than 1000 (sometimes even 2000 or more) trucks run every day through Banihal town. Transporting goods to Kashmir and other northern areas national highway is the only connectivity for all kind of traffic. This mix traffic including local transportation not only disturbs Public and freight transport but also increases the scope of accidents.

The proposals such as railway connectivity from Jammu to Kashmir and bypass diverging just before Banihal will definitely play a positive role in these circumstances. This on one hand will reduce road traffic by providing efficient transport system to passengers, and on the other hand bypass before Banihal town will again separate traffic according to the destination. Thus in future, comfortable and efficient journey for public and freight transport.

3.7 Mode of transportation and its trend

Banihal is a small densely populated town, but from here emerges connectivity to number of surrounding villages. The commuting facility is through the core of the town, as a taxi stand at the center of the market, near mosque. This taxi stand as encircled on the map below brings people from local areas as well as floating population to the town, and travel further to their respective destinations.

Figure 3-9: Taxi Stand

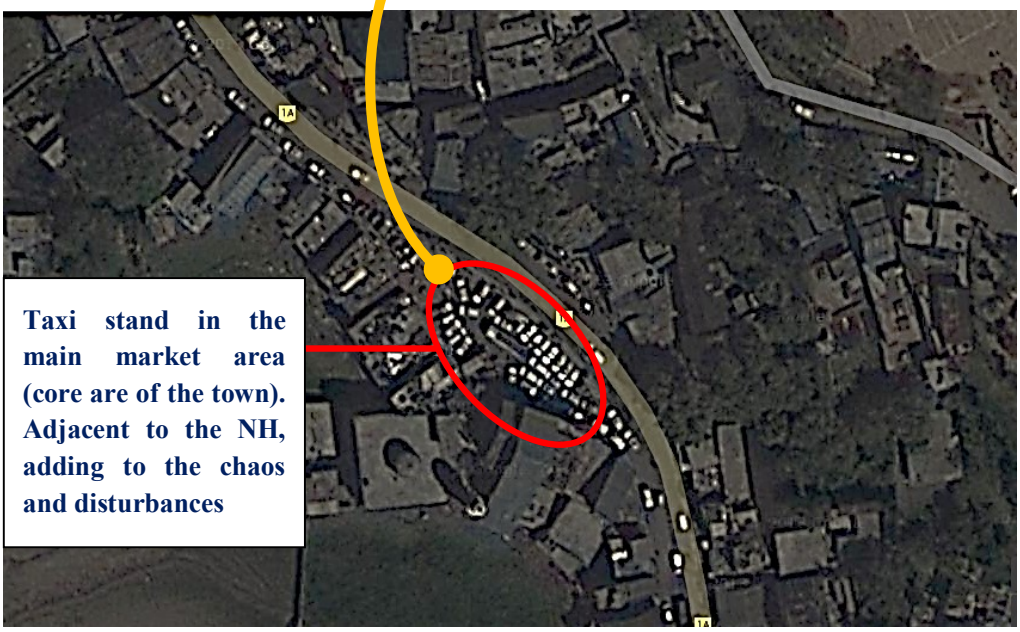


Figure 3.7-2: Main Taxi stand situated in the core area of the town,

Along the National Highway (1 A)

The mode and trend has changed drastically after the introduction of railways to the town. The public movement has basically has divided into two hierarchies. First, the local transport system moving people from local areas to the core of the town. This is mainly done by four wheelers running on shared taxi basis. Second is the higher hierarchy of travel from Banihal Railway Station, this is the junction for two different modes i.e. roadways and railways. The only connectivity from Jammu till

Banihal to the north is roadways, and the preferable connectivity to further North is railways. Same preference is seen when travelling from Kashmir to Jammu direction. Thus for distant travel commuter finds public transport from railway station. In between these two hierarchies, third has crept in to fill the gap between local taxi stand to railway station.

3.8 Parking issues

The general problem for parking comes with the fact that the terrain is hilly. As space for dwellings and roads is the priority, after that managing and providing space for parking becomes secondary on the list. Due to lack of space for parking on the one hand and increasing number of vehicles on the other hand parking problem emerged in a rapid pace. Though this parking and movement of vehicles is big problem in the internal roads as well, but due to relatively less traffic it becomes manageable.

The major problem occurs on the National Highway, which is major connectivity with vast hierarchy of vehicles moving on it. With influx of more than 3000 vehicles daily, 2 lane highway remains congested and busy all the time. As this passes through the core of the town, through the busy market, intercity traffic encounters the local traffic too. In the absence of parking space commuters park their vehicle on-street. This phenomenon further reduces the clear space to move on road, increases chaos, disturbances and jams, resulting in wastage of time and energy.

Observation through primary survey reveals that round the clock vehicles are seen parked on the highway. Activities such as supplying products to shopkeepers, managing resources, vehicles of shopkeepers and consumer, all park their vehicles on the road itself. Due to fact that no parking space is provided, person parking has no other option left other than parking on highway.

3.9 Flow of Tourists/ pilgrim

There are no tourism or pilgrimage spots/ destination in Banihal region. As Jammu and Kashmir region already has several natural tourism and higher hierarchy of pilgrimage destinations.

The tourist or pilgrims making efforts to come till Jammu and Kashmir prefers to visit higher hierarchy destinations for better experiences, therefore huge investments on to create lower hierarchy destinations will not be economically viable solution.

3.10 Problems

The general problem of traffic and transport management comes with the fact that the terrain is hilly. The specific problems identified are as follows:

1) Due to the only connectivity to the further north after Jammu, huge amount of traffic on two lane National Highway.
2) Disturbance due to vast hierarchy of transport system, i.e. inter-city and intra-city movement.
3) No space for halt and parking provided, thus people park vehicle on the road itself, leaving behind even reduces clear passage for the movement of vehicles. This encroachment or parking on roads disturbs long route commuters (by blockages) and local people (by chaos and congestion) both.
4) The taxi/bus stand at the center of all time busy market generates chaos and conflict between two different activities. One is of the local market shopkeepers, buyers and other local activities. Second is of commuters from town and surrounding villages to different areas. Both of these activities are different in nature and can be separated a bit to resolve the disturbances.

4 Housing and Slum

4.1 Introduction

Housing is one of those basic social conditions that determine the quality of life and welfare of people and places. Rapid urbanization has placed remarkable strain on housing and services land. According to UN HABITAT by 2030, approximately 3 billion people, or about 40 per cent of the world's population, will need proper housing and access to basic infrastructure and services such as water and sanitation systems. This translates into the need to complete 96,150 housing units per day with serviced and documented land from now till 2030. However, ironically supply (especially in the developing world) is often limited by inadequate governance system/ human resource deficiencies/ institutions or regulations which are obsolete or lacking in capacity.

So far, the failure of urban planning and the construction sector in matching demand for homes has resulted in a huge housing backlog that has led to the development of slums in a variety of contexts globally. Due to constraints in formal housing and land delivery systems, more and more people who would otherwise qualify for housing programmes are resorting to slum settlements. The growing urgency to provide more homes to millions of households in the developing world, and the remarkable rate of illegal construction and housing production processes calls for a paradigm shift in housing policy, urban planning and building practices.

India is witnessing a phase of rapid urbanization primarily fuelled by large scale population migration. This rapid pace of urbanization in turn translates into increased demand for housing facilities and related infrastructure. At present the urban centres are ill-equipped to meet the current & future housing demand. It is well documented that urban centres of the State contribute significantly to the Regional, State and even National economy thereby contributing to continued urbanization. However, the state of planning and preparedness of the urban centres to receive such growth is inadequate creating dysfunctionality (with wider ramifications on the health, safety and well-being of the citizens). Symbols of this is the emergence of slums and squatters with near absence of basic infrastructure.

The Indian Challenge is to place the reality of a recorded (Census 2011) rate of urbanization of 31.1% (377 million people) expected to house 600 million people by 2030 (up by 59%from 2011) with an expected urban housing shortage of 19 million; the slum population which is presently 66 million is projected at 105 million by 2017; the urban housing demand projected for the same year is as 88.78 million[1]. In 2012 the Ministry of Housing & Urban Poverty Alleviation (MoHUPA) stated there was an undersupply of 18.78 million housing units, of which the Economically Weaker Section (EWS) and Lower Income Group (LIG) constituted 95%. Whilst considering housing, it may be noted that Obsolescent houses (est. 2.82 million), as well as those with Congestion (est. 18.42% of total households) have to be reckoned with in our Housing Demand.

To fulfil these needs, factors such as affordability of the buyers, development cost and selling price persistently influence the supply and demand in the housing sector. Based on the current situation,

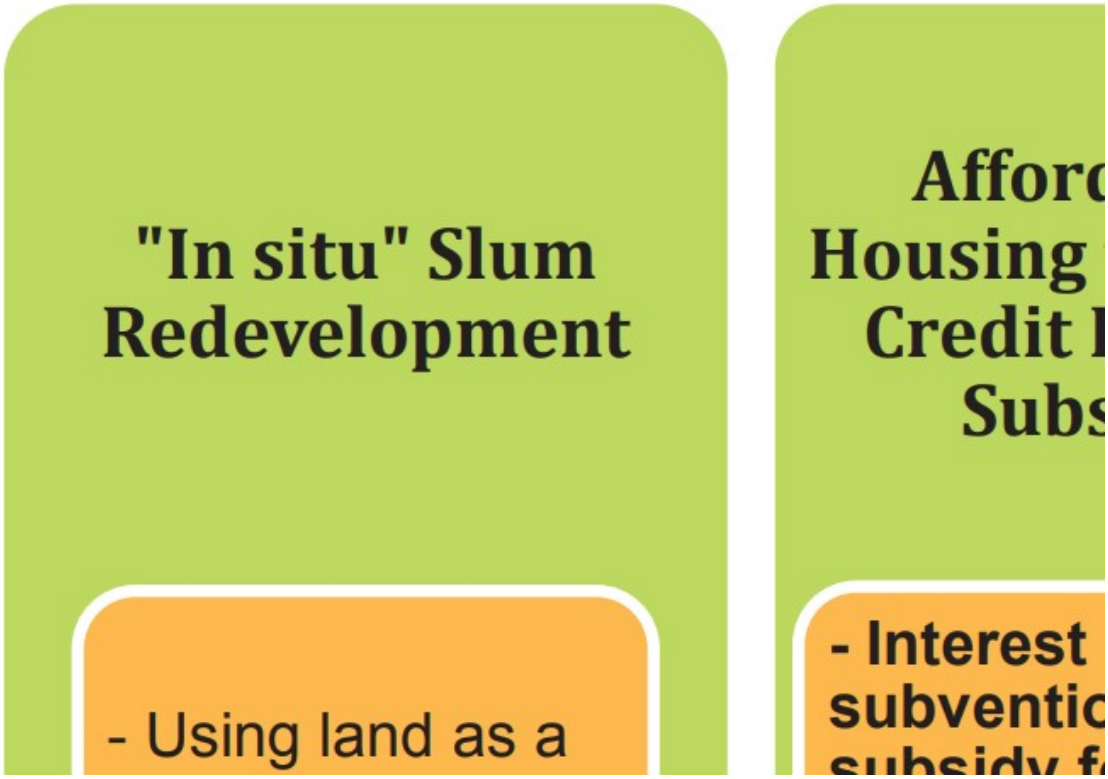
[1] Report of the Technical Group on Estimation of Urban Housing Shortage for the Twelfth Plan (TG – 12) constituted by the Ministry of Housing and Urban Poverty Alleviation (http://www.nbo.nic.in/Images/PDF/urban-housing-shortage.pdf)

housing development is concentrated in the urban and sub-urban areas, where the purchasing power is higher and the market is extensive.

In order to address the current housing needs, both the Government and the private sector must play their respective roles to fulfil their social obligations especially to the low-income and economically weaker sections keeping in view limited public resources available and the heavy investments needed for creating housing infrastructure

4.2 Mission Implementation

The Mission will be implemented through four verticals giving option to beneficiaries, ULBs and State Governments. These four verticals are as below



4.2.1 Vertical I: "In-situ" Slum Redevelopment using land as Resource

"In-situ" slum rehabilitation using land as a resource with private participation for providing houses to eligible slum dwellers is an important component of the "Pradhan Mantri Awas Yojana – Housing for All (Urban)" mission. This approach aims to leverage the locked potential of land under slums to provide houses to the eligible slum dwellers bringing them into the formal urban settlement. The slum rehabilitation grant of Rs 1 Lakh per house on an average would be admissible for all the houses built for eligible slum dwellers

1) Using land as a resource with private participation
2) Slums on Central Government land / State Government land / ULB land
    - Flexibility to ULBs to deploy this central grant for other slums being redeveloped

- Cities will provide additional FSI / FAR or TDR to make projects financially viable
- Land cost will not to be charged by Central Govt. agencies

3) Slums on Private Owned Land
    - Cities will provide additional FSI / FAR or TDR to land owner as per its policy.
    - No Central Assistance
    - Examine financial and technical viability of all tenable slums for redevelopment with private partner using land as a resource

Two components involved in this vertical

- Slum rehabilitation component: provides housing along with basic civic infrastructure
- Free sale component: available to developers for selling in the market so as to cross subsidize the project

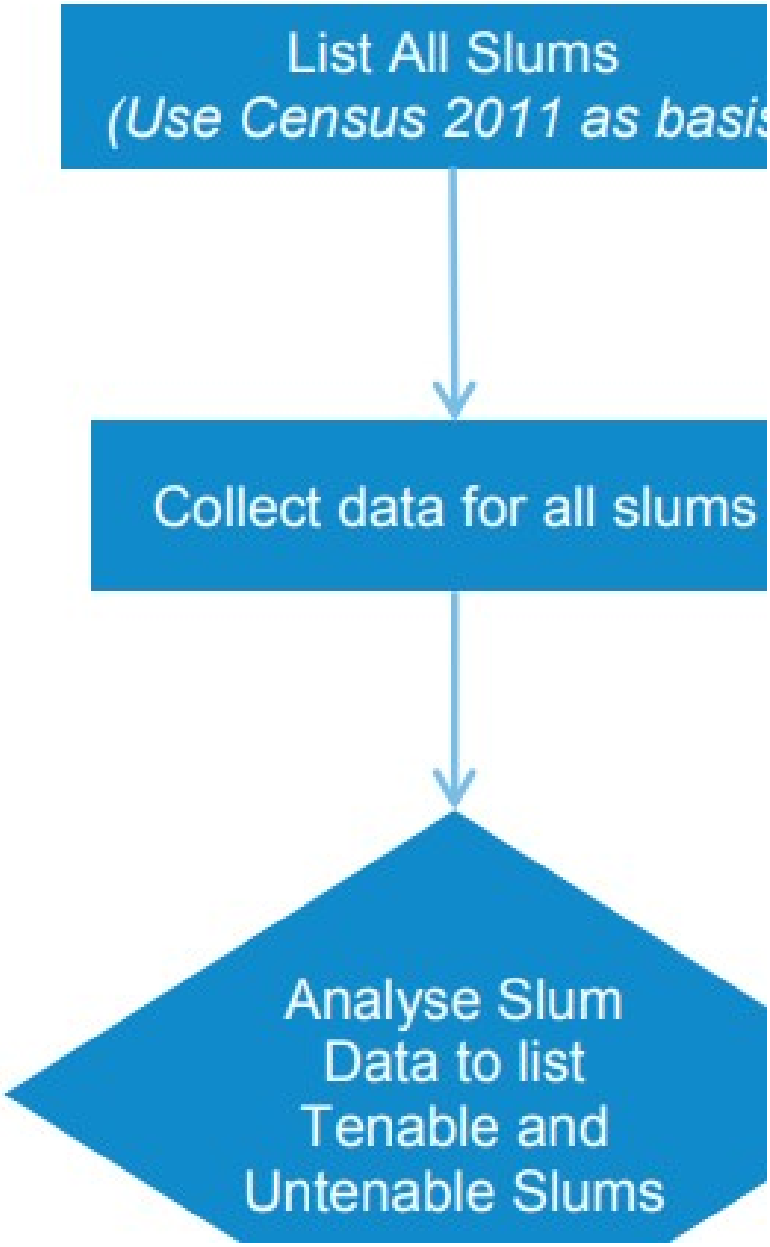


Figure 10 Strategy for Slum redevelopment using land as a resource

4.2.2 Vertical II: Credit-Linked Subsidy Scheme

The Mission, in order to expand institutional credit flow to the housing needs of urban poor will implement credit linked subsidy component as a demand side intervention. Credit linked subsidy will be provided on home loans taken by eligible urban poor (EWS/LIG) for acquisition, construction of house.

- Interest subsidy of 6.5% available on housing loans of upto Rs. 6 Lakh with tenure of 15 years for EWS / LIG, loans beyond Rs. 6 Lakh at market rate

- Subsidy credited upfront to the loan account of beneficiaries through lending institutions
- Carpet area limited to 30 sq. m. and 60 sq. m. for EWS and LIG respectively
- Preference to Manual Scavengers, Women, Widows, SC/ST/OBCs, Minorities, differently - abled and Transgender subject to them being EWS/LIG
- Self-certificate / affidavit as proof of income from loan applicant
- Central Nodal Agencies (CNAs) to channelize subsidy to the lending institutions and for monitoring the progress - Housing and Urban Development Corporation (HUDCO) and National Housing Bank (NHB)
- ULBs to take NOCs quarterly from State or designated agency for list of beneficiaries covered under credit linked subsidy to avoid duplication

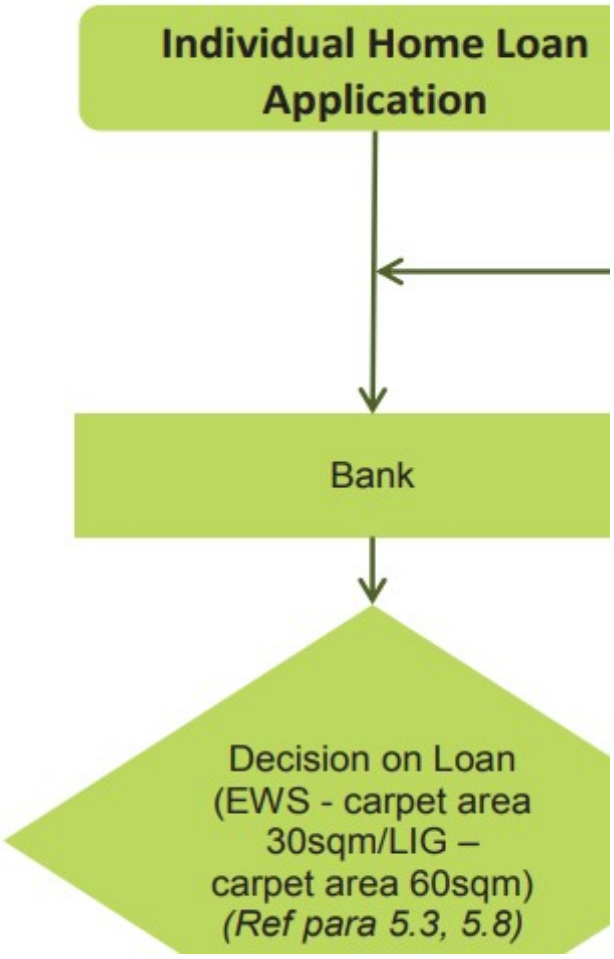


Figure 11 Strategy for Credit Linked Subsidy Scheme

Particulars	EWS	LIG	MIG-I	MIG-II
HH Income	3 Lakh	3-6 Lakh	6-12 Lakh	12-18 Lakh
Interest Subsidy	6.5%	6.5%	4%	3%
Max Loan eligible	6 Lakh	6 Lakh	Upto 9 lakh	Upto12 lakh
Carpet Area	30sqmt	60sqmt	1600sqmt	200sqmt

4.2.3 Vertical III: Affordable Housing in Partnership

The third component of the mission is affordable housing in partnership. This is a supply side intervention. The Mission will provide financial assistance to EWS houses being built with different partnerships by States/UTs/Cities

- Affordable housing project eligible for central assistance - At least 35% of the houses for EWS category -Project of at least 250 houses

- Allotment through transparent procedure as approved by SLSMC to beneficiaries identified in HFAPoA
- Preference to physically handicapped persons, senior citizens, SC / ST / OBCs, minorities, single women, transgender and other weaker and vulnerable sections of the society
- Upper ceiling limit will be fixed by State

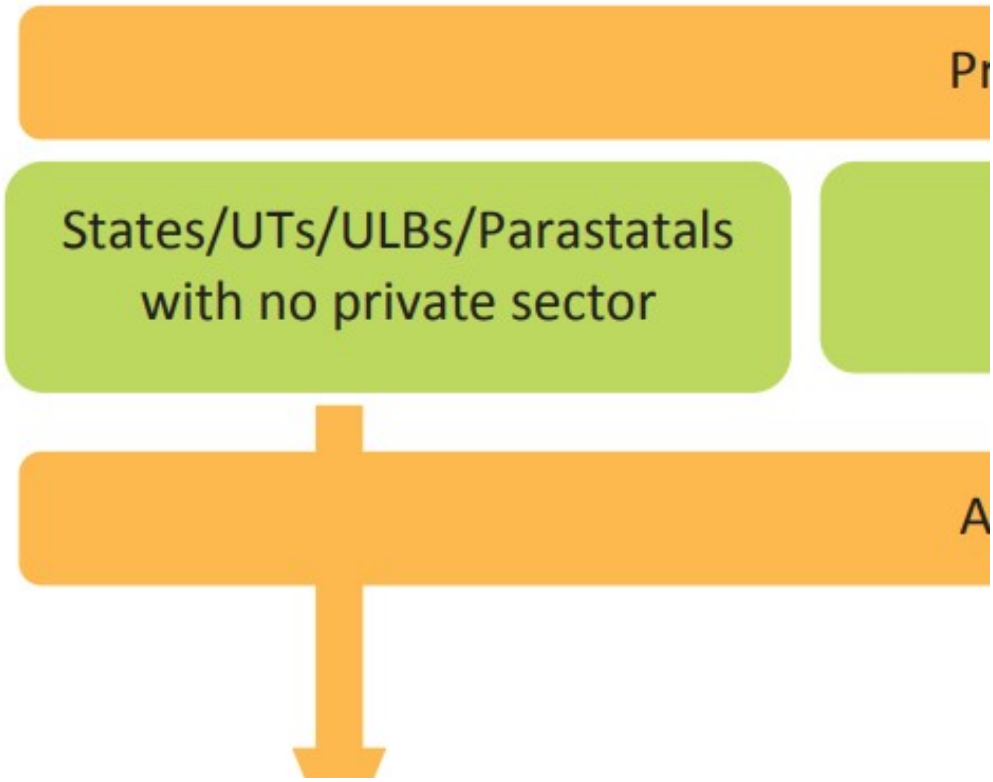


Figure 12 Strategy for Affordable Housing in Partnership

4.2.4 Vertical IV: Beneficiary-led individual house construction or enhancement

The fourth component of the mission is assistance to individual eligible families belonging to EWS categories to either construct new houses or enhance existing houses on their own to cover the beneficiaries, who are not able to take advantage of other components of the mission. Such families may avail of central assistance of Rs. 1.50 lakhs for construction of new houses or for enhancement of existing houses under the mission.

1. New Construction:
    - Assistance to individual eligible families belonging to EWS categories to either construct new houses or enhance existing houses on their own
    - Beneficiaries, in or outside slums, to approach ULBs with proof of land / house ownership

- Socio-economic Caste Census (SECC) data to be used to verify current housing status of applicant and consequent eligibility

2. Enhancement

"If the beneficiary has a pucca house with carpet area of up to 21 sq. mt. or a semi-pucca house, lacking in one of the facilities- (i.e. room, kitchen, toilet, bathroom or a combination of any of these), it may be taken up for enhancement subject to ULB/State ensuring structural safety of the house and adherence to following conditions: i. The total carpet area after enhancement must not be less than 21 Sq Mt and must not be more than 30 Sq Mt. ii. Enhancement shall mean addition of minimum carpet area of 9.0 Sq Mt into the existing house with pucca construction of at least one habitable room or room with kitchen and/or bathroom and/or toilet conforming to NBC norms.

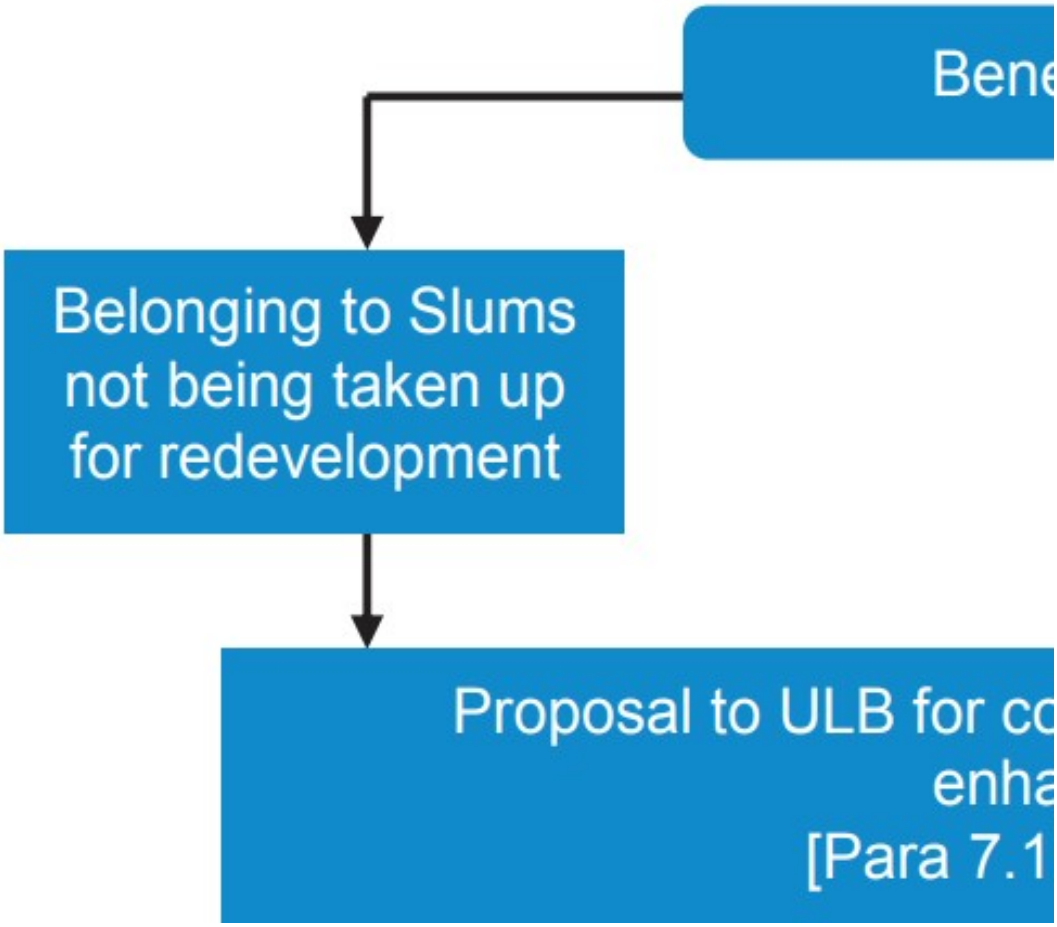
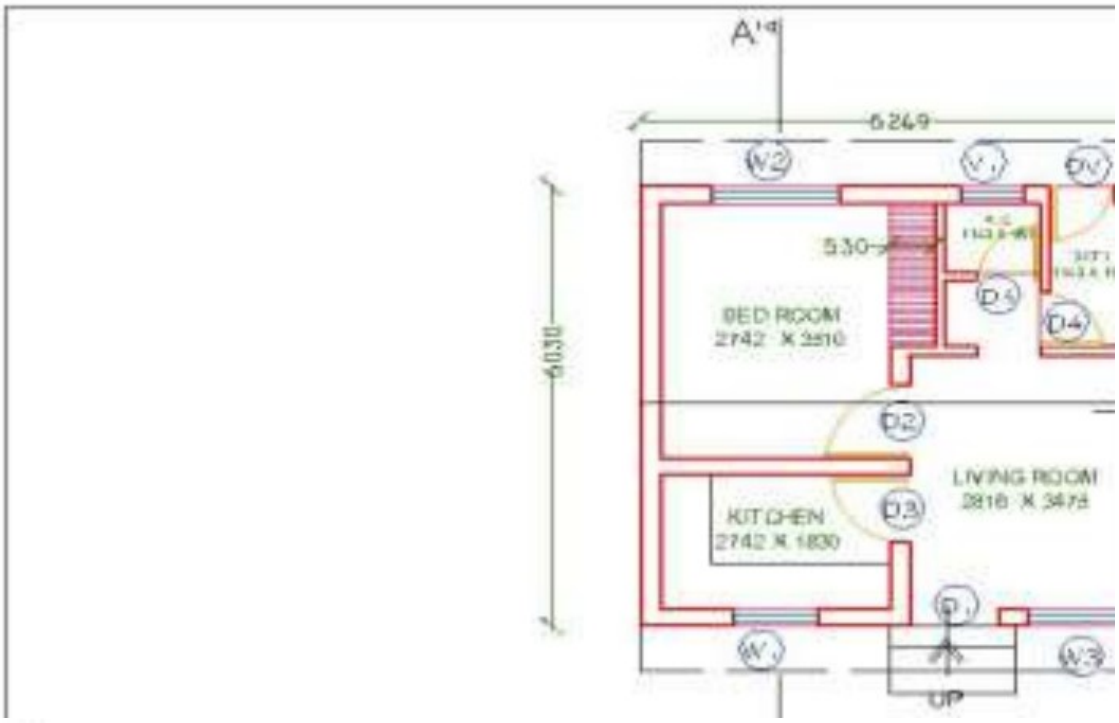
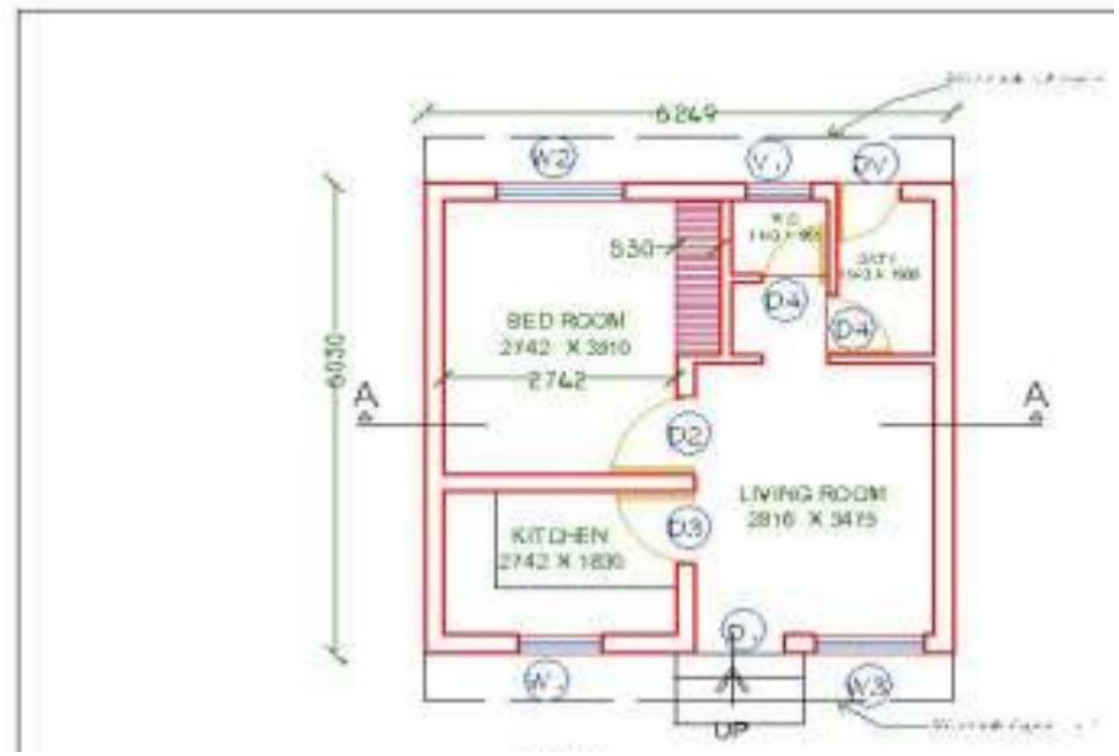


Figure 13 Strategy for Beneficiary-led individual house construction or enhancement

4.3 Plans and Cost apporoved by the J&K govt under PMAY scheme





5 Projections and Potential Demand Analysis

5.1 Population projections

Population projection is important and basic requirement for the provision of basic services to the people. It is also required to plan for service provision and revenue realization from the users in a town, which is the direct function of the population and population growth. Banihal town has a uniquely different growth character; complemented by the movement of people from surrounding areas for occupational reasons and trade specially. As per the estimation, the population of the town will be 7,500 by the year 2034. The methods for the population projection are discussed below.

Methods of Population Projection

There are various methods of projecting population (mathematical, economic and component methods). Some are very sophisticated and rigorous while others are simple and less sophisticated. Different population projection methods like arithmetic progression, incremental increase and geometric methods have been used to calculate future population

- Arithmetic Increase Method($P_n = P_0+ni$)
- Geometric Increase Method ($P_n=P_0+(1+r/100)^n$)
- Incremental Growth Method ($P_n= P_0+ (I+I.I.)n$)
- Compound Annual Growth Rate ($P_n= P_0$ X $(1 + C.A.R.G)^n$)

The base data used for population projection is the data obtained from the Census of India, with detailed urban area population and municipal ward for 2001 and the 2011 census data summaries. This data provided the numeric basis for benchmarking the actual population and its decadal growth for the past decades. As different methods will have a different projections, average of all the methods is considered for Master Plan population projection. Projected populations by different methods are as shown in the table below.

Table 5.1-1: Population Projections of Banihal town

Year	Arithmetic Increase Method	Geometric Increase Method	Exponential Method	Incremental Increase Method	CAGR	Average
2021	4519	5564	5976	4676	4875	**5122**
2031	5139	7939	9156	5608	6094	**6787**
2034	5325	8832	10407	5919	6551	**7407**

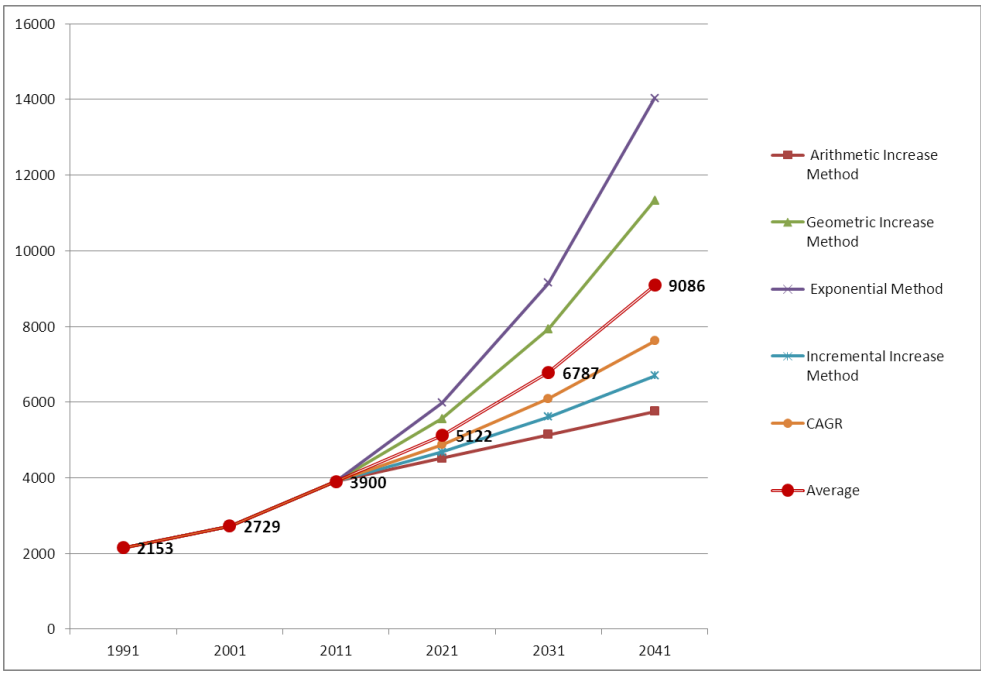


Figure 5-1: Banihal Town – Population Projection

The given graph is showing the population projections through different methods. The red line with population markings is the average of all the different methods.

Table 5.1-2: Planning Area – Population Projection

Method / Year →	2001	2011	2021	2031	2034	2041
Arithmetic Progression Method	16352	21156	25960	30764	32500	35568
Geometric Progression Method	16352	21156	27372	35414	39500	45818
Average	16352	21156	26666	33089	**36000**	40693

Figure 5-2: Planning Area – Population Projection

5.2 Projected Infrastructure Requirements

The required facilities for the projected population (for the planning area) are estimated through standards given in URDPFI. Further these requirements have been modified as per context, considering terrain, socio-economic status, and structure plan of the planning area. The survey conducted on site documented the locations and the hierarchy of facilities existing. The tables given below show the amount of facilities existing and required for the planning area.

Physical Infrastructure

5.2.1 Water supply and Sewerage

The population of Banihal town is concentrated mostly on the left bank of Bichari Nallah. As per information collected from P.H.E (Banihal), at present the water is supplied to the inhabitants at approximately 40 LPCD but the level of water supply in Banihal town under norms has been varied @135 LPCD. Most of the areas in town are without proper water supply system and main source of water is spring. For Banihal town, future requirement for water is given below.

Table 5.2-1: Requirement for Water Supply and Sewerage for Planning Area

S. No.	Year	Population	Water Supply		Sewerage	
			As per Standard	Requirement in LPCD	As per Standard	Requirement in LPCD
1.	2011	21156	135 lpcd	2856060	80 percent of water requirement	2284848
2	2034	36000		4860000		3888000

Source: P.H.E, Banihal Water Supply Norms

5.2.2 Solid Waste

The production of solid waste is considered as an important function of the socioeconomic profile of the population and activities in urban area. According to URDPFI Guidelines, the generating of waste varies from about over a quarter kilogram in small town to about half a kilogram per capita in large and metro cities. Banihal which falls in the category of small town and the waste generation will be of quarter kilograms per capita per day. This implies that total waste generation in planning area by 2034 would be around 9 Metric Tons per day.

5.2.3 Power

According to URDPFI Guidelines, the average power consumption is 2 KV per household at the town level and includes domestic, commercial, industrial and other requirements. One electric substation of 11 KV switching station for a population of 15,000 is recommended. For Banihal town, future requirement for power is estimated to be 72 Mega Watt.

Table 5.2-2: Future Requirement of Power in Planning Area

S. No.	Year	Population	Power Requirement in Mega Watt
1.	2011	21156	42
2	2034	36000	72

Social Infrastructure and Public Services

5.2.4 Education facilities

As per the information collected through survey, the data shows that there are adequate numbers of Primary schools, Secondary schools and Industrial Training Centre for the projected population of 36,000 for year 2034. Currently, ITI Banihal trades in five different Trade sections namely, Cutting and Sewing, Plumber, Computer Operator and Programming Assistant (COPA), Mech. Motor Vehicle and Draftsman Civil for 01-02 year duration with total 110 intakes. There is one Government Degree College, Banihal affiliated by University Grants Commission (UGC) functioning since 2008 with 13 faculties. Further, as per URDPFI Guidelines planning area falls short of population for availing facilities like school for mentally & physically challenged, university and colleges; as these facilities requires 1 lakh and more population.

The education facilities available within planning area are not sufficient and 7 primary schools and 5 Senior Secondary schools are required. Thus, construction of new school or up-gradation of exiting school infrastructure can be proposed.

Table 5.2-3: Future Infrastructure Requirement – Education Facility

S. No	Category	Area Range (Ha)	Population Served per unit	No. Of Units Required	No. of Existing Units	Additional No. of Units Required
1.	Primary School	0.40	5000	7	0*	7
2.	Senior Secondary School	1.80	7500	5	0*	5
3.	Industrial Training Institute	1.60	10 lakh	0	1	0
4.	College	5.00	1.25 lakh	0	0	0
5.	Professional College	2.00 to 6.00	10 lakh	0	0	0

Source: URDPFI, Urban and Regional Development Plans Formulation & Implementation Guidelines, 2014 and Primary survey

***Note: At present 19 educational school have been recorded during primary survey, however all the school area is less than the designated area range prescribe in URDPFI.**

5.2.5 Healthcare facilities

There exists a hospital at the center of the town which serves to all the population of the town including surrounding areas. For projected population of 36000 by 2034, even more medical facilities are required. As per standards several lower hierarchy facilities and a bigger hospital is required within the planning area. But considering the two major parameters of the context the provision has been modified. Factors such as linear pattern of growth and accident prone zone with landslides; the availability and approachable emergency medical facilities are the need of the context.

As per information from Block Medical Office the information and the suggestion given are: Medical block Banihal consists of 90% hilly area of Tehsil Banihal, District Ramban. It consists of 12 health units (CHC-1, PHC-1, S/C-5 and MAC-5). Whereas, CHC in Banihal is functioning as Block HQ. and FRU and caters plus 1.25 lacs population. Whereas all the health units of Banihal tehsil refer patients to CHC for treatment. There is a Government Accidental Hospital (Trauma Center) in Banihal, started catering first responses to accidents occurring majorly from Jawahar tunnel to Ramban town.

Requirements and suggestions from Block Medical Officer: CHC Banihal needs up gradation to DH level with creations of posts of specialists with requisite infrastructure and Blood Bank facility besides creation/clearance of staff of PHC Nowgam being situated on NH44.

Considering the same, two hospitals (of medium hierarchy) on south and north locations of the town, along the highway are proposed.

Table 5.2-4: Infrastructure Requirement – Health Facility

S. No	Category	Area Range (Ha)	Population Served per unit	No. Of Units Required	No. of Existing Units	Additional No. of Units Required
1.	Dispensary	0.08 to 0.12	15000	2	One Hospital with these facilities already exists	One general hospital towards north and one relatively lower hierarchy medical facility towards south of the planning area
2.	General Hospital	6.00	2.5 lakh	0		
3.	Family Welfare Centre	As per requirement	50,000	0		
4.	Maternity Home & Nursing Home		45000 – 1 Lakh	0		

Source: URDPFI, Urban and Regional Development Plans Formulation & Implementation Guidelines, 2014 and Primary survey

5.2.6 Community, Socio- Cultural and Religious facilities

The provision of socio cultural facilities shall correspond to the changing urban demography and work lifestyle. As per analysis of Socio cultural facility requirement, it is observed that, planning area requires 4 Anganwadi, 7 Community room and 2 Community Halls. Further, as per UDPFI Guidelines planning area falls short of population for availing facilities like music centre, old age homes etc.

Table 5.2-5: Infrastructure Requirement – Socio Cultural Facilities

S. No.	Category	Area Range (sq.m.)	Population Served per unit	No. of Units Required	No. of Existing Units	Additional No. of Units Required
1.	Anganwadi	200-300	5000	7	3	4
2.	Community Room	750	5000	7	0	7

S. No.	Category	Area Range (sq.m.)	Population Served per unit	No. of Units Required	No. of Existing Units	Additional No. of Units Required
3.	Community hall	2000	15000	2	0	2
4.	Music, dance and drama Centre	1000	1 lakh	0	0	0
5.	Meditation and spiritual Centre	5000	1 lakh	0	0	0
6.	Old age home	Max. 1000	5 lakh	0	0	0
7.	Religious Facilities	400	5000	7	9	0

Source: URDPFI, Urban and Regional Development Plans Formulation & Implementation Guidelines, 2014 and Primary survey

Jamia Mosque - Banihal

Post Office - Banihal

Figure 5-3: Social facilities in the town

Amongst Religious facilities 7 major religious structure are present in planning area. Out of which 2 are Temple, 1 is a Gurudwara and rest 4 are Mosques. Thus, no additional religious facilities are required in the planning area.

5.2.7 Other Services

Required facilities are already present within the planning area, based on the needs of the population and availability of resources. Still as per standards, there are number of facilities which are required for the projected population of 36000 by 2034. The column under heading '**Final No. of Units Required'** mentions the number of required facilities for residential population within the planning area. There are total 9 post offices (of different hierarchy) required within the planning area. And 7 police chowki and 1 police station. In broad level almost all villages are proposed with 1 police chowki and 1 post office.

Table 5.2-6: Service Requirement

S. No	Category	Area Range(Ha)	Population Served per unit	No. of Units	No. of Existing Units	Additional No. of Units Required
1.	Rural post office	0.50 to 0.10	1000	4	0	4
2.	Rural post office	0.04	2000	4	0	4
3.	Post Office	0.10	10,000	3	1	2
4.	General Post Office	0.20 to 0.40	50,000	1	0	1
5.	Telephone Exchange	0.20 to 0.40	50,000	1	1	0
6.	Bank (Tribal areas)	0.100 to 0.150	10,000	3	1	2
7.	Police Chowki	0.10	5,000	7	0	7
8.	Police Station	0.50	15,000	2	1	1
9.	Fire Station	0.30 to 0.80	50,000	1	1	0
10.	Disaster Management Centre	1.00	20,000	2	0	2
11.	LPG Godown	0.15	As per requirement	2	1	1

Source: URDPFI, Urban and Regional Development Plans Formulation & Implementation Guidelines, 2014

5.2.8 Recreational facilities

The town of Banihal has one Public Park adjacent to NH-1, while the town lacks recreational complex and clubs. An additional requirement of 7 Housing parks, 3 Neighborhood parks, 1 Botanical Garden and 1 recreation complex can be observed for the future population in planning area.

Table 5.2-7: Recreational Facilities requirements

S. No	Category	Area Range (Ha)	Population Served per unit	No. Of Units	No. of Existing Units	Additional No. of Units Required
1.	Housing Area Park	0.50 to 1.00	5000	7	0	7
2.	Neighborhood park	1.20 to 2.00	10000	3	0	3
3.	City Parks/ playgrounds/ maidan/ exhibition grounds/ cultural gathering grounds	--	1 for every town	1	1	0
4.	Botanical Garden	10.00 to 20.00	1 for every town	1	0	1
5.	Recreational complex including zoo	10.00 to 12.00	1 for every settlement with tourist potential	1	0	1
6.	Recreational Club	10,000	1 lakh	0	0	0

Source: URDPFI, Urban and Regional Development Plans Formulation & Implementation Guidelines, 2014 and Primary survey

Public Park - Banihal

Health Center (C.H.C) - Banihal

Figure 5-4: Facilities in the town

5.3 Preparation of alternative planning and development scenarios

There might be several planning and development approaches to the Banihal Master Plan. Situated in the foot hills of Himalayas, prime thought comes is to develop it as a tourist place which will generate economy. But the traveler's inclination to bigger and famous tourist places and the fact that no such potential exists in the given contest, it becomes difficult to develop it as a tourist place. The challenges are as following:

1. As the town lacks the potential of tourism, developing the existing context into a tourist attraction will require high amount of infrastructure, funds energy and time.
2. The tourists from distant places will prefer going to higher hierarchy of tourist attraction (because of limited time and resources).
3. It will be difficult to attract even threshold population to generate economy which can operate and manage the infrastructure provided.

5.4 Selection of the most optimal development scenario for the town

One major transformation coming up in Banihal in future is the medium of connectivity to different places. Introduction of different mode and means of transportation to different directions will be new parameter added to the dynamics of town. **Proposed railway connectivity** from Jammu to Srinagar, connecting Banihal, proposed 4-lane highway to Quazigund emerging from Banihal town itself and existing NH44 are main links to which Banihal will be connected. Thus naturally trade and transport will emerge and play crucial role for the development of the town.

Another aspect in consideration is economic development of the town, which will improve the socio-economic condition of the planning area. As a matter of fact this town doesn't have anything in unique or any extraordinary natural feature for which it will attract people to invest. Therefore a push in terms of social infrastructure is required.

The appropriate and best suited concepts in the given context for the planning area are as following:

1. As the outside traffic or tourist from different places will pass through new bypass (under construction) or through railway connectivity, for better and efficient travel. The pressure on existing highway (NH44) will be almost zero then. After that the existing NH44 will cater to internal movement of the town. So developing on the concept of **transit oriented development** will be an efficient way for connecting local population to different facilities and places.
2. As Banihal already lacks agricultural land and it imports food grains from other villages, the nature of production needs to be shifted and focus is required over horticulture and sericulture department to generate required production and generate economy. Introduction of greenhouse farming or poly-house farming will be better option for the given context, to produce and supply the agro-products which are rarely found in the surrounding areas.
3. Increasing density by infilling and making optimum use of land resource, promoting mixed land use development for the efficient use of land resources and other services. Mix land use for easy and approachable access to facilities.
4. Existing NH44 will act as a datum to the town along which the facilities or social infrastructure will be planned. Facilities will be approachable by walk or simply by lower hierarchy transport facilities.
5. Eco-friendly and environment oriented planning has been the priority. Without any sprawl or extracting land which is under greenery, trees, plants and natural resources has been strictly prohibited.
6. Systematic transport system in nexus with the connectivity will generate opportunities for trade and transport. Trading goods or agro-based products will become on the aspect to generate economy.

5.5 Issues and Problems

Following are the main planning and development issues that need to be addressed:

- Unplanned and haphazard development of the town along the hills.
- Unavailability of plain land in the vicinity for future development.
- Lack of organized and specialized commercial spaces which results in trade and commerce sector being disorganized.
- The economy of the town is very weak; there is a need for establishment of HH industries by the government.
- Encroachment of environmentally sensitive areas in absence of the development plan or guidelines in the town.
- Lack of infrastructure, amenities and open areas in the town.
- National Highway passes through the town which results in heavy traffic movement.
- Congestion in the older settlement areas with structurally dilapidated houses.
- Lack of finances with the local body.

6 Planning and Development Proposals

The Master Plan envisages a distinctive concept for the spatial-economic development of Banihal town during the Master Plan period for next two decades. After due analysis of existing physical thresholds, the proposed Land Use pattern has been planned to work in an integrated and holistic manner. The Master Plan proposes smart growth of Banihal town and all spatial locations are in accordance to the best suitability in the context.

6.1 Planning Approach

One major constraint within the planning area is the availability of developable land, as terrain is highly undulating and the region falls under earthquake prone zone. Considering these factors the land uses and the activities have been provided in terms of requirement and priority of the activities.

The basic approach for the plan is therefore, providing infrastructure/facilities to the people and improve their economic conditions.

Two potential and the focus area in this region are

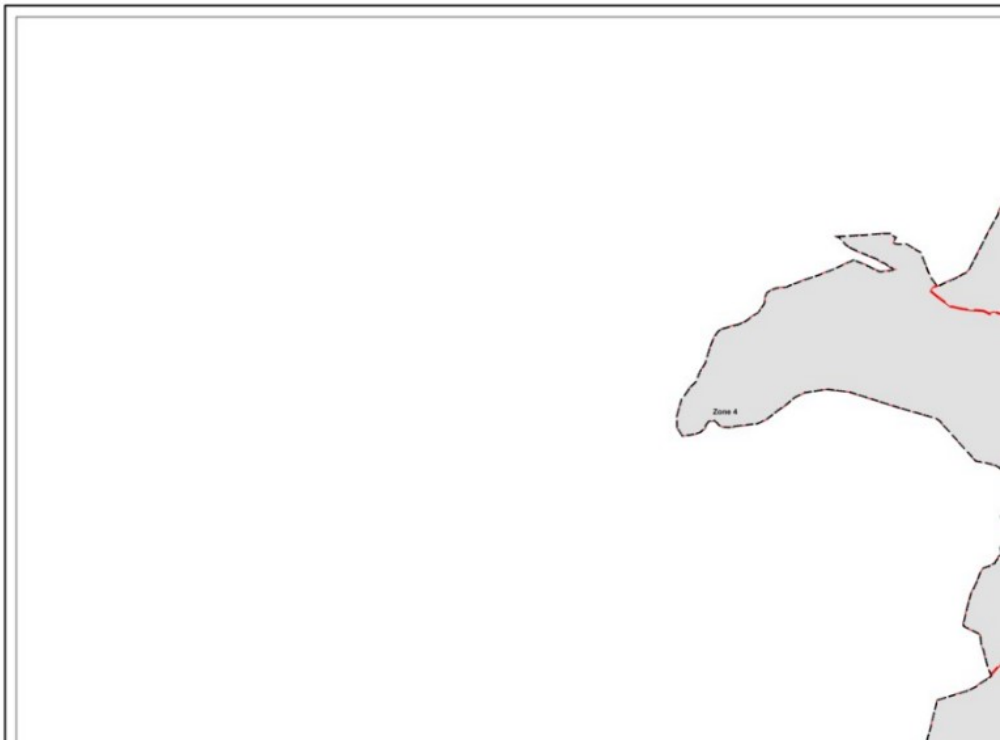
1. The connectivity – the town is well connected through railways and roads (NH A1 and proposed bypass)
2. The Human Resource which is available for secondary and tertiary working.

The fact that planning area has very less land available for agriculture, the focus goes to the next level of occupation to be strengthened to generate economic benefits. Land uses proposed and the integration is based on the above mentioned considerations.

The masterplan is prepared considering the zones. Total 8 zones have been considered within the Planning area boundary the name of each zones with the area is represented in the map and table below. For further planning approach and preparation of zonal development plan for each zones, these zones will play an important role to furnish the zonal plan with reference to the master plan. Banihal town or the core city area consist of 1.89 sq. km and is considered as zone 1. The zonal maps of north and south part of Banihal is attached in the annexure section of this report

Sl. No	Zones	Village/Area Name	Area (Sq. Km)
1	Zone- 1	Banihal Town	1.89
2	Zone- 2	Karawa	3.00
3	Zone- 3	Nagam	3.57
4	Zone- 4	Kaskoot	2.39
5	Zone- 5	Chareel(Dershipora)	1.84
6	Zone- 6	Gund Adalkoot	2.26
7	Zone- 7	Zanhal	0.87
8	Zone- 8	Bankote	3.85
Total			**19.72**

Figure 6-1: Zones



6.1.1 Planning Divisions

The Planning area consists of several tributaries connecting to Bichlari Nalla. In order to define planning divisions the reference of tributaries has been taken into consideration. The planning area being relatively small, two planning divisions are provided. The town consists of two planning divisions, such as that the population and area divisions are approximately same but character differs. The given figure shows the two planning division:

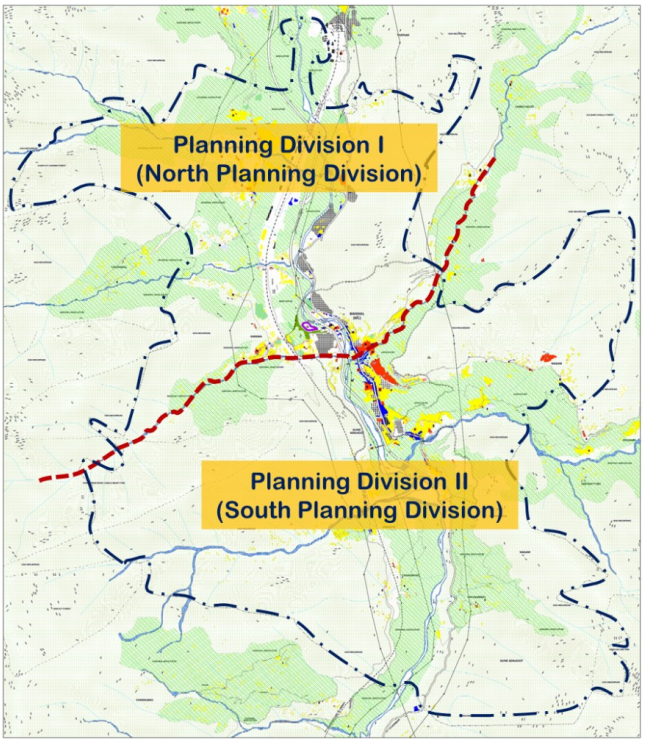


Figure 6-2: Proposed Land use Plan

6.1.2 Land Suitability Analysis

The fact that terrain is challenging due constraints such as: contour, earthquake prone zone, water channels (nallas), connectivity and approach for the development perspective. The scientific and practical method to attain developable land within the planning area was done through GIS. The Land suitability analysis was done through GIS by defining parameters, class and weightage allocated over constraints. The table below explains the scoring attain by individual parameters to evolve land suitability map:

Table 6.1-1: Land Suitability Analysis

Rank	Class	Parameters	Weightage (On the scale of 10)	Score
5	Water Bodies			
	Bichlari River	0-10 mtrs	0	0
		10-20 mtrs	5	25
		> 20 mtrs	10	50
	Canal/Drains	0-2 mtrs	0	0
		2-5 mtrs	5	25
		> 5 mtrs	10	50
4	Land Use / Land Cover			
	Built-up/Settlement		8	32
	Agriculture		6	24
	Forest		0	0
	Orchards		3	12
	Vegetation		1	4
3	Slope			
		0-10˚	10	30
		10-20˚	5	15
		>20˚	0	0
2	Transportation			
	National Highway	0-.5 kms	10	20
		.5-1 kms	5	10
		> 1 kms	1	2
	Railway station	0-.5 kms	8	16
		.5-1 kms	5	10
		> 1 kms	1	2
	Other roads	0-.5 kms	6	12
		.5-1 kms	3	6
		> 1 kms	1	2
1	Drainage Density			
		1 / Sq Kms	10	10
		2 / Sq Kms	7	7
		3 / Sq Kms	4	4
		4 / Sq Kms	1	1
		> 4 / Sq Kms	0	0

The land suitability map after the analysis is given below:

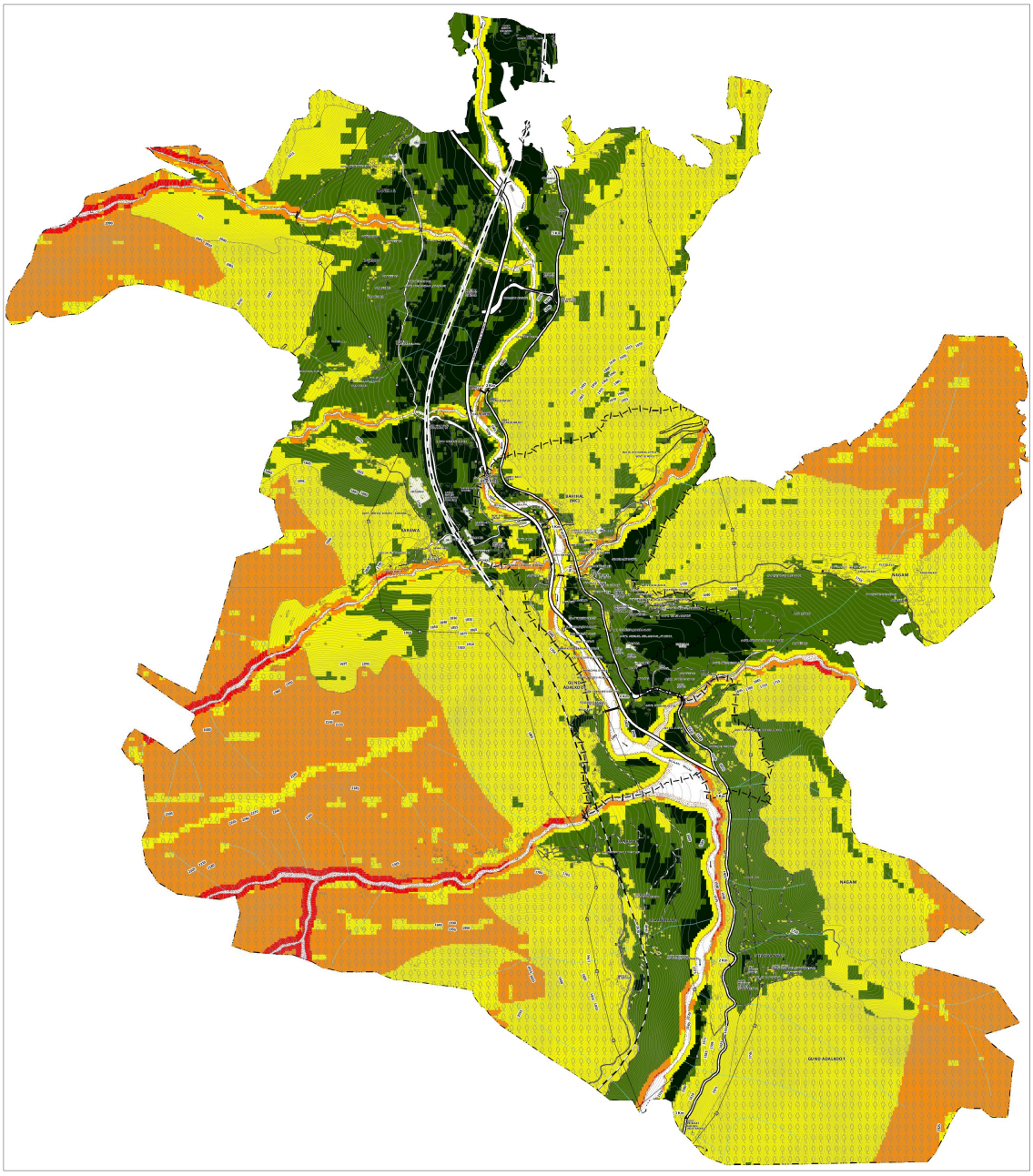


Figure 6-3: Land Suitability Map

(As Annexure 7)

The red color in the given map is not suitable for development and therefore strictly prohibited from any kind of development. Green color to the other end is highly suitable for the development. The colors in between the range of red to green show the low to high suitability for development respectively.

6.2 Residential

Residential land use is the major component of a city and accounts for majority of the total urbanizable area. The existing population of the planning area is 21,156 and population projected for the year 2034 is 36,000. Thus, an additional requirement of 3000 residential units needed for 15,000 (14,844) additional population. The land required for the residential use will be 30 hectare (achieving 100 pph).

Three categories in which Residential zones are:

1. The existing residential zones: these residential zones have come up organically according to terrain and other suitable factors. Density in these residential zones varies remarkably.
2. The proposed low density residential zone: residential zone with around 80 persons per hectare.
3. Proposed Medium density residential zone: residential zone with around 120 persons per hectare.
4. Proposed High density residential zone: residential zone with around 160 persons per hectare.

The growth potential and the desired locations for the residential zones are envisioned majorly towards the northern side of the planning area. The residential zones are proposed in relatively plain areas especially in northern villages such as Kaskoot, Karawa, and Banihal Municipal Corporation. Provision of residential zone for town's population is provided at walk able distance to the transportation connectivity.

The prime considerations for proposing residential zones are:

- The approach and connectivity
- Relatively plainer area so as to ensure safety and low construction cost.
- At appropriate distance from the chaotic market (to avoid adding pressure on existing areas)
- In proximity to facilities (social infrastructure) for permanent residents.

On the basis of above-mentioned major considerations; three locations which are identified and proposed for the residential development are as following:

- South east side of the railway station, along the railway line. Currently the land is used for stepped farming, but has potential due to its location. This zone is in proximity to the railway station, and connected to the facilities of the town at the same time.
- Another location is in Karawa village, near proposed bus stand. This is also under agriculture use currently, but in proximity to facilities as public land use has been proposed adjacent to this zone.
- Third location for the residential zone in on the east side of the national highway and within Banihal MC. On this site also agriculture activities are going on. But has huge potential as it is relatively plainer and secluded from the chaos and commuting activities. The zone is towards east side of the JKTDC hotel.

6.3 Commercial

Existing commercial space are adequate but unplanned in terms of spatial distribution in the present context. The trend of linear development is due to NH A1, primarily to generate economy through commuters on this highway. This has to be replaced by organized commercial complexes planned to meet the demand of different divisions focusing towards the residents of Banihal. The commercial zone is proposed at the major intersections or junctions of the transportation connectivity. Commercial zones are also placed in three major zones within the planning area.

- One is near the railway station, as commercial activities will grow organically there for the commuters. This location will also serve the proposed residential zones in the northern zone.
- Another one is along the highway where already commercial activities exist and caters to the majority of population within the planning area. This is also considered the main market of the Banihal town.
- Third one is towards the south of the planning area, in Gund Adalkoot region. The commercial land use provided here will cater to the needs of southern residents and people working or coming for the public/semipublic purposes beside this zone.

But as the matter of fact that it is difficult terrain to travel and fulfil often needed commercial products. To understand the needs and planning accordingly, provision of mixed land use has been given. The residential units and mixed land uses will cater to the lower hierarchy commercial activities for the comfort of the permanent residents.

Informal sector and street vendors: Street vending is a source of self-employment to the poor in cities and towns. A major street vending activities in shape of chaotic market is located near local taxi stand in central Banihal (MC). Thus, it is proposed to rehabilitate street vendors in Informal markets zone near railway station.

The open land near the railway station is assigned for multipurpose open space. This space will be utilized by the informal market, will be used by the street vendors during day time. Occasionally this space will be utilized for exhibitions, large gatherings, or buying or selling of special items. This will not only attract local people but also people from surrounding areas who can commute via railways.

6.4 Industrial

With a view to boost the economy of the city and to promote industrial activity in the Planning Area, industrial zone has been proposed for the agro based production and manufacturing. Only non-polluting industries will be permitted within the industrial zone.

The zone allotted for industrial use is proposed in Zenihal region, towards North West of the railway station. This Industrial Zone (I) will be strictly agro based and related to agricultural productions. Main purpose of industries will be to serve and support the commercial sector near railway station and to provide immediate accessibility to rail route for trade & transport and also to generate economy of the town.

6.5 Public Semi-public

6.5.1 Government, Semi Government and Public

Around 60 hectares of land is proposed under government, semi government and public land use. This land comprises majorly of army establishments, after that major part of land will belong to state government for offices institutes to educate people, provide vocational and other relevant training to earn livelihood. According to the context the zone is spread broadly in three parts:

1. Towards north which will focus to train and educate people related to produce, manufacture, process and sell their product.
2. In the Centre, it will consist of all important offices, land for providing services and manage whole planning area.
3. Towards south east of the planning area (above Gund Adalkot) again basic education, agriculture and horticulture related institutes.

6.5.2 Institutional

It is proposed to develop not only formal education systems but also vocational training institutes which can provide better and supportive environment for new entrepreneurs. With new mindsets, opportunity, support and contextual potentials one can come up with unique product or mechanism which can become the identity of the town and can help in generating economy. The table below shows proposal for the Education facilities, with number of units provided and approximate area allocated for those facilities:

Table 6.5-1: List of Educational faclities provided in each Planning Divisions

Education Facility		Division 1		Division 2	
S. No	Category	Units Provided	Area Provided (Hectare)	Units Provided	Area Provided (Hectare)
1	Primary School	4	1.6	3	1.2
2	Senior Secondary School	3	5.4	2	3.6
3	Industrial Training Institute	1	1.6	--	--
4	College	--	--	--	--

5	Professional College	--	--	--	--

Institutional activities are proposed in the locations which are relatively at distance from the existing chaotic zones. Lower hierarchy education facilities are distributed uniformly all over the planning area as the distances should be less for children to travel to schools. Settlements are not planned; dwellings are spread unevenly all over the planning area. Therefore spatially the facilities are provided relatively at the core of the communities.

6.5.3 Medical

The town already has a general hospital in the core area of the town, located just approximately 30 meters away from the NH A1. This existing general hospital caters to the population even beyond planning area. But the condition and the chaos demands a new lower hierarchy hospital to reduce the expected pressure on existing hospital by 2034. Considering the requirement for medical facilities land under health and medical is provided in close proximity to railways station and lies on highway. The table below shows proposal for the Medical facilities, with number of units provided and approximate area allocated for those facilities:

Table 6.5-2: List of Health faclities provided in each Planning Divisions

Health Facility		Division 1		Division 2	
S. No	**Category**	**Units Provided**	**Area Provided (Hectare)**	**Units Provided**	**Area Provided (Hectare)**
1	Dispensary cum Lower hierarchy Hospital	2	6	1	2

6.5.4 Socio-Cultural facilities

- **Community Facilities**

  The challenging terrain and unavailability of facilities makes life difficult in hills. The basic community facilities are required so as to provide comfortable life by saving time and energy of people for basic needs. Therefore the community facilities will be provided on the land allotted under public/ semipublic land uses.

- **Religious**

  Though already three big mosques are situated within the core area of Banihal (MC), but considering the growth and the population towards north of the planning is recommended. To cater population of 36000 by 2034, one bigger and spacious mosque is therefore proposed in the public land situated south side of the railway station. Similarly, Temple, Gurudwara and Church of relatively smaller hierarchy are also proposed.

- **Fire Services**

  Apart from the fire station located in the core are of Banihal (MC), one more fire station is proposed on the land along the highway, between two army establishments.

- **Police Station**

  Apart from existing services, one more Police station is required within the planning area. To manage the expected dynamism near railway station and highway connecting it, police station is proposed in that northern region only.

- **Post Offices**

  Total 8 rural post offices, 2 post offices and 1 general post office are required as per standards within the planning area. As one post office is available in the core market area within the municipal corporation, others will be distributed uniformly on the basis population. The table below shows proposal for the Socio-Cultural facilities, with number of units provided and approximate area allocated for those facilities:

Table 6.5-3: List of Socio-Cultural faclities provided in each Planning Divisions

Socio-Cultural Facilities		Division 1		Division 2	
S. No	Category	Units Provided	Area Provided (Hectare)	Units Provided	Area Provided (Hectare)
1	Anganwadi	4	1.20	3	0.90
2	Community Room	4	3.00	3	2.25
3	Community hall	1	2.00	1	2.00
4	Music, dance and drama	0	--	--	--
	Centre	--	--	--	--
5	Meditation and spiritual Centre	--	--	--	--
6	Old age home	--	--	--	--
7	Religious Facilities	1	0.04	1	0.04

6.5.5 Public Utilities

To facilitate population of Banihal with basic services such as electricity, gas, water, or sewerage, the land has been allocated at different zones in the master plan. Public Utility will consist of offices and spaces dedicated to above mentioned services

PU marked on proposed land use maps refers to land allocated to Public utilities in the master plan. Public utilities areas will house offices and services systems dedicated to physical infrastructure for a public service (often also providing a service using that infrastructure). Public utilities are subject to forms of public control and regulation ranging from local community-based groups to statewide government monopolies. Three major land parcels dedicated to waste collection and treatment are given below:

- Solid waste collection and transportation to the treatment site (segregation and further transportation either to treatment or dumping site). Site has been allocated in Bankoot village towards Bichalari nalla, away from residential and other public uses
- Two STP's have been provided on southern side towards each side of the Bichalari nalla.

6.5.6 Recreational Activities

- Housing Area Park: total 7 such parks of approximately area .2 hectares each are required for the population of 5000 people.
- Neighborhood Park: 4 such parks are required of approximately area 1.5 hectares each. These parks will be located near dense areas within the planning areas.
- Two multipurpose open spaces are area more than 3 hectares are provided for events, tourism camp (during snow season), informal markets, entertainment, educative and medical camps.

The table below shows proposal for the Recreational facilities, with number of units provided and approximate area allocated for those facilities:

Table 6.5-4: List of Recreational faclities provided in each Planning Divisions

Recreational Facilities		Division 1		Division 2	
S. No	Category	Units Provided	Area Provided (Hectare)	Units Provided	Area Provided (Hectare)
1	Housing Area Park	4	2	3	1.5
2	Neighborhood park	2	4	2	4
3	City Parks/ playgrounds/ maidan/	1	3	--	--
	Exhibition grounds/ cultural gathering grounds	--	--	--	--
4	Botanical Garden	--	--	--	--
5	Recreational complex including zoo	1	4	1	3

 # The fact that Khasra maps are in bad condition and are not readable by Banihal local authorities itself. Therefore the local authorities in Banihal were unable to provide the list, location and area of existing government land, and therefore it has not been considered in Planning Proposals.

6.6 Traffic and Transport

The recent NH A1 alignment starting from southern of C2 area of total length of 4.3 km has also taken as proposal for Master Plan 2034. Two transportation zones are proposed in Planning Area. The first is located near railway station and it is connecting with National Highway. Second location is towards south at the point where Proposed National Highway diverges from the existing National Highway. A buffer zone of 100 meter and 50 meter on either side of the major road and minor road respectively from the centerline is to be considered.

- Southern one will serve to the commuters from south and provide them the option to diverge in any of the two routes.
- Northern one will serve to the commuters as the connection between road and railways system.

- A new road has been proposed, diverging from National Highway 1A just before northern most army premises. This road diverges in to two directions leading explained below:
    - Recreational and residential land use in between proposed expressway and railway land.
    - Other diversion leads to Industrial land use in the north. The road runs beneath and along proposed Highway (bypass) at ground level, crossing railway line below the bridge. The road provides connectivity to commercial, recreational to the east of railway station to industrial and residential land use to the west side of the railway station.

A green strip buffer of 25 meter on either side along the railway line is also proposed. The 25 meter buffer are on either side of the railway track will be under green zone and won't be permitted for construction.

6.6.1 Right of Way (ROW) of the Roads and building lines

The Row of the roads is divided into 3 categories based on the function of roads.

- Arterial Roads: Arterial streets are basically meant to carry longer and through traffic
- Sub Arterial Roads: The sub arterial road should interconnect with and augment the arterial road. The function of sub arterial road is to provide service to trips of moderate length at a somewhat lower level of travel mobility than arterial road
- Collector Road: This system of road includes all distributer and collector roads. Function of this system is serving between arterials and sub arterial road to connect adjacent neighborhood areas

Existing vs proposed road widths

Type	Existing Width	Proposed Width	Proposed Building Line
National Highway	10 Meter	30 Meter (100ft)	Minimum 21meter or as prescribed by NH authority whichever is more
Major Road	8 Meter	15 Meter	10 meter or as prescribed by concerned road authority whichever is more
Other Roads	4-5 Meter	7 Meter	8 meter or as prescribed by concerned road authority whichever is more

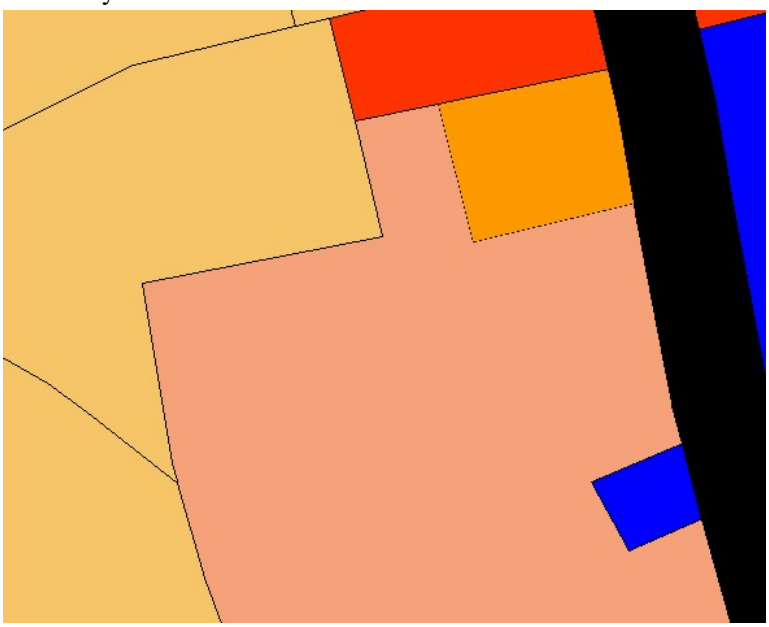
The categories of roads for Banihal Master plan are National Highway-30 Meter (Arterial), Major roads-15 Meter (Sub Arterial) and other road 7 Meter (Collector). The National highway (NH44) is considered to be of 30 meter, As per the IRC: SP-2015 (Manual of Specifications and Standards for Highways with paved shoulder in Hilly area). The minimum ROW for all other internal and roads are 7 meter wide.

6.6.1.1 Division 1

- Road originating from Hollina bridge and connecting Zanhal village (via Kaskoot) village is one of the major road in Division one to cater the north-west villages within the planning area. Due to organic development the width of this road varies. The planned ROW of this road is 15 meters as it required to serve the different land uses comprising of Karawa, Kaskoot and Zanhal populations. Major component linked to this road is the new bus stand, which also needs width to run busses.
- Road originating from Hollina Bridge (through the road mentioned above) and leading to Karawa connects Army settlement and residential population of Karawa village. The ROW of this road is proposed as 15meters.
- Proposed road originating from NH 44 (30 meter width)(between army land and wooden bridge), adjacent to the army land, crossing over the Bichalari Nallah, and diverging to approach towards the following areas, have uniform width of 10 meters
    - Proposed Industrial land use at Zanhal village. Passing under the ramp (road connecting highway and railway station) and further under the bypass.
    - Passing under the proposed bypass the road will lead to proposed Residential land use adjacent to the railway line.

6.6.1.2 Division 2

- The hospital road originating from NH near hospital and leading to the Nagam village with variations in width has been modified with the uniform ROW of 10 meters.
- The proposed road in Bankote village, serving public/ semipublic, commercial, and recreational land uses has been provided as a loop road to the existing road running north-south along the west side of the Bichalari nallah The ROW of this road is 10 meters.
- Construction of approach road to Fish Farm Karol form new NH44, by way of fly over/pillar The animal Husbandry office located at NH 44 near to tehsil office



6.7 Infrastructure development

6.7.1 Water-shed Development

Watershed refers to a "contiguous area draining into a single water body or a water course" or "it is a topographical area having a common drainage". This means that the rainwater falling on an area coming within a ridge-line can be harvested and will flow out of this area thorough single point. Some refer it as a catchment area or river basin.

Watershed development refers to the conservation regeneration and the judicious use of all the resources – natural (like land, water plants, animals) and human – within the watershed area. Watershed Management tries to bring about the best possible balance in the environment between natural resources on the one side and man and animals on the other. Since it is the man, which is primarily responsible for degradation of environment, regeneration and conservation can only be possible by promoting awakening and participation among the people who inhabit the watersheds.

Following are therefore the Objectives behind watershed development:

- To conserve soil & moisture.
- To mitigate the adverse effects of drought on crops and livestock.
- To control desertification & to improve the Productivity of land.
- To minimize the ill effects of climate change.
- To conserve and develop the biodiversity.
- To encourage restoration of ecological balance and
- To promote socio economic development of Project inhabitants.

As given planning area consists of number of tributaries connecting to Bichlari Nalla, the given context has potential towards watershed development. The proposal therefore is to construct catchment containers as per availability of space, supportive ground (capacity of soil to hold water) and construction able site. This container made from retaining walls can hold few hundred gallons of water, which will be precious source of water during water crisis. After certain storage rest of the water will further drain out through nallah. The final storage or small pond can be created along Bichalari Nalla within the green belt zone. Although the terrain is challenging for the development or construction of any watershed shed development tank over or adjacent to nalla, still it will be very beneficial if carefully done

By implementing on watershed development we can attain following benefits:

- The crop yield can increase by 25-40% in dry land farming
- The soil loss due to erosion can be brought down by 30%
- Large extents of barren hill slopes can be covered by vegetation even in challenging weather.
- Large tracts of marginal lands brought under dry land Horticulture
- Development of Agro-Horticulture and Agro-Forestry systems.
- Water resources were harvested through nalla bunds, farm ponds, gully embankments
- Regeneration of grass lands for more fodder and grass.
- The income of farmers increased considerably.
- Over all ecological improvement of the watershed area.

6.7.2 Sewage Treatment Plant

For the year 2034, the projected population will be 36,000 (calculated and shown above in chapter 5). Planning and proposal for sewage treatment plant is required as one of the basic infrastructure facility.

Primary task therefore is to allocate area and location of the plant. Considering 5 MLD of capacity of sewage treatment plant (80% of the water supply for 36,000 person @ 140 lpd), the area required is approximately 3 hectare.

Due to scarce and unplanned development towards both sides of Bichalari Nalla, total two STPs are proposed within the planning area. The location is as following:

1. The location of first STP is `in division 2, along Bichlari Nalla and confluence of two other nallas at Gund Adalkoot. The land relatively is at lower level; therefore waste water from whole of the town will be brought to the site through gravitation.
2. Second STP is situated in Bankoot village, again for the similar reasons is towards south side of the planning area (Division 2), but towards western bank of the Bichalari Nalla. It is located to the southwest low lying land adjacent to the delta formed by the nalla coming through Bankoot village.

The capacity of each STP will be such that one alone can take care of the waste generated till the designed period. The reason behind two STP's towards both sides of Bichalari nalla is that this system will be more feasible in terms of managing and treating the waste. But in case one becomes non-functional, the other can solve the purpose.

It is also proposed to build Covered Drainage system, install waste bins, toilet facilities (for both men and women)

6.7.3 Waste Management

The area and location suitable for waste collection and transportation is proposed at Bankoot village. The site marked under public utility, towards west of STP is dedicated to waste collection site. The approach to the site is through road which connects railway station to the north and Chanchloo to the south. Waste after treatment, which can be recycled and reused will be transported to Jammu through appropriate vehicles.

It is proposed to develop following physical infrastructure facilities within the planning area:

- A dedicated Solid waste management system: wherein segregation, collection, transport and storage are done at dwelling units level. Further, segregation is also to be done at macro level followed by mechanism like reduce, reuse, recycle and regeneration of waste; which would set up an example of clean green town. A proper system for transportation vehicles and storage unit will be required for the planning area.
- Systematic transportation system (segregation of intra and inter town transport system)
- Completely waste materials (strictly non-toxic substance) can be used for land fill sites outside planning area. The fact that region is earthquake prone zone, many fragile zones are situated towards south of the town (route connecting Ramban). The waste can be dumped to provide some strength to the soil in these avalanche prone areas.

6.8 Proposed land Use – 2034

Land requirement of Banihal town has been worked out from the studies related to sub-sectors like housing demand, community facilities, utilities and services, transportation, industries, besides the land requirement for government offices and commercial establishments. Total land requirement for 2034 has been worked out under different categories of land uses and is given in Table 6.1.

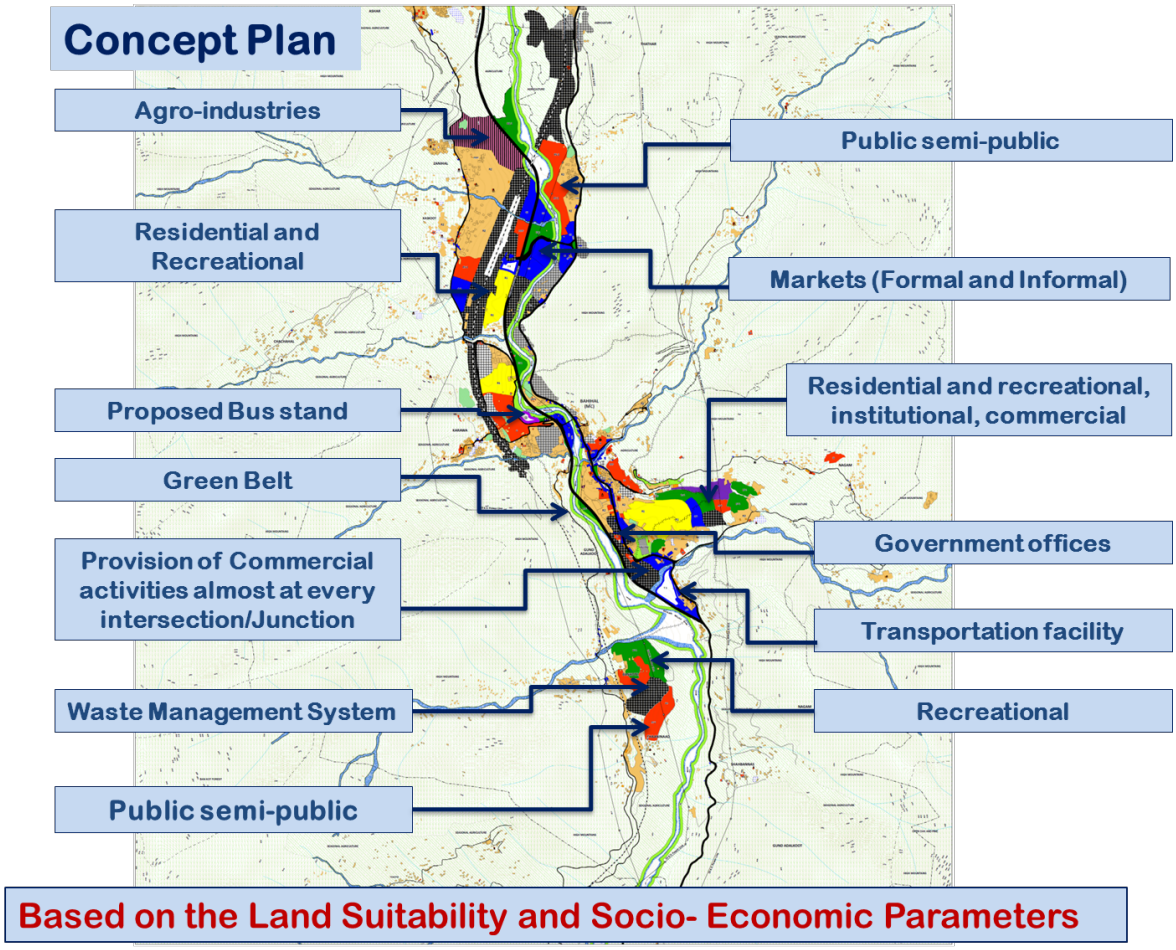


Figure 6-4: Proposed Land use Plan

For the projected population of 36,000 persons, the total area required over the next 20 years for urban development is forecasted to be 268.45 hectares, out of which 84.40 hectares (31%) are earmarked for residential development, 24.44 hectares (9%) are earmarked for commercial activities, 61.54 hectares (23%) are earmarked for Public and Semi Public use, 27.92 hectares (10%) and 59.99 hectares (22%) are earmarked for Recreational and Traffic and Transport.

The developed area land use is 268.45 hectares (14% of planning area) and the un-developed area land use is 1704.36 hectares (86% of Planning Area). The majority of the un-developed area falls under Forest (1211.66 hectares), followed by Agriculture and Vegetation/ Green Buffer.

Table 6.8-1: Proposed Land Use Analysis of Greater Banihal (2034)

S. no.	Land use	LU code	Area	% of Developed area	% of Planning area
A	**Developed Area Land Use**				
1	**Residential**	**R**	**84.40**	**31**	**4.3**
1.1	Low density Area	R 1	56.27	21	2.9
1.2	Medium density Area	R 2	28.08	10	1.4
2	**Commercial**	**C**	**24.44**	**9**	**1.2**
2.1	Whole sale and retail	C 1	5.21	2	0.3
2.2	General, Retail and Community Shops	C 2	13.20	5	0.7
2.3	Warehouse, Workshops, and Regulated Markets	C 3	6.03	2	0.3
3	**Industrial/ Manufacturing**	**I**	**10.16**	**4**	**0.5**
4	**Public and Semi Public**	**P**	**61.54**	**23**	**3.1**
4.1	Government/ Semi-Government/ Public	PS 1	34.92	13	1.8
4.2	Education and Research	PS 2	11.83	4	0.6
4.3	Medical and Health	PS 3	3.39	1	0.2
4.4	Social, Cultural and Religious	PS 4	8.47	3	0.4
4.5	Utility Areas	PS 5	2.94	1	0.1
5	**Recreational**	**RC**	**27.92**	**10**	**1.4**
5.1	Parks and Gardens	RC 1	9.45	4	0.5
5.2	Multipurpose Open Space/ Exhibition Ground	EC 2	18.47	7	0.9
6	**Traffic and Transport**	**T**	**59.99**	**22**	**3.0**
6.1	Roads	T 1	31.87	12	1.6
6.2	Railways	T 2	24.11	9	1.2
6.3	Terminals/ Parking Lots	T 3	4.01	1	0.2
	Sub-Total		**268.45**	**100**	**13.6**
B	**Un-Developed Area Land Use**				
	Forests	F	1211.66	71	61.4
	Agriculture	A	352.07	21	17.8
	River/ Water Bodies/ Nallas	W	46.73	3	2.4
	Vegetation/ Green Buffer	G	90.64	5	4.6
	Orchards	O	3.26	0	0.2
	Sub-Total		**1704.36**	100	86.4
	Total		**1972.81**		**100.0**

*Areas are subjected to minor changes

7 Development Promotion Rules and Regulations

The proposals suggested in the Master Plan would significantly improve the image of the town, however efforts are to be made to implement and enforce proposals on ground. This Chapter lays down the procedural framework for exercising the development Rules. “Development” in the Town Development 1971 act has been defined as - carrying out of building, engineering quarrying or extraction or manufacture of building materials or other operations in, on, over or under land, or "erecting or re-erecting" of any building or land and include redevelopment”

The purpose of the Development Control Regulations (D.C.R) is to assist all the stakeholders including developers and end users within the Local Planning Area, to strive for a Sustainable, Quality and Environment-friendly development. These Development Control Regulations are applicable to the entire set of existing and proposed developments that are going to come up within the Planning Area. The developers are required to comply with the provisions of Zoning and Land use Plans defined in the Master Plan. However, Development Schemes/ Projects, which have already been approved by the Competent Authority, shall continue to be governed by the terms and conditions stipulated for their approvals. In order to achieve the basic objective of planning area and orderly development within the planning area, following Regulations have to be followed:

7.1 Zoning Regulation/Building bye laws:

The main purpose of enforcing zoning regulations is to achieve land use and to ensure high quality of life and good health. Zone means any one of the specific dominant uses of urban functions namely Residential, Commercial, Industrial, Administrative, Public and Semipublic, Recreational, Transport and communication, Agricultural etc. Zoning regulations are basic tools for implementation and enforcement of a development plan within the frame of the Land use proposals with the intention of achieving orderly growth and development of the town as envisaged. Zoning regulations help in controlling density as well as land use in ensuring standards provided for the future expansion of each zone in an appropriate manner.

The enforcement of zoning regulations is like the enforcement of building bye laws. It will therefore be simpler to follow and can also be enforced by the Banihal Development Authority through a qualified Town and Country Planner holding delegated powers.

The enforcement of zoning regulations will require a detailed Development Plan of the Planning Area. The adoption of the regulations will, therefore, guide to undertake the necessary physical surveys and also to keep the land record up-to-date so as to enable the effective enforcement of the zoning regulations.

Zoning regulations shall be applicable to the entire planning area except areas designated otherwise like Defence areas and Air-force areas. There will be a separate set of norms to deal with such areas. The zoning regulations are broad in nature as follows.

I. RESIDENTIAL USE ZONE:

The residential areas are developed either as: a) Plotted Development or b) Group Housing/ Flatted Development. The density pattern i.e. (high density, medium density or low density) are followed for working out the pattern of development with respect to the size of the plot to number of dwelling units on each plot, set backs, FAR and no. of storey's/ height of the building. The development norms for different use/ activities and on different size of plots shall be applied for sanctioning of the plan. These are based on development control rules applicable to Municipality as per Master Plan/ Zonal Plan/ Layout Plan.

Residential use in designated core area of old city:

The designated area of old city shall compromise of the congested part of the city. In essence it shall comprise of the densely populated wards of the old city.

Max. Ground Coverage permissible - 75%

No. of storeys - Ground + 2

Note:

Building line for proposed building shall be governed by Ribbon Development Act and National Highway building line respectively.

Minimum size plots:

The minimum plot size for economically weaker section of society may be 25 Sq. mts plot coverage, No. of permissible storey and setbacks are given in the following table:-

Plotted Housing:

S. No	Area (In Sqmt)	Max. Ground Coverage	No. of Storeys	Type of Const	Set Back Limits (Minimum)			
					Front (M)	Rear (M)	Side (M)	Side (M)
1.	25-100	75%	G+2	Row	1.5	1.0	0	0
2.	101-250	65%	G+2	Row	3.5	1.5	0	0
3.	251-350	55%	G+2	Semi-detached	4.0	2	2	0
4.	351-450	50%	G+2	Semi-detached	6.0	2	2	0
5.	451-500	45%	G+2	Detached	7.5	2	3	2
6.	501-1000	40%	G+2	Detached	8.5	3	3	2
7.	Above 1000 Sqm	35%	G+2	Detached	12	3	3	2

Note:

i) No side set backs shall be required in plots of irregular proportions/ dimensions upto the width of 30 feet. Minimum front set back of 5' and rear set back of 3' shall be permitted in cases where depth of such irregular plots is upto 40 feet. However, there shall be no change in permissible ground coverage, No. of storeys and height of the building as given in the table above.

ii) Height of each storey in a residential house should not be less than 3.0 mts. Staircase, mounty height upto 2.5 mts shall be in addition to G+2 storeys permissible.

iii) Garage/ Porch to the extent of 16.00 Sqmts each shall be allowed in semi-detached and detached houses. Room over porch only on one storey shall be allowed.

iv) Mezzanine floor shall not be allowed in residential area.

v) Basement shall not be permitted in residential plots of Govt. approved colony.

vi) The height of basement shall not exceed 2.6 mts from finished floor to slab soft.

I. <u>Regulations for Private/ Public Developers</u>

i) Group Housing/ Flatted Development:

	In Plains	**In Hills**
Minimum plot size	0.40 ha (4000 Sqm)	0.40 ha (4000 Sqm)
Max. Ground Coverage	40%	30%
Max. FAR	240%	150%
Maximum Height	40 mts.	15 mts
Min. Set backs	to be determined @ one- third of the height of each building or 25'-0"	

Note:

a) Basement, if constructed and used for parking, services and for essential storage shall not be counted in FAR.

b) The quantum of basement varies between 33. 1/3% to 75% of the plot area and shall not be included in FAR if used for Parking/ Services.

c) In-house back-up facilities to be provided for buildings beyond four storeys.

d) Minimum 1 ECS per dwelling unit shall be provided for MIG and HIG Housing.

e) Stilts, Balconies, lift stairs, lift ducts shall not be counted in FAR.

ii) Housing Colonies:

1. A person or group of persons or a co-operative society or firm intending to plot out an estate into more than 4 plots (1000 Sqm or more) shall give notice in writing to the competent authority which will be accompanied by a layout plan of entire land showing the areas allotted for roads, open spaces, plot and public buildings, the specification of the roads, drains and other infrastructures.

2. **Min. Width of road**

   i) Housing colony upto 50 Kanals

   Entry from the main road shall not be less than 30' and no internal road shall be less than 20'-0".

   ii) Housing colony beyond 50 Kanals.

   Entry from the main road shall not be less than 50' and no internal road shall be less than 20'-0".

3. Roads, Drains, water mains and electric lines required for the colony shall be constructed by the developer at his own cost and no plot shall be eligible for any services and utilities from the Govt. and/or Municipality unless the colony is developed properly and approved by the competent authority. No building plan shall be considered by the Municipality or prescribed authority in any plot of such a colony which has not received the prior approval of the competent Authority.

4. No housing colony can be allowed in the area not specified as the residential in the proposed Master Plan (if approved by Govt.) unless considered in any special circumstances by the competent authority with the approval of govt. In such housing colonies, the following standards shall apply:-

   a) Area under roads: Min. 15% to 20% of the total area of land under the proposed colony.

   b) Land to be allotted for open spaces, schools and public building for a housing colony of 20 plots and above shall not be less than 15% of the total area of the colony. However, if the competent authority feels that an open space or a school site is absolutely necessary within the layout plan of less than 20 plots; necessary provision shall have to be made by the developer in the layout plan.

5. No housing colony will have shop plots of more than one for every ten plots. After the developed land is sold by the developer the roads and drains etc. constructed by the developer shall be transferred to the Municipality for their maintenance. Area under commercial use shall be 4% to 5%.

6. Land use of the layout plan approved by the competent authority shall not be changed without the prior consent of the competent authority.

   Open spaces allocated for parks, play-fields, school sites and public building in a colony shall be deemed to have been sold along with the plots as a amenities of the colony by the developer to the plot holders of the colony.

   No permission shall be accorded for construction of a building in any notified area which shall cause nuisance by way of odor, smoke, noise or disturbance to inhabitants of the locality or be injurious to health of the residents of the buildings or to the inhabitants in the surrounding areas.

II. COMMERCIAL USE:

A. Single Shops:

Plot Area less than 100 Sqmts

Max. Ground Coverage	80%

In Plains:

No. of Storeys	G+2
Max. Height	11 mts
Max. FAR	240%

In Hills:

No. of Storeys	G+1
Maximum Height	9 mts.
Max. FAR	160%

Front set back shall be governed by the building line of the road.

B. Shopping Cluster:

a)	Plot Area	100 Sqmt- 750 Sqmts

In Plains:

Max. Ground Coverage	60%
Max. FAR	180%
Maximum Height	15 mts.

In hills:

No. of Storeys	G+1
Max. Ground Coverage	60%
Max. FAR	120%
Maximum Height	9 mts

Set Backs:

Front set backs to be governed by the approved building line of the abutting road. Rear set back should be 3 mts and side set back should be 3 mts on one side only upto plot of 500 Sqm& 10'-0" on both sides for area more than 500 Sqm.

C. Commercial Complex:

a.) Plot Area	751 Sqmts to 4000 sqmts
Max. Ground Coverage	45%

	In Plains	In Hills
No. of Storeys	G+3	G+2
Max. FAR	180%	135%
Max. Height	20 mts.	12 mts

Set Backs:

Front setback shall be governed by the building line or 20 ft from the plot line whichever is more. Rear 1/3rd of the height of the building and sides 10'-0" on each side.

b.) Plot Area	More than 4000 Sqm
Max. Ground Coverage	40%
Max. FAR	200%
Max. Height	25 mts.

Set Backs:

Front setback to be governed by the building line or 40 ft from the plot line whichever is more.

Side Setback	10'-0" on each side.
Rear Setback	1/3rd of the height

Note:

Shopping permissible on ground and 1st floor only.

Commercial use Zone:

The use, coverage., FAR, setbacks, open spaces shall be as per provisions of Master plan/ Development Plan approved by the Govt. or as per the simplified development promotions, regulations of the urban development plan formulation and implementation guidelines and where these are silent on such issues or which requires interpretations, the norms decided by the authority shall apply. The permission of uses/ use activities in premises shall be permitted in accordance with the provisions of Master Plan/ zonal plan/ layout plan.

Note:

Height of moumty/ liftwall above the terrace shall be in addition to the prescribed height.

D. Cinemas/ Cineplex:

Plot Area	0.40 hec or 4000 Sqm
Max. Ground Coverage	50%
Max. FAR	150%

However the height of the building should not be more than 30 mts. Other regulations as proposed in Cinematography Act shall apply in this case.

Front set back shall be governed by building line of the road or 30 ft from the plot line whichever is more.

Rear and side set backs shall be 1/3rd of the height of the building

E. Hotels:

a.) Plot Area	1000-2000 Sqmts
Max. Ground Coverage	40%

In Plains

No. of Storeys	G+5
Max. FAR	200%
Max. Height	25mts.

In Hills

No. of Storeys	G+3
Max. FAR	150%
Max. Height	16mts

b.) Plot Area	2000 Sqmts and above
Max. Ground Coverage	35%

In Plains

No. of Storeys	G+5
Max. FAR	200%
Max. Height	25 mts.

In Hills

No. of Storeys	G+3
Max. FAR	150%
Max. Height	16mts.

Set Backs:

Front setback to be governed by the building line or 20 ft from the plot line whichever is more.

Side and rear setbacks should be minimum 1/3rd of the height of the building or 3 mts whichever is more.

Parking:

Minimum 1 ECS for 3 guest rooms plus 1 ECS for 4 seats in case of restaurant &Bar. If banquet hall is to be provided in Hotel, the prevailing norms given in for banquet hall shall apply over and above.

F. Multiplexes:

Definition:-Multiplex complex shall mean an integrated entertainment and shopping centre/ complex having at least 2 cinema halls/ PVRs. The minimum area on which this use shall be permitted should not be less than 0.40 Hectares, or 4000 Sqmts. Apart from cinema halls, the multiplexes shall also have a restaurant, fast food, outlet, pubs, Health spas/ centers, hotels and other recreational activities. The shopping center may have retail outlet, video games, parlours, bowling alleys, health centers, shopping malls, office space.

Existing cinema halls can be considered for conversion into a multiplex by the Building Permission Authority provided it has a minimum plot area of 4000 Sqmts.

Land Use:

Multiplex may also be permitted on land earmarked for commercial use or cinema halls in the approved Master Plans/ Development Plans.

Bye Laws:

Minimum Plot Area	4000 Sqmts or 0.40 hectares
Maximum Ground Coverage	40%
Maximum FAR	200%
Maximum height of Building	20 mts.

Side set backs:

Front setback to be governed by the building line of the road on which a multiplex is proposed. In case it is not facing any major road the minimum front set back for a multiplex should be 12 mts from the plot line. Rear and side set backs shall be minimum 1/3rd of the height of the structure or 6 mts whichever is minimum.

Parking:

Three level basement parking will be permissible within the complex. Parking under the basement shall be permissible over 75% of the plot area subject to a minimum set back of 3 mtrs, on all sides. 15% of the basement area shall be reserved for locating services like Generator Room, Electric Room/ Plant Room etc. Portion of the basement where these services are proposed should be segregated suitably from the other uses so as to ensure adequate safeguards against the hazards.

Parking space to be provided within the proposed multiplex shall be @ 2 car space for every 100 Sqmts of floor space.

Area to be considered under parking in basement/ stilts/ open shall be as under:

i)	Basement	28 Sqmts per car space
ii)	Stilts	23 Sqmts per car space
iii)	Open to Sky	18 Sqmts per car space

Note:

Area under parking/ services in the basement floor and stilts shall not be counted towards the calculation of FAR.

G. Janjghar/ Community Center/ Banquet Hall:

Minimum Plot Area	1.5 acres (12 Kanals)
Max. Ground Coverage	30%
No. of Storeys	G + 2
Max. FAR	100%
Max. Height	15mts

Set Backs:

Front setback to be governed by the building line or 30 ft from the plot line whichever is more.

Side and rear set backs shall be minimum 1/3rd of the height of the building.

H. Ware Housing, Storage Vegetables & Fruit Mandis:

Minimum Plot area	2.5 Hec (25000 Sqm)
Maximum Coverage	25%
FAR	100%
Max. Height	15 mts.

I. Petrol Pumps:

The following regulations are recommended for locating petrol pumps cum service stations:-

i. Minimum distance from the road intersections.
   a. 50 mts. on roads having R/W upto 30 mts
   b. 100 mts. on roads having R/W more than 30 mts

ii. The minimum distance to the property line of Pump from the center line of the road should not be less than 15 meters on roads having less than 30 mts R/W. In case of road having 30 mts. or more R/W building line of the road should be protected.

iii. Plot Size (Minimum);
   a. Only filing station 30 mts. X 17 mts.
   b. Filling cum service Station minimum size 36 mts x 30 mts.
   c. Frontage of the plot should not be less than 30 mts.
   d. Longer side of the plot should be the frontage.
   e. New petrol pump shall not be located on any road having R/W less than 15 mts.

b) Other Controls:

i. Filling Cum Service Station (Size 30 mt. x 36 mts.And above.)

i.	Ground Coverage	20 %
ii.	FAR	20%
iii.	Max. Height	6 mts
iv.	Canopy Equivalent to permissible ground coverage within setback line.	
v.	Front Setback 6 mts (min) or B/L whichever is more	

ii. Filling Station (Size 30 mt x 17 mts)

i.	Ground Coverage	10 %
ii.	FAR	10%
iii.	Max. Height	6 mts
iv.	Canopy	Equivalent to permissible ground coverage within setback line
v.	Front Setback	3 mts (min) or b/l whichever is most

c) Compressed Natural Gas (CNG) Mother Station

i.	Plot Size (minimum)	36 mt. x 30 mt.
ii.	Max. Ground Coverage	20 %
iii.	Max. Height	4.5 mt. (Single Storey)
iv.	Building Component Control room /office /dispensing room, Store, Pantry and W.C	

d) Other Regulations:-

i. Shall be accepted to Explosive /Fire Deptt.
ii. Ground Coverage will exclude canopy area
iii. Mezzanine if provided will be counted in FAR

iv. Whenever the plot is more than 33 mt x 45 mt. development norms shall be restricted to as applicable to the size i.e. 33 mt x 45 mt both in urban and rural areas.

III- PUBLIC AND SEMI PUBLIC/ INSTITUTIONAL USE:

A- Government Offices:

Max. Ground Coverage	35%
Max. Far	175%
Max. Height	20mts

Set Backs:

Front setback to be governed by the building line or 30 ft from the plot line whichever is more. Rear and side set backs shall be minimum 1/3rd of the height of the building.

Note:

1. The integrated office complex shall include Central Govt. Offices, local Govt. offices, public sector undertaking offices, courts and other Govt. offices, institutions.
2. Basement upto the building envelops to the maximum extent of 75% of the plot area shall be allowed and if used for parking and services, the same should not be counted towards FAR.

B- Educational:

a) Nursery School:

Minimum Plot Area	750 Sqmt
Maximum Ground Coverage	25%
Maximum FAR	50%
Maximum Height	9 mts

Front set back shall be governed by the building line of the road or 20' from the plot line whichever is more. Rear and side set backs should be 3 mts.

b) Primary School:

Minimum Plot Area	2000 Sqmts	
Maximum Ground Coverage	25%	
	In Plains	**In Hills**
Maximum FAR	75%	50%
Maximumheight	15 mts	9mts.

Set Backs:

Front set back shall be governed by the building line of the road or 20' from the plot line whichever is more. Rear and side set backs should be 1/3rd of the height of the building.

Note: School for handicapped shall have the same norms as the primary school.

c) Middle School:

Minimum Plot Area	4000 Sqmts
Maximum Ground Coverage	25%

	In Plains	**In Hills**
Maximum FAR	100%	75%
Maximum Height	15 mts	12 mts.

Front set back shall be governed by the building line of the road or 30' from the plot line whichever is more. Rear and side set backs should be 1/3rd of the height of the building.

d) High/ Higher Secondary School:

Minimum Plot Area	7500 Sqm.
Maximum Ground Coverage	25% including Hostel/ Residential accommodation for staff

	In Plains	**In Hills**
Maximum FAR	100%	75%
Maximum Height	18 mts	12 mts.

Front set back shall be governed by the building line of the road or 30' from the plot line whichever is more. Rear and side set backs should be 1/3rd of the height of the building.

e) College:

Minimum Plot Area	30000 Sqm
Maximum Ground Coverage	25% including Hostel/Admin. Block/ Residential accommodation for staff.

	In Plains	**In Hills**
Maximum FAR	100%	75%
Maximum Height	18 mts	12 mts.

Front set back shall be governed by the building line of the road or 30' from the plot line whichever is more. Rear and side setbacks should be 1/3rd of the height of the building.

Note:

i) In case of specialized professional institutions like B. Ed Colleges, Law Colleges, Coaching Centers, Tutorials etc. plot area limitation shall be regulated by the Building Permission Authority on the merits of the case in accordance with the requirements/ guide lines of the regulating authority like Medical Council of India, AICTE, UGC etc.
ii) Minimum road width in front should not be less than 12 mts.
iii) Basement upto the building envelope to the maximum extent of 50% plot area shall be allowed and if used for parking and services should not be counted for FAR.

f) Educational and Research Center, (Large campus i.e. above 8 ha.):

i) Academic including Administration (45% of the total land area):

Max. Ground Cov.	20%	
	In Plains	**In Hills**
Max. FAR	80%	60%
Max. Height	20 mts	12 mts

ii) Residential (25% of the total land area):

Regulations as provided in group housing/ flatted development shall apply.

iii) Sports and Cultural Activities (15% of the total land area):

Maximum Ground Coverage	10%
Maximum FAR	15%

iv) Parks and Landscape Areas (15%of the total land area):

Note:

Basement below the ground floor and to the maximum extent of ground coverage shall be allowed and if used for parking and services should not be counted in FAR.

C- Health:

a) Hospital:

Minimum Plot Area	6000 Sqm
Maximum Ground Coverage	25%
Maximum FAR	100%
Maximum height	18 mts

Note:

i) Area to be used for housing of essential staff is indicated in the norms for health facilities. In such an area the regulations of group housing shall apply.
ii) Basement below the ground floor and to the extent of ground coverage shall be allowed and if used for parking and services should not be counted in FAR.
iii) Front set back shall be governed by the building line of the road or 30' from the plot line whichever is more.
iv) Minimum rear and side set backs should be 1/3rd of the height of the building.

b) Health Center/ Nursing Home:

Minimum Plot Area	1000 Sqm
Maximum Ground Coverage	35%
Maximum FAR	100%
Maximum height	15 mts

Note:

i) Front set back shall be governed by the building line of the road or 20' from the plot line whichever is more.
ii) Minimum rear and side set backs should be 1/3rd of the height of the building or 10'-0".

D- Facilities And Amenities:

i. Religious Premises:

Plot Area	500 Sqm
Maximum Ground Coverage	30%
Maximum FAR	60%
Maximum height	11 mts
(Excluding minars, shikahrs and Domes)	

ii. Police Post:

Plot Area	500 Sqm
Maximum Ground Coverage	35%
Maximum FAR	70%
Maximum height	12 mts

iii. Police Station/ Fire Station

Plot Area	10000 Sqm
Maximum Ground Coverage	25%
Maximum FAR	100%
Maximum height	15 mts

iv. Post & Telegraph Office

Plot Area	500 Sqm
Maximum Ground Coverage	25%
Maximum FAR	100%
Maximum height	15 mts

v. General (Public & Semi Public Premises)

Plot Area	500 Sqm
Maximum Ground Coverage	25%
Maximum FAR	100%
Maximum height	15 mts

IV Non- Residential Premises:

i) Hostel

Maximum Ground Coverage	25%
Maximum FAR	100%
Maximum Height	15 m
Min. No. of occupants	40

Note:

i. Front set back shall be governed by the building line of the road or 25 ft from the plot line. The rear and side set back shall be 1/3rd of the height of the building or 10'-0".
ii. Min. road width should not be less than 12 mts.
iii. Basement upto the building envelope to the max. extent of 50% of plot area shall be allowed & if used for parking & services should not be counted in FAR

ii) Guest House, Boarding House and Lodging House

Minimum Plot Size	500 Sqm.
Maximum ground Coverage	33.33%
Maximum FAR	100%
Maximum Height	18 m

Parking @ 1.0 ECS for every 100 Sqm. shall be provided within own premises.

Note:

a) Front set back shall be governed by the building line of the road or 20 ft from the plot line. The rear and side set back shall be 1/3rd of the height of the building or 10'-0" .

b) Max. no of rooms shall be 12 (double bed room).

VI- INDUSTRIAL USE:

a. Flatted Group Industry and Service Cenre:

Minimum Plot Area	2000 Sqm
Maximum Ground Coverage	30%

	In Plains	**In Hills**
Maximum FAR	120%	100%
Maximum height	15 mts	12 mts.

Other Controls:

Basement upto the building envelop line to the maximum extent of 50% plot area shall be allowed and if used for parking and services should not be counted in FAR.

b. Light and Service Industry:

S. No.	**Plot Size (Sqm)**	**Max. Ground Coverage**	**Max. FAR in**		**Max. height in**	
			Plains	**Hills**	**Plains**	**Hills**
1.	100 to 400	60%	125%	100%	12 m.	9 m
2.	400 to 4000	50%	125%	100%	12 m.	12 m
3.	4000 to 12000	45%	125%	100%	12 m.	12 m
4.	Above 12000	40%	100%	75%	12 m.	9 m

Other Controls:

i. Maximum floors allowed shall be basement, ground floor and 1st floors; basement should be below ground floor and to the maximum extent of ground coverage shall be counted in FAR. In case the basement is not constructed, the permissible FAR can be achieved on the second floor.

ii. In case of truss, height of building should be adjusted/ relaxed.

c. Extensive Industry (Medium & Large Industry):

S. No.	Plot Size (Sqm)	Max. Ground Coverage	Max. FAR in		Max. height (m)
			Plains	Hills	
1.	400 to 4000	50%	100%	75%	9
2.	4000 to 12000	45%	90%	60%	9
3.	12000 to 28000	40%	80%	50%	9
4.	28000 & Above	30%	60%	45%	9

Note:

i) Single Storey building with basement is allowed. Basement shall be below the ground level and the maximum extent of the ground coverage and shall not be counted in FAR.

ii) In case of truss, height of building should be adjusted/ relaxed..

iii) Height relaxation can be considered by the competent authority for specialized industries requiring more height.

VII- PARKING STANDARD:

The following table may be referred for deciding the parking norms for different use zones/ activity depending upon local vehicle ownership mass transportation and parking needs.

S.No	Use/ Use Permitted	Equivalent Car Spaces (ECS) per 100 Sqm of floor area
	Residential Group Housing	1 ECS for each dwelling unit for MIG & HIG having covered area above 800 Sft , 1 ECS for LIG having area between 500 to 799 and 0.5 ECS for EWS..
1.	**Commercial :** i) Wholesale, retail, shopping, office & Hotels	2.0 per 100 Sqm of total built up area on all floors. Area under lifts/ stairs, ducts, balconies shall not be counted while calculating parking.
	ii) Cinemas	1 ECS for 10 seats
	iii) Community/ Banquet Hall/ Janjghar	Minimum 100 ECS upto an area of 12 Kanals in case the area is more 6 car spaces shall be added after every additional 1 kanal of area.
	iv) Restaurant /Fast food Bar;	1 ECS for 4 seats. **Note:**

		If banquet hall is to be provided in Hotel the prevailing norm given for banquet halls shall apply over & above
2.	**Public /Semi Public:** i. Nursing Home , hospitals (private) social cultural and other institutions government and semi government offices ii. School, college, university and Govt. hospitals.	1.0
3.	**Industrial.** Light and service industry flatted group industry extensive industry.	0.75

Note:

a) Areas under lift, open Stairs, ducts, balconies shall not be counted while calculating parking.

b) If basement and stilts are used for parking it shall not be counted in FAR.

7.1.1 Residential:

Uses Permitted:

Dwellings of all types, guest houses, boarding houses, dharamshala, night shelter, rooming houses, customary home occupation, schools offering general educational courses, libraries, parks, playgrounds, golf courses, nurseries, green houses, and general purpose farms, churches, temples, mosques and other religious buildings, clubs, cultural and philanthropic associations of non-commercial nature, swimming pools for community use, professional establishments satisfying the requirements of some customary occupations and private nursing homes, convenience shopping, local shopping.

Permissible on Application to Competent Authority:

Petrol filling stations, cemeteries, multi-purpose or junior technical schools not giving rise to smoke, noise or other nuisance; auditoria, public assembly halls, sports stadia, transit visitors camp, taxi and scooter stands, bus terminals, public utility buildings, hospitals except those treating contagious diseases or mental patients, animal clinics.

Prohibited:

All uses not specifically mentioned herein including the following:

i) Quarrying of gravel, stone, clay, sand, etc. except for the purpose of development of the area.

ii) Commercial entertainment like travelling cinema, circus, and other shows.

iii) Commercial use in basements/other floor of a residential dwelling.

iv) Polytechnic and higher technical institutes requiring machinery etc., irrigated area sewage farms.

Residential Densities

The entire Residential zone for Planning area, Banihal has been defined in the Proposed Land Use. The Residential Zone has been divided into two sub zones. Keeping in view the peculiar quality and pattern of development within core city, the area enclosed within the core city has been designated as especially residential zone whereas remaining residential area has been put into other category. The maximum permissible residential density in the sub - zone other than the core city shall be 150 person per hectare. The gross density for the core city shall not exceed 300 persons per hectare.

7.1.2 Commercial:

Commercial uses in residential zones located within or outside the Municipal Limits shall be permitted on roads having minimum width of 24 feet. In case of stand –alone commercial complexes with height greater than three storey's falling outside existing Municipal Corporation/Municipal Council limits, the provision related to area, height, F.A.R etc. of such buildings shall be governed and regulated by following norms:

Uses Permitted:

Dwellings of employees working in the area; offices, retail business, departmental store, hotels, restaurants and their accessory uses, professional business including educations coaching, theatres,

cinemas, public assembly halls, cultural centres, social and welfare institutions, libraries, electric sub-station, fire station, post office, police post, clinics, nursing homes, public facility buildings, temples, mosques, churches and other religious buildings, car and scooter parking, taxi and auto rickshaw stands, garbage dalao.

Permissible on application to Competent Authority:

Service industries which neither involve manufacturing nor requiring extensive land, petrol filling stations, commercial entertainment of a transient nature like a circus. Clean industries employing not more than 40 persons, with or without power. Coal and Fire wood/timber storage yards; transport terminals for both goods and passengers.

Prohibited:

All uses not specifically mentioned herein including the following:

i) Quarrying of gravel, sand, clay, and stone except for the purpose of development of the area, agricultural uses except nurseries, hot houses and green houses.

ii) Warehousing and storage of perishable and inflammable commodities

7.1.3 Local Commercial

Uses permitted

All retail and wholesale business and their accessory uses, clinics, nursing homes, professional business establishments, offices, banks and financial institutions, hotels and restaurants, commercial entertainment of a transient nature, service industries, petrol filling stations with garages and service station, public facility buildings, newspaper offices with printing presses, warehousing for non-perishable and non-flammable commodities, electric sub-station, post & telegraph offices, fire station, police station, telephone exchange, cinema, theatre, LPG distribution centre, transport terminals for goods and passengers, parking for cars, scooters, taxi and auto rickshaw, garbage dalao.

Permissible on Application to Competent Authority:

Transit accommodation, temples, mosques, churches, and other religious buildings, all clean industries not employing more than 20 persons, storage for perishable and inflammable goods, sports stadium, swimming pools and other recreational uses, hospitals, technical education and research institutions.

Prohibited:

i) Dwellings except those of essential watch and ward personnel.

ii) All agricultural uses, quarrying of gravel, sand, clay or stone except for purpose of development of the area.

7.1.4 District centre

Uses Permitted:

All types of retail business, departmental stores, hotels and restaurants with their accessory uses, clinics, nursing homes, professional business establishments, libraries, offices, banks, financial institutions, theatres, cinemas and public assembly halls, park, cultural centres, social and welfare institutions, electric sub-station, fire station, post & telegraph office, police station, commercial entertainment of transient nature, service industries; petrol filling station with service station, public facility building, car & scooter parking, taxi and auto rickshaw stands, garbage dalao.

Permissible on application to Competent Authority:

Hospitals and medical centers, clean industries employing not more than 25 persons with or without power, sport stadia, Swimming pool, other recreational areas, transport terminals for both goods and passengers, warehousing of non-perishable and non-flammable commodities.

Prohibited:

All uses not specifically mentioned herein including the following:-

i) Agriculture uses of all types, quarrying of gravel, sand, clay and stone except for the purpose of development of area.

ii) Warehousing and storage of perishable and inflammable commodities.

7.1.5 Industry

7.1.5.1 Light Industry:

Uses Permitted:

All types of light industries, clean industries and service industries, warehousing and storage for light & service industries, newspaper offices with printing press and accessory uses, petrol filling stations with garages and service stations, parks and playgrounds, nurseries and greenhouses, medical centres, restaurants, public utility buildings, transport terminals for goods and passengers, cars, scooters, auto rickshaw and taxi stands. The minimum road within this use zone shall be 18m R/W.

Permissible on application to Competent Authority:

i) Commercial entertainment of a transient nature like a circus, warehousing & storage of perishable and inflammable goods, sports stadia, swimming pools and other recreational uses.

ii) Junk yards, hospitals, nursing homes, and technical education and research institutions

Prohibited:

i) Dwellings except of essential watch and ward personnel.

ii) Religious buildings, boarding houses, rooming houses, irrigated farms and sewage farms.

iii) Quarrying of gravel, sand, clay or stone except for the purpose of development of the area.

Industries Prohibited:

Manufacturing/refining of ammonia bleaching powder, chlorine, asphalt, brick, terracota, gypsum, lime, plaster of paris, coke, creosote, glucose, starch, dye, explosives or fireworks or storage thereof in excess of 250 kg. fertilizer, gas (fuel or illuminating) in excess of 30 cu.mt. per day or storage in excess of 300 cu.mt., gelatin or glue or dye from fish or animal refuse or offal, hydrochloric or nitric or sulphuric or sulphurous acid, lampblack; linoleum or oil cloth. Blast furnace, coal or junk yard, coal, wood or tar or manufacture of any of their distilled products, crop forges, fat, grease, lard or tallow manufacture, refining flour or grist mill, hot rolling mill, incineration, reduction or dumping of dead animals, garbage, refuse except when accumulated and consumed on the same premises without the omission of odour, production or refining or storage above ground of petroleum or other inflammable liquids except heating fuels, slaughtering of animals, tanning or curing, or storage of raw hides and skins, tyre recapping.

7.1.5.2 General Industry

Uses permitted:

All industries except obnoxious or hazardous industries, warehouses, storage, accessory uses, all other uses permitted in the light industrial zone, junk yards, public utility building, car, scooter, auto rickshaw and taxi stands. The minimum road within this use zone shall be 24 mt. R/W.

Permissible on Application to Competent Authority:

i) Storage of perishable & inflammable goods, sport stadia, swimming pools and other recreational uses, technical or research institutions.

ii) Quarrying of gravel, sand, clay or stone.

Prohibited:

i) Dwellings, except those of essential watch and ward personnel and workers of this area. Religious buildings, boarding houses and rooming houses.

ii) Irrigated farms and sewage farms.

iii) All uses not specifically mentioned herein.

7.1.6 Open Spaces & Parks:

Uses permitted:

Sports stadium, swimming pools, gardens, parks, playgrounds, golf courses and other recreational uses requiring extensive open space with its accessory uses.

Prohibited:

Dwellings except of watch and ward personnel. All other uses not specifically permitted.

7.1.7 Agricultural (Green Belt) and Periphery Area

Permitted uses:

Dwellings for the people engaged on the farm, farmhouses, accessory buildings, agriculture, horticulture, dairy, poultry farms, animal rearing and breeding, stables for riding, etc., storage, processing and sale of farm produce, petrol and other fuel filling stations, temples, churches, mosques, other religious buildings and public utility building.

Residential use up to 2720 sqft plot size can be permitted in favor of the person/persons who is the domicile/bonafide of the plot for minimum 10 years.

Permissible on application to Competent Authority:

Quarrying of gravel, sand, clay or stone. Limekilns, brick-kilns, workshops for servicing and repair of farm machinery, service stations and warehousing.

Prohibited:

All other uses not specifically permitted herein.

7.1.8 Tourism zone:

Permitted uses:

All types of public utilities and public buildings , regional level entertainment places, Residential use (plotted/flatted), commercial uses like Shopping malls, Multiplexes, IT/ITES, Institutes, Hotels, Motels, Hospitals, Clinics, Amusement parks, Rides, Water sports, Green houses, Nurseries, Mela ground

Permissible on the application to competent authority:

Commercial like flowers, Bakery items, Confectionary items, Karyana, General store, Dairy product, Stationery, Books, Gifts, Book binding, Photostat, Fax, SID, PCO, Cybercafé, Call phone, Booths, Meat, Poultry and Fish shop, Pan shop, Barbershop, Hair dressing saloon, Beauty parlour, Laundry, Dry cleaning, Ironing, Sweet shop, Tea stall without sitting arrangement, Chemist shop, Clinic, Dispensary, Pathology lab, Optical shop, Readymade, Garments, Cloth shop, ATM.

Prohibited:

All other uses not specifically permitted herein.

7.1.9 Core City

Keeping in view the special character of the core city and its pattern of development, special regulations for the development of area falling within core city shall be formulated in order to ensure decongestion of population and decongestion of activities for creating more open spaces and improving the quality of life by making available land for physical and social infrastructure. Strategies would also include pedestrianization of the congested area of Core city, minimizing change of land use, minimizing sub-division of land, preserving and enhancing the ambience of buildings of historical, cultural and religious importance besides rationalizing the traffic and transportation.

Note*: The provision of mixed land use along arterial, sub arterial and major roads must not be less than 10meter width more than depth of 30 meter can be allowed

7.2 Safety

7.2.1 Fire

Fire services have vital role in fully protecting people from fire hazards, building collapse, road accidents and other unforeseen emergency etc.

Table 7.2-1: Planning norms and standards for safety/ fire facilities

S. No.	Category	Population/unit	Plot Area
1	Fire post	3-4 Km radius	2000 sq m
2	Fire station	5-7 Km radius	1 ha
3	Disaster Management centre	1 in each administrative zone	1.0 Ha along with suitable open area (2 ha.) for soft parking, temporary shelter, parade ground etc.
4	Fire training college	City level (one site in Urban extension)	3.0 Ha

Development Controls for Safety/ Fire Facilities

As per Zoning Plan/Building Byelaws of the local body/any other concerned agency or as per State Govt. instructions issued from time to time.

Guidelines for locating fire stations & other firefighting facilities in urban extension:

1. Fire station shall be so located that the fire tender are able to reach any disaster site immediately within minutes.
2. Fire station shall be located on corner plots as far possible and main roads with minimum two entries.
3. In new layouts, concept of underground pipelines for fire hydrants on periphery, exclusively for firefighting services shall be considered.
4. Fire stations are permitted in all land use zone/sectors except in Recreational use zone.
5. Necessary provisions for laying underground/over ground fire-fighting measures water lines, hydrants etc. may be kept wherever provision of fire station is not possible.
6. The concerned agencies shall take approval from Fire Department for firefighting measures while laying the service for an area.

7.2.2 Disaster Management Centre

According to the Indian Seismic Zone Map, Banihal is placed in Seismic Zone IV, which means high damage risk zone. Such natural and manmade disasters neither can be prevented nor predicted. However, with the technological advancement to some extent mechanism can be developed to mitigate the after effects of the disaster. Areas of vulnerability can be identified and necessary measures can be proposed by the concerned agencies. The concerned local bodies should keep

updating the building byelaws to safe guard against disasters and ensure effective and impartial enforcement. Following policies and strategies for disaster management are proposed:

Pre-Disaster Preparedness

1. Micro-Zonation surveys shall be referred for land use planning and be considered while preparing the sectors/Zonal Plans and Layout Plans.
    a. Seismic micro-zonation for selected areas having high growth rates shall be taken up on priority.
    b. On the basis of vulnerability studies and hazard identification, which includes soil conditions, probable intensity of earthquake, physiographic conditions of the area, fault traces, etc., local level land use zoning and planning shall be undertaken.
2. Building byelaws shall incorporate the aspects of Multi Hazard Safety, and Retrofitting.
    a. Priority shall be given to public buildings (such as hospitals, educational, institutional, power stations, infrastructure, heritage monuments, lifeline structures and those which are likely to attract large congregation) for their ability to withstand earthquake of the defined intensity.
    b. Suitable action should be taken for retrofitting and strengthening of structures identified as vulnerable as per earthquake manuals and National Building Code. A techno-legal regime has to be adopted for provision Multi Hazard Safety aspects.
    c. Banihal Fire Services being the nodal agency for disaster management shall identify vulnerable areas such as areas with high density and poor accessibility in the city and propose suitable measures. Proposed Disaster Management Centres should be established in every zone/sector to deal with the disasters, including bio chemical and nuclear disasters.
3. Sensitize people, particularly school children, about after effects of disaster.
4. Make people aware through media campaigns and advertisements about emergency procedures and location of emergency shelters etc.

Post Disaster Management

It has been observed that any disaster is generally followed by break down of communication lines and disruption of essential services. Therefore, the key communication centers shall be protected from natural disasters i.e. flood, fire and earthquake etc. and services restoration shall be taken up on top most priority. Necessary setup shall be created in each of the concerned department for such eventualities

Standard type designs and layout shall be prepared by the local bodies and made available to the people so that crucial time may not lose in approval of layout plans and building plans after disaster. Disaster Management Centers have been proposed to serve people in the case of disaster and provide emergency shelters.

Other Development Controls and Guidelines

1. Regulation for village abadis: Special Building Regulations shall be prepared for the development and regulation of an area falling within the Lal Dora or Phirni of the villages falling in the Local Planning Area.
2. All Panchayat land of villages falling in Local Planning Area shall be used exclusively for public and semi-public uses including utilities, services, physical and social infrastructure, parks, open spaces, community facilities etc. and not for any other purpose.
3. The existing High Tension lines shall be shifted along the road but outside the Right of Way to ensure unhindered ROW for traffic and other services for all times.
4. The minor drains shall have minimum 10 meters wide (or as may be specified by the state govt. from time to time) green strips on either side of the drain. Other major water bodies shall have minimum 30 meters (or as may be specified by the state govt. from time to time) green strips on each side. Realignment of water bodies shall be permissible wherever feasible, subject to the certification by the Engineering Department to ensure free flow of storm water.
5. Contiguous expansion of village abadi's in non-residential zones of Master Plan is no permissible. However, for the village abadi falling in the residential zone of Master Plan, no such restrictions shall be applicable.

Transferable Development Rights

To facilitate development, it is necessary to accord top priority to the implementation of public utilities and infrastructure (such as roads, parks, green belts etc.) which will in turn encourage planned development/regulated urbanization. However, the respective technical agency or authority will not be able to proceed with its implementation programs until the ownership of private land affected by these public utilities and infrastructure has been transferred to the state or to the relevant authority(s).Acquisition of private land for this purpose is proposed to be carried out through one of the following options:

- Cash compensation to be paid to affected land owners whose land is to be acquired or a land-pooling scheme may be formulated and implemented.

In addition to all these building bye laws and development controls the bye laws described in the Jammu and Kashmir Municipal Council Act 2000 may also be applied on any building as per the site requirement.

7.3 Implementation of these Regulations

- All authorities competent to grant permission for layout or sub-division of land or construction of building or development of land in any other form shall ensure that the permitted development is in

compliance with these Regulations.

- Landowners desirous of developing their land can obtain, by applying to the designated authority in writing and giving details of their land along with necessary maps, a list of permissible uses.
- Similarly, landowners proposing development of certain uses on their land can obtain certificate of "Compliance with Master Plan" from a designated authority.

Exceptions:

i) Any use not listed above under a specific zone will not be permissible in the respective zone.

ii) Uses determined by the Chief Town Planner, Jammu and Kashmir as compatible with uses permissible shall be allowed in respective zones.

8 Façade Development and Control Measures

The design concept will take inspiration from the hill-side architecture and planning emphasizing sloping roofs, and abundant use of natural materials-primarily timber and local stone. Façade treatment and the architectural detail of buildings contribute significantly to the way a building 'reads' from the street and to the character and continuity of the streetscape. The composition and detailing of the building façade also has an impact on the apparent bulk and scale of a building. It is important when considering the design of new development that the predominant patterns, compositions and articulation of façades reinforce the character and continuity of the streetscape.

Design consideration is to be given to the underlying building materials that contribute to the character of a building. Such things include roof shape, pitch and overhangs; entry porches, verandas, balconies and terraces; materials, finishes, fixtures, patterns, fenestrations, colors and detailing; the location and proportion of windows and doors.

8.1 Controls and Regulations:

In case of Banihal (core city) area depicts a special character and there is a need to frame a façade controls measures for this area. Following are the suggestive measures for façade control in this area.

1. The façade of the building/blocks shall be maintained on old lines in case of reconstruction of existing buildings, however the internal changes shall be permissible;
2. The façade of new building on vacant plots shall be in conformity with the architectural features and elements of the adjoining buildings for buildings
3. The existing parks and green open spaces shall be preserved as such.
4. The exterior design and height of buildings should have their approval to preserve/improve the beauty of the area rather than beauty of such building.
5. Signs and Outdoor Display Structures / Including Street Furniture on heritage site shall be framed by Urban Design Wing (proposed in the development Authority). In addition, regulations or guidelines to regulate signs, outdoor display structures and street furniture on heritage sites/ or in area shall also be framed.
6. A wing of Development authority (urban design Wing) will work as efficiently for the façade control and urban development throughout the Planning area. Especially in first planning layer.

8.1.1 Design concepts and proportions of Building Elements

The shape of the building will be determined by its functional mass. False appurtenances and decorative architectural elements with no function will not be permitted. It is intended that the style be rustic, solid and true, with its elegance and grace provided by good proportions, good massing and good relationship to the other buildings.

8.1.2 Land Slope and Contours

Design must evolve considering zero or minimal alteration of existing slopes and contours. Slope cutting shall not be allowed to accommodate any structure that is not compatible to slopes and contours.

8.1.3 Land Forms and Geographical Character of soil

Land forms and geographical character must be respected while planning any road access and the raising of structure and its allied infrastructure. If required retaining wall of concrete or stone are permitted to support soil or any structure.

8.1.4 Impact on Environment

Services such as garbage disposal, waste water management, Sewerage etc. shall be individually or collectively managed to leave underground or above ground resources unpolluted.

8.1.5 Energy Efficient Planning

All building placements, their windows and roof slopes along with tree foliage shall be planned to achieve maximum energy efficient designs in order to reduce dependence on mechanical and non-renewable energy resources which otherwise are environmentally and financially expensive.

8.1.6 Outdoor Elements/Landscape and Streetscape

Landscape elements should reinforce the rustic themes of a park like setting. Road barriers should not be steel or concrete, but made of simple stone posts supporting horizontal logs or wood. Where fences are necessary they should also be of stone and timber but continuous outdoor spaces are encouraged, rather than fenced areas. Road surfaces and driveway surfaces should minimize expanses of earth, asphalt or concrete. In private driveway and entrance areas, consideration should be given to crush gravel and stone or concrete pavers.

Existing trees should be preserved. Street furniture items should be of rustic materials such as stone and solid wood-in benches, kiosks and barriers. Textured surface treatments for pedestrian walkway and plaza areas should be small in scale, durable and attractive. Asphalt will not be permitted as a walkway finish. Plain concrete is discouraged. Concrete pavers and paving stones are encouraged.

8.1.7 Signage

All sign designs must be approved by the approval Authority prior to installation. Signs may only be of solid materials of wood or stone and may only utilize front lighting. Backlighting of exterior signs will not be permitted.

8.1.8 Night Lighting

Night lighting should be adequate for comfort and safe movement, and designed for an intimate, aesthetic effect. Wherever possible, light sources should be shielded and directional. Street lighting should be attached to buildings where possible to avoid the necessity for large and often unattractive lamp standards.

8.1.9 Screening and Enclosure of Service Areas

Service areas must be unobtrusive and in keeping with the small-scale character of the mountain resort. Storage, garbage collection, snow removal equipment, mechanical or electrical equipment, transformers, utility tanks, satellite dishes, etc. must be designed appropriately to be contained inside building areas, placed underground or suitably screened and must be part of the initial approved design.

8.1.10 External Spaces

Each individual unit should have a semi-private exterior space such as a patio or deck that is screened from direct overlook by the neighboring units within the same grouping, whether that screening is achieved through building form, overhanging roof, lattice or pergola elements. Street furniture items should be of rustic materials such as stone and solid wood-in benches, kiosks and barriers.

8.1.11 Parking

Parking should be at grade or as close to road level as possible to accommodate winter driving conditions. Garages may be to the side of the grouping. Individual car porches or garages as separate elements in front of the guesthouse units will not be permitted.

8.1.12 Garbage

Each multi-unit residential building must provide a predator and vermin proof interior space for garbage collection and transfer, located for easy access by garbage hauling contractors. No external areas are to be used for the storage of garbage.

8.1.13 Disaster Management

All structures public, semi-public or private permitted for construction shall include earthquake resistant measures with respect to design, constructional technology and material. These shall be made safe for all types of disasters including floods, earthquakes, wind and fire. For this purpose a certificate from qualified person registered with respective competent authority/institute shall be enclosed with the Plan prior to any permission by the Building Permission Authority.

8.2 Implementation of these Regulations

1. All authorities competent to grant permission for layout or sub-division of land or construction of building or development of land in any other form shall ensure that the permitted development is in compliance with these Regulations.
2. Landowners desirous of developing their land can obtain, by applying to the designated authority in writing and giving details of their land along with necessary maps, a list of permissible uses.
3. Similarly, landowners proposing development of certain uses on their land can obtain certificate of "Compliance with Master Plan" from a designated authority.

9 Institutional Framework and Implementation Strategy

9.1 Importance of Legal Framework

Contemporary city planning, through government machinery seeks to regulate market forces, in a sequential manner towards city building processes with the intention of furthering citizen's well-being. The challenge comes in providing a quality of life together with high standards of living which are not directly and easily correlated. In the case of Banihal and environs, not only citizens but environment also is equally important. The proposed Master Plan apart from seeking to lay-out a physical pattern of land use and transportation linkages for Banihal Local Planning Area as a whole, will serve as a guide for public and government agencies to conform and integrate their sectoral projects into programs. Hence it is important that suitable strategies are evolved for implementation of the plan proposals. The authorities have to be identified within the framework of existing legal framework wherever possible and if required frame new set of rules and regulations or amend the existing ones.

9.2 Existing Legal Framework

At present the building and land development activities in Banihal are regulated by the following regulations:

1. The Jammu and Kashmir Municipal Corporation Act 2000. Act No. XXI of 2000.
2. The Jammu and Kashmir Housing Board Act, 1976. Act No. VII of 1976
3. The Jammu and Kashmir Housing Board Act, 1976. Act No. VII of 1976
4. The Jammu and Kashmir Development (Amendment) Act, 2011.
5. The Jammu and Kashmir State Town Planning Act, 1963.Act No. XX of 1963
6. The Jammu and Kashmir Municipal Act, 2000.Act No. XX of 2000
7. The Jammu and Kashmir Municipal Laws (Second Amendment) Act, 2010
8. The Jammu and Kashmir Municipal Laws (Amendment) Act, 2011
9. The Jammu and Kashmir Building Operations Controlling Authority Act, 2001
10. The Jammu and Kashmir industrial policy 2004.

Out of the above, the Jammu and Kashmir State Town development act 1963 provide for preparation of Master Plan and regulate development for matters connected therewith the procedures in the preparation of Master Plan, there are no clear-cut provisions regarding monitoring and implementation of the plan. Chapter IV provides for use of land and building as per the Master Plan provisions and permission is to be granted by the Town Planner.

The Jammu and Kashmir Municipal laws deal primarily with the financial allocation as per the Annual Plans, Five Year Plans and Perspective Plans pertaining to various sectors.

The Jammu Municipal Act 2000, 1999 deals with the rules and regulations and procedures for issuing building license within the jurisdiction of the Council.

The town planning act 1963 deals with procedures relating to approval of Master Plan, modifications to the plan, application for planning permission and fees structure for development or redevelopment.

9.3 Strengthening the Legal Framework

Master Plan proposes that Banihal Municipal should take effective measures aimed at capacity building and institutional restructuring of its organization. It is proposed that the Authority shall strengthen its technical manpower by employing qualified town planners, engineers, architects, and landscape architects etc. to execute proposed development activities and make delivery of services efficient. In order to render Master plan a successful exercise, it is proposed that a vibrant and proactive enforcement wing with state-of-the- art technology shall be established in consultation with concerned line departments of Banihal Town. It is proposed to establish "Banihal Development Authority" (BDA).

Development Regulations proposed in the Master Plan is applicable to the entire Banihal Planning Area. In case of conflict between the proposed development regulation and Municipal Council Bye laws or any other law, the weightage will be given to the provisions contained in the proposed development regulation will be implemented.

The Banihal Planning Area includes Banihal municipal town and 8 villages. The Jammu Municipal Corporation (Building) Bye is applicable only within Banihal municipal area. However, the provisions of the same may be extended to the entire Planning Area. The Building Bye Laws contains certain planning parameters like FAR, Minimum Plot Size, Set Back, Parking etc. Since the proposed development regulations comprehensively cover all the planning parameters, some of the provisions of the Banihal Municipal Council Building Bye Laws need to be amended to this effect.

9.4 Restructuring Administration

Banihal is a small town in terms of managing and catering to the needs of the population, which will be 36,000 by the year 2034. Although terrain makes the implementation and managing of infrastructure quite challenging, but being small and having controlled growth it becomes relatively easy to address the problems and provide solutions.

Banihal is second largest town in Ramban District of Jammu province. Thus, it is proposed that development authority should be of high order and also adequate to guide and control to integrated development as per proposed master plan. Apex Controlling Agency has to work in close coordination with other public departments namely PWD, PHE, MC, Horticulture, Power, Agriculture etc. Different committee is also to be set up by the implementing agency and involved different departments.

9.4.1 Organizational structure of Banihal Development Authority

To implement the Master Plan 2034 proposals following organizational setup has been proposed with its various functional wings.

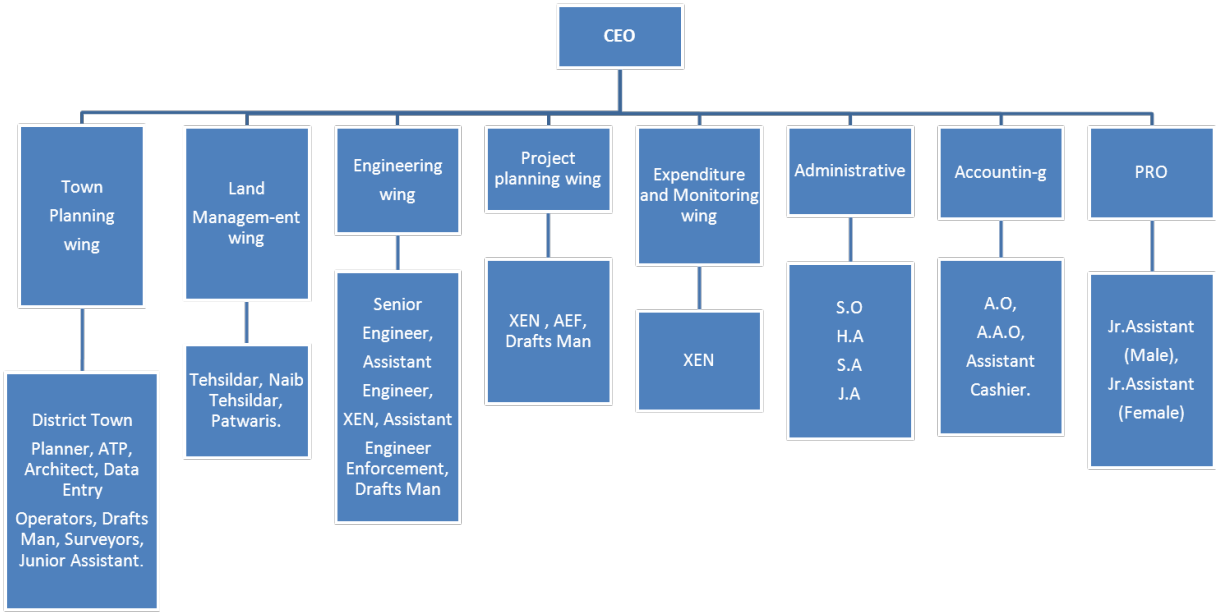


Figure 9-1: Banihal Development Authority – Organization Structure

BDA besides general administration including accounting and the maintenance of statistics BDA should have the following major functional wings.

1. Town Planning wing
2. Land management wing
3. Public relation wing
4. Project planning wing
5. Expenditure and monitoring and development control wing

BDA should function only as controlling agency but should have limited execution function. Execution work mostly will be done by respective departments. Since the execution is carried out by different departments monitoring and development control wings of BDA has to be capable enough to monitor and control all these execution works. Modern techniques including computer planning to plan development projects should be there.

Table 9.4-1: Proposed Planning area wing- Functions & Role

Proposed Planning area Wing	Important Functions and Role
Project Planning wing	a) Phasing of Projects b) To set targets as per available resources and achievable capabilities c) Set land procedures d) Call for tenders e) Integrate various projects / schemes within the flow of funds.
Expenditure and monitoring and development control wing	a) Impose cost control techniques b) Monitor physical progress for cast cash flow c) Schedule resources optimality d) Optimize the project cost e) Monitoring the progress of projects
Land management wing	a) Prepare inventory of all lands to be acquired b) Provide details of Khasra No., Ownership, cost etc.
Town Planning wing	a) Framing policies and strategies towards implementation of Master Plan b) Realization of identified programmes and projects of the Master Plan, by evolving suitable implementation mechanism. c) Approval of building plans and layouts d) Change of land use and reclassification e) Concurrence with sectoral agencies for land acquisition towards implementation of physical projects identified in the plan f) Dealing with land and building activities in contravention to the provision of the Master Plan g) Initiate, approve and implement major infrastructure development projects

9.5 Resource Mobilization

Implementation of master plan generally requires massive financial investment, mobilization of which is a complex task. In the pursuit of spatial development, the government should not always be expected to spend money or participate directly in development activities rather private resources should also be appropriately mobilized. The role of private sector shall be duly recognized and utilized in plan implementation. As a general fiscal policy on resource mobilization, it would be desirable to have a proper mix of public and private sectors, both playing a symbiotic role in such a way that the public infrastructure program is implemented through budgetary sources and marketed infrastructure and facilities are provided through private sector while a joint venture could also be explored wherever seems practical.

9.6 Planning Mechanism

It is suggested that the planning mechanism will be implementation according to the Land Pooling Policy. Land Pooling Policy would be based on the optimum utilization of available resources, both public and private in land assembly.

Land Pooling policy is based on the concept of land pooling where the land parcels owned by individual group of owners are legally consolidated by transfer of ownership rights to the designated land pooling Agency (Banihal Development Authority in this case). The agency (BDA) later will transfer the part of the land back to the land owners for undertaking development of such areas.

9.6.1 Land pooling under Town Planning Schemes

The Bombay Town Planning Act, 1954 as applicable in Gujarat and the Maharashtra Regional and Town Planning Act, 1966, empower a Planning Authority to pool or assemble lands for the purpose of implementing town planning schemes and to reconstitute them in accordance with the Scheme. The reconstituted plots of land are allotted to the owners**.** Under this scheme, landowners in a contiguous identifiable area within the jurisdiction of a Municipality / Development Authority may be permitted to develop their lands into a residential colony. Land could be assembled, on the basis of a town planning scheme, through voluntary pooling by its owners, which could be consolidated thereby permitting the local agency to develop infrastructure according to a layout plan. About one-third of the land may be reserved for the provision of services, open spaces and roads while the rest may be developed into residential plots to be distributed among the owners as per their share in the pooled land. The higher value of the developed plots would compensate the lesser area and payment of betterment charges.

This land assembly mechanism in public-private partnership is operational in Gujarat and Maharashtra. However, experience shows that this scheme is likely to be successful only if delays at various stages are avoided, escalation of costs is provided for and the Municipality has the working capital to undertake development works and a share in developed lands to recover costs.

9.6.2 Transfer of Development Rights

To practice Land Pooling mechanism in a fair manner, equal rights in terms of development and compensation is required. Another fact that Banihal region is an eco-sensitive zone, the planning has been done based on the ecological and environmental considerations, this ultimately deals with development restrictions at required areas. The green buffer along river Bichalari and other tributaries

may occupy the land belonging to private owners. Regulations restricting any development can be resolved by the help of Transfer of Development Rights.

Therefore a pragmatic solution suggested to 'fair distribution of price of land' problem could be the use of 'Transfer of Development Rights'. The Urban Development Plans Formulation and Implementation (UDPFI) Guidelines, MOUD, Government of India (1996), define *Transfer of Development Rights (TDRs)* as, 'Development Right to transfer the potential of a plot designated for a public purpose in a plan, expressed in terms of total permissible built space calculated on the basis of Floor Space Index or Floor Area Ratio allowable for that plot, for utilization by the owner himself or by way of transfer by him to someone else from the present location to a specified area in the plan, as additional built up space over and above the permissible limit in lieu of compensation for the surrender of the concerned plot free from all encumbrances to the Planning and Development Authority'.

9.7 Phasing of development

Implementation of the proposed plan will be done in following three phases:

9.7.1 Phase I

Prime importance will be given to the waste managing system of the town.

- Development of Solid waste management system. Covering all the aspects such as awareness, door to door collection, transportation, segregation and then appropriate treatment according to the type of waste.
- Placing dust bins and dumpers wherever required, considering the usefulness and support of the surrounding people.
- Covering of all existing drainage and increasing the carrying capacity (by increasing depth and width) wherever possible.
- Extending the pipelines of waste water till waste water treatment plant.
- Successful operation of the waste management and treatment system
- Connectivity to industrial set up, solid waste management plan plant shall be laid. Here collection and segregation of solid waste will be done and then transferred to treatment plants in Jammu.

9.7.2 Phase II

- Development of the supporting infrastructure, both physical and social infrastructure.
- Services reaching to the residential.
- Industrial set up will be implemented so as to produce, process and trade to ensure economic viability.

9.7.3 Phase III

- The focus will be on the residential developments as per the growing population. Dwelling should be enough so as to accommodate everyone. Not a single homeless person should exist. Vice versa housing should not be constructed more than the

requirement. Threshold population is required for the operation and maintenance of the infrastructure.

9.8 Review & Monitoring of the Master Plan

The proposed Banihal Master Plan shall be revised periodically to make it more relevant and receptive to changing circumstances. The Master Plan is contemplative of a possible development scenario adopted on major assumptions, presumptive growth trajectory and long term vision of a Planner, it is difficult to foresee every change expected to take place over a horizon period of twenty long years. As such, the Master Plan proclaims that "it is not un-changeable in nature, rather piecemeal adjustments and/or re-adjustments shall be incorporated during the implementation of its proposals". It is proposed that a mechanism for monitoring the progress of Master Plan shall be established at appropriate levels by the State Government for which a vibrant and proactive enforcement wing with state-of-the-art technology shall be established in consultation with concerned line department.

9.9 Conclusion

These are some of the highlights of proposed Banihal Master Plan-2034. The town of Banihal and planning villages with rich bio-diversity, requiring environmental conservation, integration with forest land pose a challenge unlike the cities of the main land. It requires careful strategies for its overall development. The planning strategies evolved through this Master Plan and other development plans to be taken up in future should include land not only as a geographical asset but also as a human development asset to the nation. In the process of implementation of recommendations of the Master Plan, some of the features of the land use might change. Thus, it is earnest desire of the planners to evolve Master Plan of Banihal that provides local people a better quality of life, provide living in a sustainable environment, generate livelihood for workforce and provide new identity to the town.