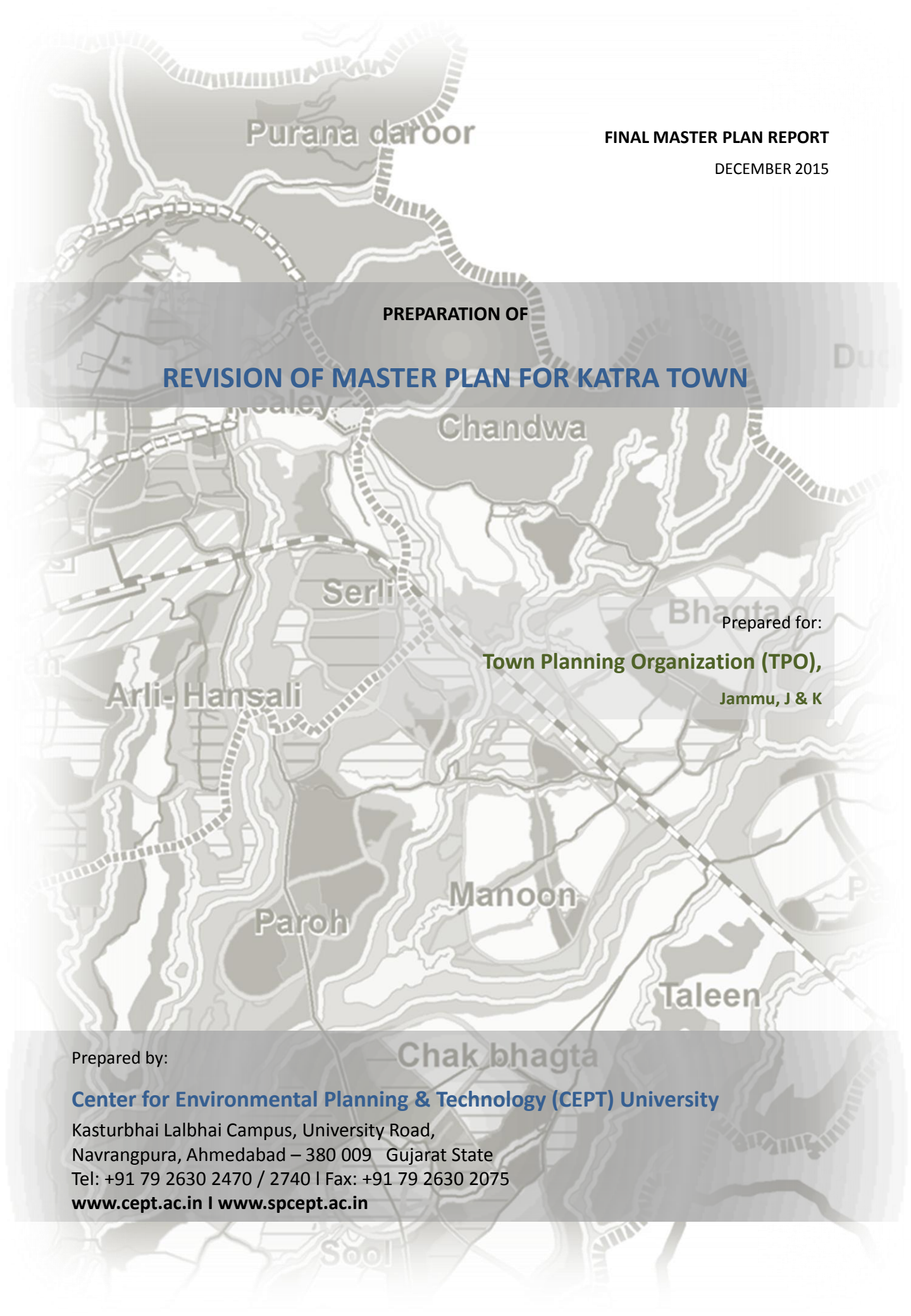

FINAL MASTER PLAN REPORT

DECEMBER 2015

PREPARATION OF

REVISION OF MASTER PLAN FOR KATRA TOWN

Prepared for:

Town Planning Organization (TPO),

Jammu, J & K

Prepared by:

Center for Environmental Planning & Technology (CEPT) University

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ABBREVIATIONS

BRO	Border Roads Organization
CAGR	Compound Annual Growth Rate
CEPT	Centre for Environmental Planning & Technology
CHC	Community Health Center
DCR	Development Control Regulations
GOI	Government of India
ICR	Indian Road Congress
JKTDC	Jammu & Kashmir Tourism Development Corporation
KDA	Katra Development Authority
KMC	Katra Municipal Committee
MSL	Mean Sea Level
NH	National Highway
PCU	Passenger Car Unit
PHED	Public Health and Engineering Department
Pph	Persons per ha
PWD	Public Water Works Department
TPO	Town Planning Organization
UDPFI	Urban Development Plans Formulation and Implementation
WFPR	Work Force Participation Rate
YRC	Yatra Registration Center

PROJECT TEAM

CORE TEAM COMPOSITION

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ACKNOWLEDGEMENT

1 INTRODUCTION

Chapter Contents

- *Need for Master Plan*
- *Legal background for Master Plan (According J&K Act)*
- *Need for the Revision of Existing Master Plan for Katra 2021*
- *Objectives*
- *Scope of Work*
- *Approach and Methodology*
- *Review of Existing Master Plan for Katra 2021*

The introductory chapter presents a brief description of the project background with the need of a Master Plan for an area and its legal background. It also describes the need for revision of the earlier Master Plan for Katra town and the objectives and scope of work. Detail approach and methodology used to carry out the project is also discussed in this chapter.

1.1 Need for Master Plan

Increase in population, expansion of activities and developing economy attracts more population from the surrounding region to the town. Apart from the local residential population, the migrant population demands additional infrastructure and other civic amenities. Hence to protect the town from haphazard and disorganized development, there is a need for a systematic development plan / physical plan considering the town's future growth and other development.

The purpose of the master plan is to set down as clearly and practically as possible the best and most appropriate future development for the town. For physical planning to be successful, it must develop a consensus on sound principles while balancing the visionary with the realistic. The Master Plan results in preserving and enhancing the unique quality of life and culture of the region through various proposals and to guide the Authorityin the performance of its duties in a manner that achieves the principles of smart growth, sound planning, and wise resource protection.

The Master Plan is acomprehensive document identifying the growth areas,in view of the long term requirement of the town. It focuses on, existing infrastructure available, gaps and issues, project service demands and targets to be achieved, plan system and various interventions and subprojects. It is prepared for a period of 20 – 25 years.

1.2 Legal Background for Master Plan

According to the Jammu and Kashmir Development Act, 1970 Act No.XIX of 1970, an Authority shall, as such as may be, carry out a survey and prepare a Master Plan for the Local Area in for which it is constituted.

The master plan shall[1]:-

- Define the various zones into which the Local Area may be divided for the purposes of development and indicate the manner in which the land in each zone is proposed to be used (whether by the carrying out thereon of development or therwise) and the stages by which any such development shall be carried out; and
- Serve as a basic pattern of frame-work within which the zonal development plans of the various zones of the Local Area may be prepared.
- The master plan may provide for any other matter which is necessary for the proper development of the Local Area.

1.3 Need for the Revision of Existing Master Plan for Katra

Huge influx of pilgrim population and subsequent increase in floating, service sector population from 1986 onwards has altered town's scenario. The first Master Plan was made in 2005-2006 for the planned development of Katra for 2021 year. The plan was prepared by the Town Planning Organization *(TPO)*, Jammu in order to take care of future expansion/development of the town and floating pilgrim population. Considering the fact that planning for development of the town cannot be limited within its municipal boundaries, existing master plan for katra 2021 covers the town and surrounding villages. The existing master plan envisaged to meet the changing needs and aspirations

[1] *The Jammu And Kashmir Development Act,1970 Act No.XIX Of 1970*

of the town. It calls for an integrated multi-disciplinary approach towards proper and balanced development of the town. It is expected that by 2021 A.D. pilgrim traffic will cross the mark of about 60,000 persons per day during peak season and about 20,000 per day during lean season. This will create tremendous strains and stresses on existing available infrastructure facilities in the town. However, considering the development potential of Katra, existing master plan does not fulfill the requirements of the town. Need for the revision of existing master plan raised in order to;

- Increase the ability of Katra to absorb future growth of population (natural, pilgrim and floating)
- To enhance the environment, thereby, overall quality of life of residents as well as floating population
- To have directed and planned growth of the town

1.4 Objectives

The main objective of the study is to revise the Existing Master Plan for Katra town 2021. The primary objective of the plan is to develop spatial decision framework, which can support urban and economic growth with adequate infrastructure development, in conformity with existing natural resources, land utilization and ecological aspects. It would cover;

- Preparation of the revised Master Plan for the jurisdiction of KDA, defining the KDA limits in view of future growth.
- Preparation of infrastructure plan (for various sectors such as traffic & transportation, water supply, sewerage & sanitation, housing, heritage & conservation) for comprehensive development.
- Formulation of regulations, and guidelines to control future development, which includes development control regulations, zoning, building byelaws.
- Project implementation strategies along with phasing of development, institutional arrangements, and resource generation model.

Specific objectives of the Master Plan include;

- Enhance Katra as a pilgrimage centre and improve the quality of environment in the town
- Conserve the historic ambiance and the importance of the town
- Develop and promote tourism industry in Katra
- Stimulate the local economy of the town
- Facilitate commercial, industrial, residential, tourism and recreational investments

1.5 Scope of Work

The proposed study will cover areas of KDA as defined and notified under the Act. The scope of work for revision of Katra Master Plan will cover the following.

- To identify the gaps/ incongruities between the actual land use and existing Master Plan proposals

- To identify the systematic and methodological deficiencies in implementation and preparation of Master Plan
- To prepare the Revised Draft Master Plan for Katra

1.6 Approach & Methodology

Approach towards the study will be comprehensive in nature. Increase in population, high inflow of tourist/pilgrimage population, floating population and rapid spatial expansion of the town, increase in demand for land, lack of implementation of existing master plan calls for its planned, sustainable and efficient growth and an adoption of certain principles, approaches which are broadly outlined as below;

- To provide rural-urban continuum in the extended jurisdiction of KDA area.
- Re-allocation and zoning of land use as per changing circumstances in the extended jurisdiction.
- Economic and functional integration of extended jurisdiction with the core of the town.
- Formulating developmental strategy, regulations for the area, which justifies the spatial organization model.
- Conservation and management of highly eco-sensitive zones and natural drains.
- Upgrading infrastructure and public amenities, to maintain quality of life.

The above-mentioned principals define the methodology and activity structure for preparation of Revised Master Plan for KDA.

Methodology

This section outlines the methodology and corresponding activity structure adopted for preparation of Revised Master Plan for Katra town. Methodology seeks out the planning process followed preparing the master plan for the project/planning area. The stages are elaborated and explained in sequential steps. Majorly identified stages are as below;

Stage 1: Project Initiation

Project initiation is an initial/first phase, which involves an understanding and conceptualization of project area with the consensus of concerned authority. It involves finalizing work plan, methodology, mobilization of team, familiarization with the project area and identification of relevant documents/data required for the study.

- Project Team Mobilization
- Understanding & Conceptualization of Project Area
- Reconnaissance Survey
- Finalization of Methodology & Work Plan
- Base line profile of the Study Area
- Study of previous planning initiatives for the project area
- Study of relevant policies/laws/legislative framework

Stage 2: Base Map Preparation & Data Collection

This stage consists of mainly two tasks. 1) Data collection *(demographic, socio-economic, infrastructure and social amenities, traffic & transportation, housing, environment).* 2) Preparation of updated Base Map *(in terms of mapping of natural, physical & administrative features).*

2a. Data / Information Collection

- Procurement of Toposheets, Satellite image, & other maps relevant to study area
- Collection of previous master plan and development control regulations
- Existing land use and built form
- Demographic, Socio-economic parameters
- Tourists inflow population, Migrant and Floating population
- Status of existing Physical Infrastructure Services and Social amenities
- Traffic and Transportation
- Government land, Surplus vacant land
- Building permissions approved
- Open and green spaces
- Data pertaining to Environmental Quality
- Data related to Institutional structure and Financial status of local body
- Proposals of earlier Master Plan

2b. Regional Profile

2c. Updating Base Map

- Extracting key features- Administrative boundaries, Natural features like rivers, ponds and major transportation linkages- from the relevant maps procure from TPO, Jammu, District Census Handbook and Topo-sheets
- Indentifying the longitude and latitude of the project area
- Geo-referencing the area
- Generating contour
- Correlating the map with satellite image
- Procurement, digitization and cadastral correlation of city survey maps/revenue maps for villages
- Updating and classifying natural features
- Updating and classifying transportation linkages – roads, railway
- Digitizing the built – up profile based on the image
- Digitizing and classifying land cover features- agriculture land, scrub land, vacant land
- Incorporating details of trunk network of water supply, main power transmission lines, based on data procured from respective authorities

2d. Preparation of Thematic Maps

- Demographic & Socio-Economic profile maps
- Existing amenities

- Property & land pricing
- Open and built up spaces
- Green spaces
- Environmentally / Eco-sensitive areas

Stage 3: Existing Land use Map & Existing situation analysis

Information on spatial spread and dynamics of land use is the basic prerequisite for planning and implementing various developmental activities. Land use is essentially the purpose for which land and its resources are employed; for example, farming, mining, or other developmental activities. Land use analysis will be the part of this stage. The main emphasis is to evaluate land uses and degradations related to it. Formulation of land utilization model for its optimal utilization is based on land capability classification. Land use distribution in the urban centre will figure out; the focus will be on determining the direction and extent of spatial expansion of the area. This part will also cover the transformation of land use, depletion of open space and green vegetation and increase in built up area. Land suitability analysis and land potential analysis carried out to find out potential areas for development and conservation zones in the region.

Existing situation analysis will be done based on primary & secondary data collected from relevant sources and primary surveys to identify peculiar strength and weakness of the area. Analysis of information collected for various sectors done in this section. Existing status of various parameters and their relation to other parameters will be studied, and stress areas and issues of concern will be identified. The major focus of this particular task is to carry out SWOT analysis of the study region with conformity to develop a vision statement. Stakeholder consultations with residents, client, other departments, Parastatal bodies, local NGO's also shall be done to strengthen the visioning process.

3a. Existing Land use Map

- Existing land use survey, prepared based on primary survey, all built up, and undeveloped land will be classified into various categories as per its present use.
- Physical features include major roads, other roads, state highway, railway, tanks and bridges
- Natural features include rivers, pond, lake, nallah, hill, forest and other features
- Land cover include fallow land, brick kiln, plantation, open scrub, tree cover, open with tree cover, agriculture net sown, wet land, agriculture plantation
- Built up includes, residential, hospital, commercial, hotel, mixed use, community center, co-operative society, education institutions, parking, fire station, petrol pump, bank, public toilet, religious, govt. buildings, graveyard.

3b. Existing Situation Analysis

- Analysis of demographic trends
- Analysis of population growth rate, literacy rate, sex ratio and migration trend
- Population forecasting
- Economic status of the area
- Employment rate, Occupational structure

- Analysis of physical infrastructure which include; water supply, sanitation, sewerage, solid waste management, street lighting, electricity, storm water drains
- Traffic and Transportation
- Analysis of Social Amenities such as schools, other educational institutions, health institutions, communication facilities
- Analysis of housing stock
- Analysis of disaster prone areas and conservation zones
- Analysis of urban environment
- Land potential analysis
- SWOT analysis

Stage 4: Visioning Statement & Draft Master Plan

The Visioning exercise will give the broad picture, featuring the characteristics of an inclusive urban system with the infrastructure services and facilities for the population. The exercise shall be undertaken in consultation with stakeholders through consultations and is expected to reflect potential of area, unique attributes and the values, perspective and priorities of stakeholder's with respect to future development. All strategies and programmes under the Master Plan shall align with the vision statement. The formulation of Development Objectives is a critical task, which will draw upon previous tasks such as existing situation analysis, visioning and stakeholder consultations. Development objectives shall be defined at this juncture informed by all the above analysis /interactions and shall be the guiding principles for preparation of Master Plan proposals.

Proposed Development Control Regulation *(DCR)* will define by incorporating the existing legislation and DCRs. These regulations will be the standards for defining the broad land uses and will provide by-laws for the defined zones. These are the basic tools for implementation and enforcement of master plan within the frame of proposed land use with the intention of achieving orderly growth and development of the area. This will help in controlling the density as well as land use in ensuring standards provided for the future expansion in each zone in an appropriate manner.

4a. Visioning Process, Future Projections & Draft Master Plan

- Forecasting and posing alternative development strategies
- Future projections (population, floating population, tourist population, employment, migration)
- Estimation of gross land requirement for future urban use
- Formulation of alternative development strategies
- Proposed land use zoning, spatial planning norms and standards
- Location of major activity nodes of future activity hub
- Land use statement
- Proposed land use map
- Proposed major road and transport network
- Spatial distribution of social facilities and amenities
- Infrastructure proposal
- Proposed policies and strategies

4b. Draft Development Control Regulations

- Land development strategies
- Project implementation strategy
- Phasing of development
- Proposed institutional structure

Stage 5: Final Master Plan & Development Control Regulations

The Draft Master Plan consisting of statutory maps and regulations, specifying the list of reserved land for public usage will be put in front of concerned authorities, stakeholders for inviting comments & suggestions. The suggestions received shall be incorporated to the extent feasible in the Draft Master Plan, resulting in preparation of the Final Master Plan.

- Final land use plan with revised road network, basic infrastructure, amenities and facilities distribution and conservation zones
- Reviewing proposed DCRs and revising it based on comments and suggestions
- Project Implementation Strategy wherein identifying methodology for implementations of public reservations such as roads, open spaces and other social & public utilities
- Revenue Generation: Identifying feasibility of innovative tools for resources generation and development and maintenance of public services
- Implementation strategy, phasing and institutional arrangements

Stage 1, 2 & 3 are carried out simultaneously/parallely in the process of preparing master plan.

1.7 Review Of Existing Master Plan 2021

This Section reviews the existing Master Plan Katra 2021 AD. prepared for Katra town and out growth areas by the Town Planning Organization, Jammu. The review further substantiates the need for the revision of existing master plan for the KDA area.

Master Plan Katra 2021 A.D.

The Master Plan was prepared for Katra town and its extended area. It was made in 2005-06, due to larger intervention made by the Government, such as putting up Katra on a railway map which would alter the entire development scenario of the town. The plan was proposed to take care of town's future expansions, floating and pilgrim population, and address issues such as housing, transport, water supply, sanitation, drainage, environment etc. It advocates for the optimum land utilization for various activities, provision of adequate circulation facilities, and improvement in connectivity of the town at a regional level, provision of good health and hygiene, and self sustained organized growth of the town. The plan has covered various aspects such as existing situation analysis, population projections, land use, urban land policy, zoning regulation and bye laws. It was prepared for the year 2021, covering approximately 1102 Ha *(11.02 sq.km.)* area. The entire area is divided into 3 divisions; Planning division A, Planning division B & Planning division C. The plan has considered physical features as its master plan / site area boundary.

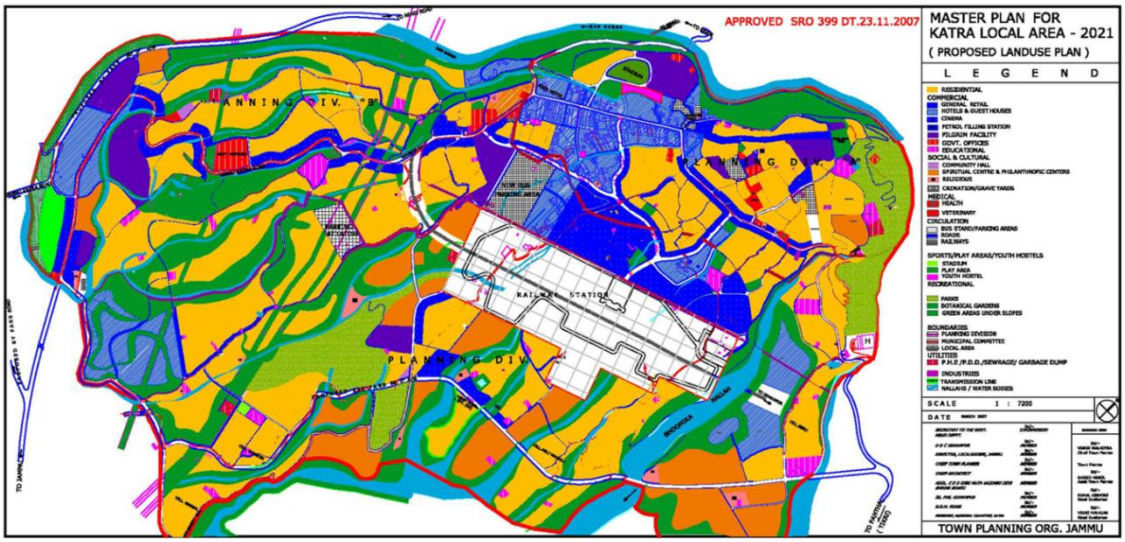
Table 1-1: Planning Divisions in the Existing Master Plan 2021

Planning Division	Area		Locations
	Sq.km.	Ha	
A	3.21	321.32	Village Katra from Banganga on North to railway land boundary on South, Shakerachary hills on East to Railway line on West near Hotel Asia
B	2.73	272.60	Villages on West of Railway line on North up to Banganga nallah, on South up to police check post at Nomain and on East up to Latori road
C	4.99	498.57	From the Northern boundary of railway land in the South of the Planning division A, extending towards South in village Dhanor, in East up to Bhoomika nallah and meeting other nallah in village Hansali on South and on West up to boundary of Planning division B, along Latori nallah flowing North to South
TOTAL	**10.92**	**1092.49**	

Source: Existing Master Plan Katra 2021 A.D. report

There is discrepancy regarding villages included in the master plan and villages notified under KDA. Present plan boundary is extended up to Latori and Dhanori villages, which are not a part of notified villages, wherein Purana daroor and Nelay villages are excluded.

Map 1-1: Existing Notified Master Plan for Katra



Source: Existing Master Plan Katra 2021 A.D., TPO, Jammu

Total area of the master plan, as per document is 1092 ha*(10.92 sq.km.)* whereas area extracted from master plan drawing is 1102 ha *(11.02 sq.km.).*This again mismatches with the total area as per census information *(which is 2535 ha (25.35 sq.km); including Katra town and 6 notified villages)*.

Table 1-2: Land use Proposal – Existing Notified Master Plan Katra 2021 A.D.

Land use Categories	Planning Division A		Planning Division B		Planning Division C		TOTAL	
	Area (Ha)	% of Total	Area (Ha)	% of Total	Area (Ha)	% of Total	Area (Ha)	% of Total
Residential	98.16	30.55	127.69	46.84	219.61	44.05	445.46	42.13
Pilgrim facilities	12.20	3.80	14.06	5.16	-	-	26.26	2.49
Commercial	72.05	22.42	16.50	6.05	27.01	5.42	115.56	10.93
Govt. Offices	2.93	0.91	3.28	1.20	0.30	0.06	6.52	0.62
Public/Semi-Public								
a. Educational	5.98	1.86	4.05	1.48	4.69	0.94	14.72	1.39
b. Medical	0.57	0.18	-	-	-	-	0.57	0.05
Social, Cultural & Spiritual	9.79	3.05	6.03	2.21	69.15	13.87	84.97	8.04
Recreational	32.90	10.24	8.90	3.27	12.39	2.49	54.19	5.12
Utilities	2.31	0.72	0.81	0.30	5.67	1.14	8.78	0.83
Circulation								
a. Bus stand parking	58.24	18.13	28.13	10.32	114.16	22.90	200.53	18.96
b. Roads								
c. Railway								
Sports/Play areas/Youth Hostel	2.71	0.84	0.81	0.30	0.47	0.09	3.99	0.38
TOTAL A	**297.84**	**92.70**	**210.26**	**77.13**	**453.45**	**90.95**	**961.55**	**90.93**
Open Area								
a. Green areas under transmission lines	-	-	2.43	0.89	10.32	2.07	12.75	1.17
b. Green areas under slopes	20.23	6.30	20.38	7.48	7.20	1.44	47.81	4.38
c. Green belt	-	-	27.11	9.95	5.67	1.14	32.78	3.00
d. Nallahs/water bodies	3.23	1.01	12.42	4.55	21.49	4.40	37.59	3.44
TOTAL B	**23.46**	**7.30**	**62.34**	**22.87**	**45.12**	**9.05**	**130.92**	**11.98**
GRAND TOTAL	**321.31**	**100**	**272.60**	**100**	**498.57**	**100**	**1092.48**	**100**

Source: Existing Master Plan Katra 2021 A.D. report

Of total area, plan proposes 90.93 percent land area as developable area while only 11.98 percent is under open /green and conservation area, hence this much land is not available for development. Of total developable area, large percentage of land area is demarcated for residential purpose followed by circulation *(bus stand parking, roads, and railway)* and commercial heads *(i.e. general business, hotels, guest house)*. Very less percentage of area is devoted for open spaces, recreational facilities,

and public utilities. Variations can be seen in population and population density distribution across planning divisions.

Table 1-3: Density distribution as per existing master plan

Details	Planning Divisions		
	A	B	C
Proposed Gross Residential area density (pph)	185-371	124-185	124
Population to be accommodated	20,400	15,776	14,434

Source: Existing Master Plan Katra 2021 A.D. report

Different level of amenities, services, facilities, and utilities are proposed in each planning divisions as mentioned below.

Different Proposal under Planning Divisions		
A	**B**	**C**
Pilgrim facility includes dharamshalas, dormitories	Pilgrim facility includes dharamshalas, dormitories, philanthropic establishments	Spiritual centre
Commercial area includes area under general retail, hotels, guest house, cinema and petrol filling station	Commercial area includes area under general retail, hotels, guest house, and petrol filling station	Commercial area includes area under general retail, hotels, guest house, and petrol filling station
Establishment of 7 nursery schools and 5 primary school	Govt. Offices include establishment of a permanent check post, a police chowki, and other need based office	Provision of 1 higher secondary school, 1 high school, 5 primary level school and 14 nursery school
Socio-cultural use includes community hall, spiritual centre, religious and cremation ghat/grave yard	Provision of 1 higher secondary school, 6 nursery school and 4 primary school 1 school for handicapped	Socio-cultural use includes community hall, spiritual centre, and religious
Area under railway line, bus parking and approach road to bus stand	Socio-cultural use includes community hall, spiritual centre, and under religious use	Area under railway line, bus parking and approach road to bus stand
Sports/Play areas/Youth Hostel category includes stadium, and a youth hostel	Area under railway line, bus parking and approach road to bus stand	Recreational facilities
Botanical garden	Parks	
Under public utilities includes sump tanks, reservoirs, filtration plants by PHE dept. and electric receiving station	Under public utilities includes water tanks by PHE dept, electric sub-station by PDD	Under public utilities includes sewage treatment plant

Source: Existing Master Plan Katra 2021 A.D. report

The plan has proposed 80ft. *(24.38 m.)* Right of Way bye pass road of 4.6 km*(4600 m)* length, from Nomain check post running along western slopes, towards North, meeting on Reasi road, ahead of Hotel Asia. It envisaged that this road would help in further decongestion of traffic on existing roads. Similarly, a bye-pass road from Tikri road *(east of Bhoomika nalla)* up to Nomain point running through south of railway station is also proposed in the Master Plan. However, master plan mentioned about detailed survey for this proposals at the time of implementation of the same. The plan has also suggested other measures such as increase in road width, banning entry of heavy vehicles entering into the town. There are loose ends in the implementation of master plan due to numerous reasons such as land acquisition, as most of the land is under private ownership in Katra. Till date *(in last 4 years)*, only 2 or 3 major proposals of themaster plan have been undertaken for implementation *(including railway station, stadium, and bus stand)*[2]. The plan has broadly outlined the guidelines for land use, policy measures for management of land use, zoning regulations, land-pooling system. However, it has not mentioned any substantial measures/strategies for its implementation and put in place adequate emphasis on institutional, funding, and other issues.

The master plan proposes very high density of 135-137/pph considering the local topography, having undulating terrain, slopes and other natural features. Such high density is neither feasible nor advisable. Katra has emerged as a town of prominence for religious tourism. It is necessary for the town to be prepared not only for the local residents, but also for the pilgrim whose average per day population is more than the number local residents.

[2] *As discussed with CEO, KDA.*

2 NOTIFIED AREA PROFILE

Chapter Contents

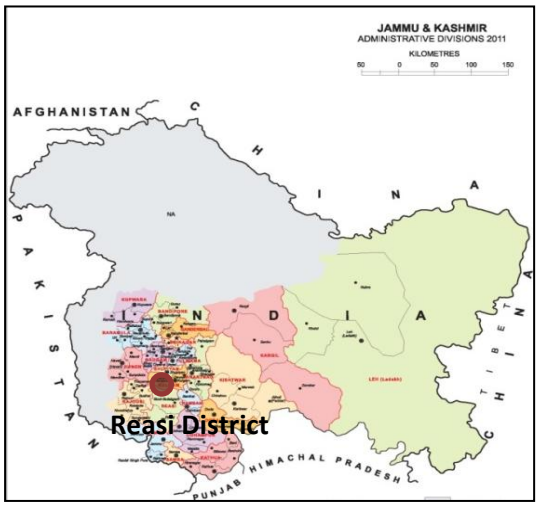
- *Location of the town in its Regional Context, Regional Resources*
- *Local Area (Planning Area) of the Master Plan*
- *Topography, soil, climate and rainfall*
- *Physical pattern of growth, urban landscape, built up environment*
- *Natural and cultural heritage resources existing in the Local area*

The introductory chapter presents a brief description of the project background with the regional location of the town. It also describes in brief bout the Katra town and KDA villages with its topographical and climate information. The physical growth pattern of the town and natural and cultural heritage resources is also discussed.

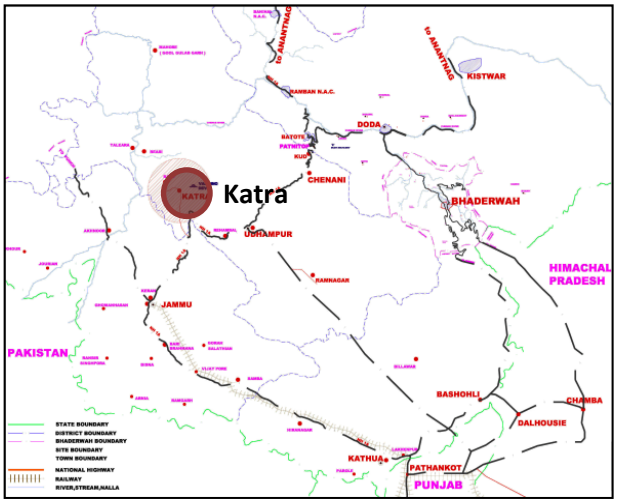
2.1 Location of the Town in its Regional Context

Katra, the base camp for the pilgrimage to Shree Mata Vaishno Devi Ji, lies at an attitude of914.4 m *(3000 feet)*above MSL and is located at the foothills of sub Himalayan ranges, known as Shivalik hills. The town comprises of villages Katra, Arli Hansali, Purana Daroor and Kundorian.

Map 2-2: Location of Districts in J&K



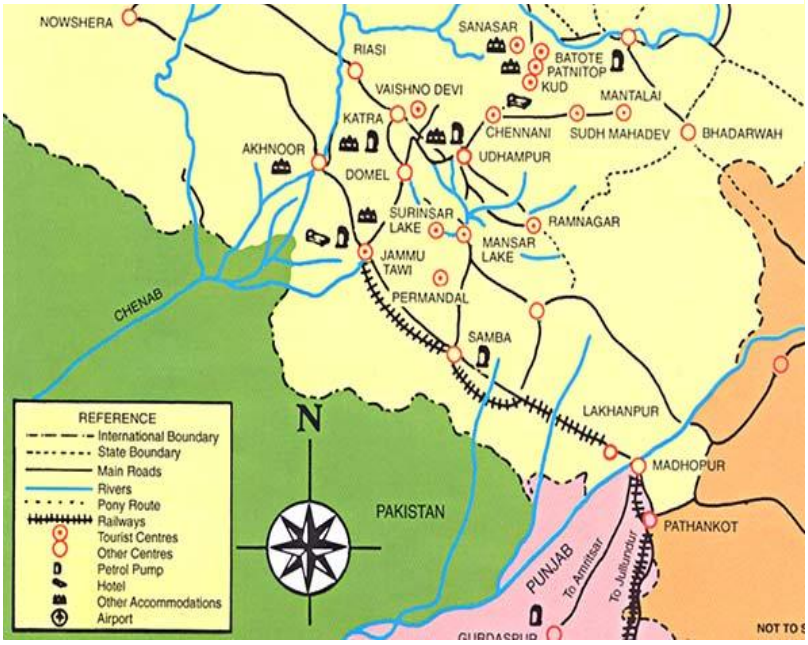
Map 2-1: Location of Katra in regional Context



Katra town is located 635 Kms towards North –west of the National Capital on National Highway IA and is about 50 Kms from the states' winter capital Jammu, which at present is connected by rail and the air with the rest of the country.

Katra town has a good linkage with the district Head- quarter town of Udhampur by 18Kms. Katra-Panthal National Highway IA at Tikri And about 22 Kms from Tikri to Udhampur. It is also linked with Reasi and thereafter with Rajouri and Poonch Districts via Pamla by a road maintained by Border Roads Organization (BRO). The town of Katra lies at 32'-59' Latitude and 74'-55' longitude.

Figure 2-1: Lineages for Katra Town



2.2 Local Areas (Planning area) of the Master Plan

The study area comprises of Katra town *(i.e. Katra Municipal Committee)* plus notified area under Katra Development Authority *(KDA)*.

2.2.1 Katra Town (Katra Municipal Committee)

Existing town is spread over an area of approximately 400 ha *(4 sq.km)*[3], which was 162 ha*(1.62 sq.km.)* in 1971. The town was just a village about 50 years ago where the residential structures spread around a linear pedestrian bazaar. It witnessed a very slow growth, as it is evident from the census records of 1911 up to 1961 A.D. This settlement started spreading linearly after 1951 and the expansion occurred along Katra - Domail Road and Katra - Panthal Road. With the influx of pilgrimage population and overall development, Katra has gradually extended towards the surrounding villages. Since the town, being the base camp for pilgrimage, the state government took an initiative to get a town-planning scheme prepared for the town limits for developing the town in an organized manner. The State Government brought Katra town under the provisions of the State Town Planning Act, 1963 notified Katra town vide SRO 376 dated 18th August 1975 and constituted a Development Board for the preparation of a Town Planning Scheme for 164 ha. *(1.64 sq.km.)* land, of which only 31 ha *(0.31 sq.km.)* land was developed. There are 7 wards in the town as per 2001 census however as per the latest information provided by Katra Municipal Committee (KMC) there are now 13 wards in the town.

2.2.2 Katra Development Authority Area

KDA is the entitled development authority to carry out planning and development work in area of its jurisdiction. The State Government also notified Katra town under the provisions of State Development Act of 1970 and constituted a Development Authority for preparation and implementation of Master Plan.Total area of the Master Plan 2021, as per document is 1092 ha *(10.92 sq.km.)* whereas area extracted from master plan drawing is 11.02 sq.km. This again mismatches with the total area as per census information *(which is 2535 ha (25.35 sq.km); including Katra town and 6 notified villages)*. As per census, the area of Katra town and villages in Master Plan 2021 is 535 ha *(5.35 sq.km.)* and 2088 ha *(20.88 sq.km)* respectively.

Table 2-1 List of villages in notified Katra Master Plan - 2021

Sr. No.	Village Name
1	Kun Daroorian
2	Kotli Bajialan
3	Purana Daroorh
4	Arli Hansali
5	Serli
6	Nelay

Source: Master Plan Katra 2021 A.D., Village Amenities and Directory, Census 2001

Table 2-2: Details of villages notified under KDA

Sr. No.	Village Name	Area	
		Sq.km.	Status
1	Kun Daroorian	3.71	Part
2	Kotli Bajialan	2.21	Part
3	Purana Daroorh	0.18	Part
4	Arli Hansali	1.35	Part
5	Serli	0.57	Full
6	Nelay	0.26	Full
7	Latori	1.08	Full
8	Dhanori	0.65	Full
9	Katra	0.85	Full
TOTAL		**10.9**	

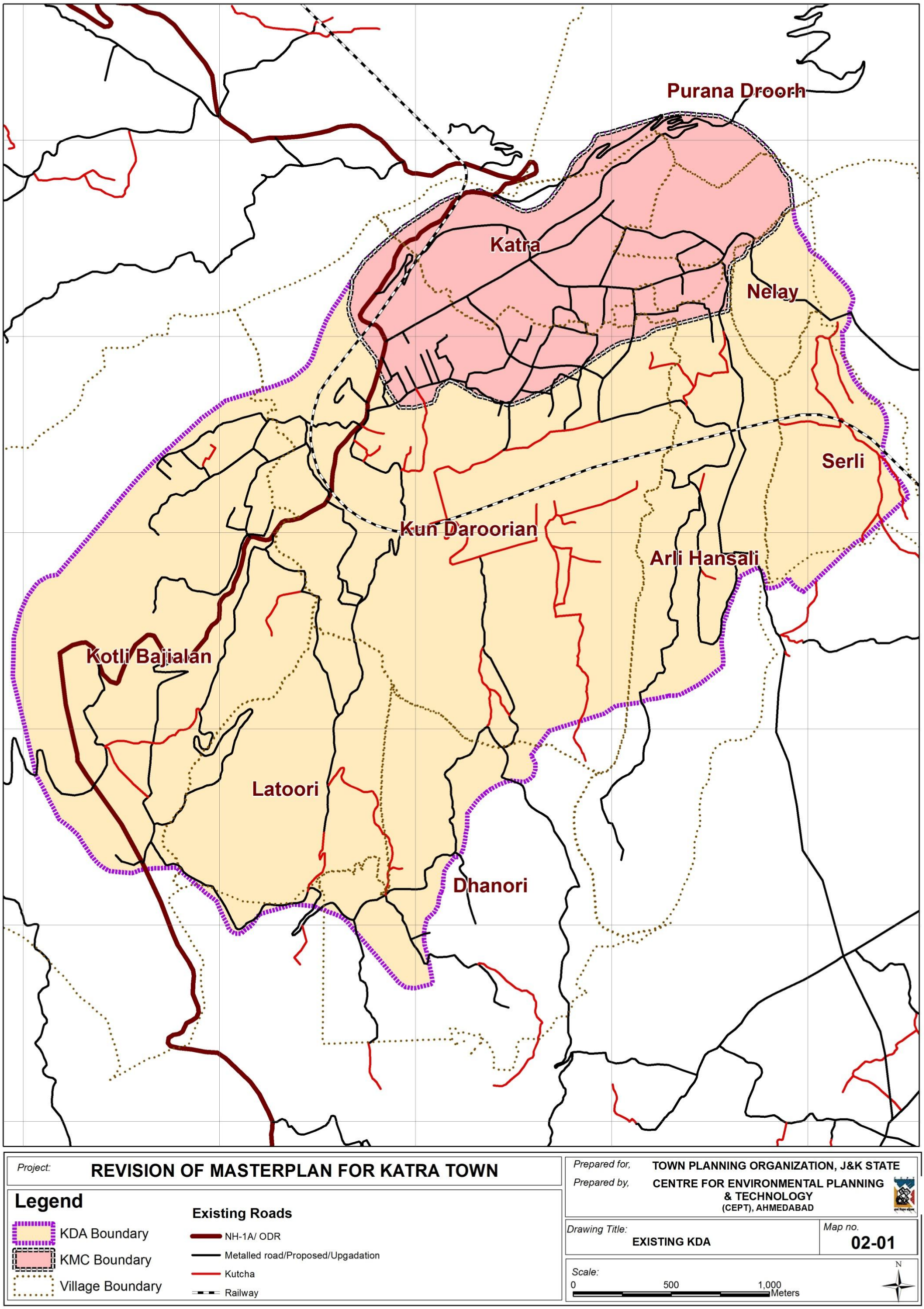
Source: Revenue maps, and toposheet

Presently, KDA area is around 2535 ha *(25.35 sq.km.)* which includes six villages as shown in above table and Katra town. Taking into consideration the growth trends and future requirements of the region, various alternatives were considered before finalizing the new jurisdiction of KDA. Map 2-1 shows the existing Master Plan boundary for KDA.

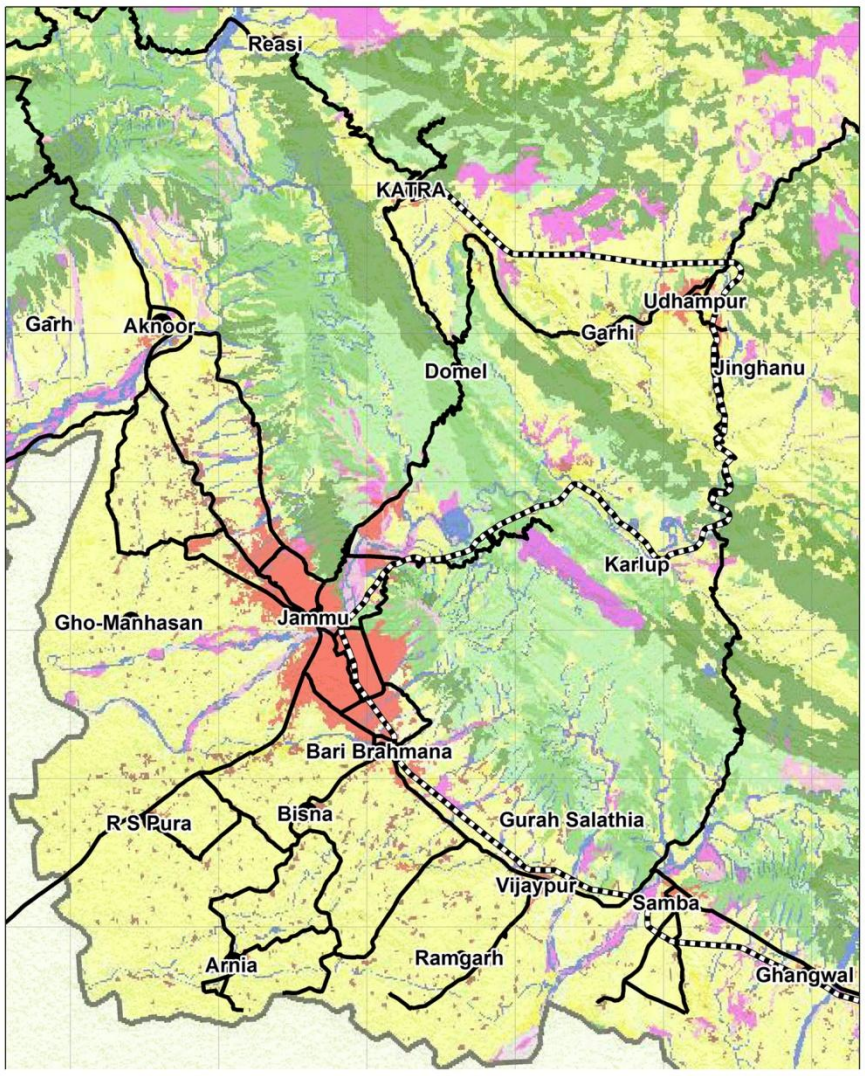
Considering the growth in pilgrim population and as per discussion with the authority, new villages are added under new Katra Development Authority area.

There are various villages having potential urbanizable areas which would otherwise be left outside KDA area and would have eventually resulted in haphazard development. Hence, those villages would be considered in proposed KDA boundary.

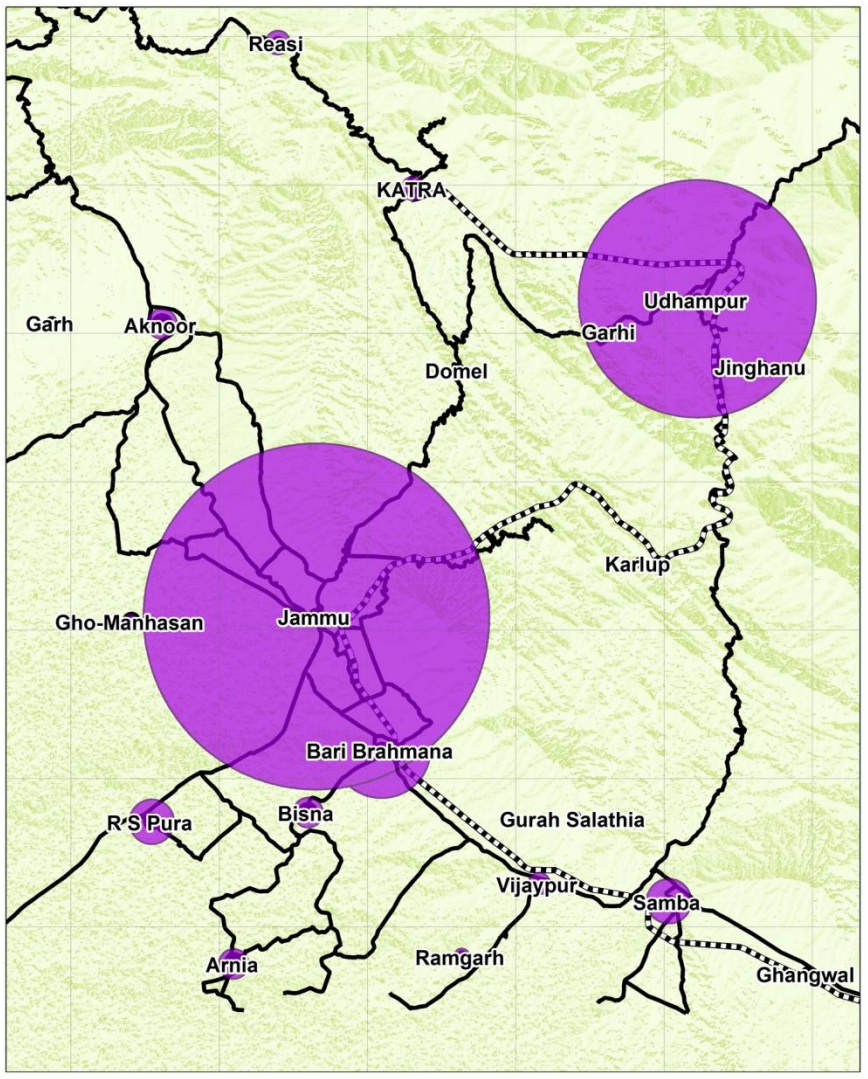
Map 2-3: Map Showing Jurisdiction of Katra town and Existing KDA Boundary



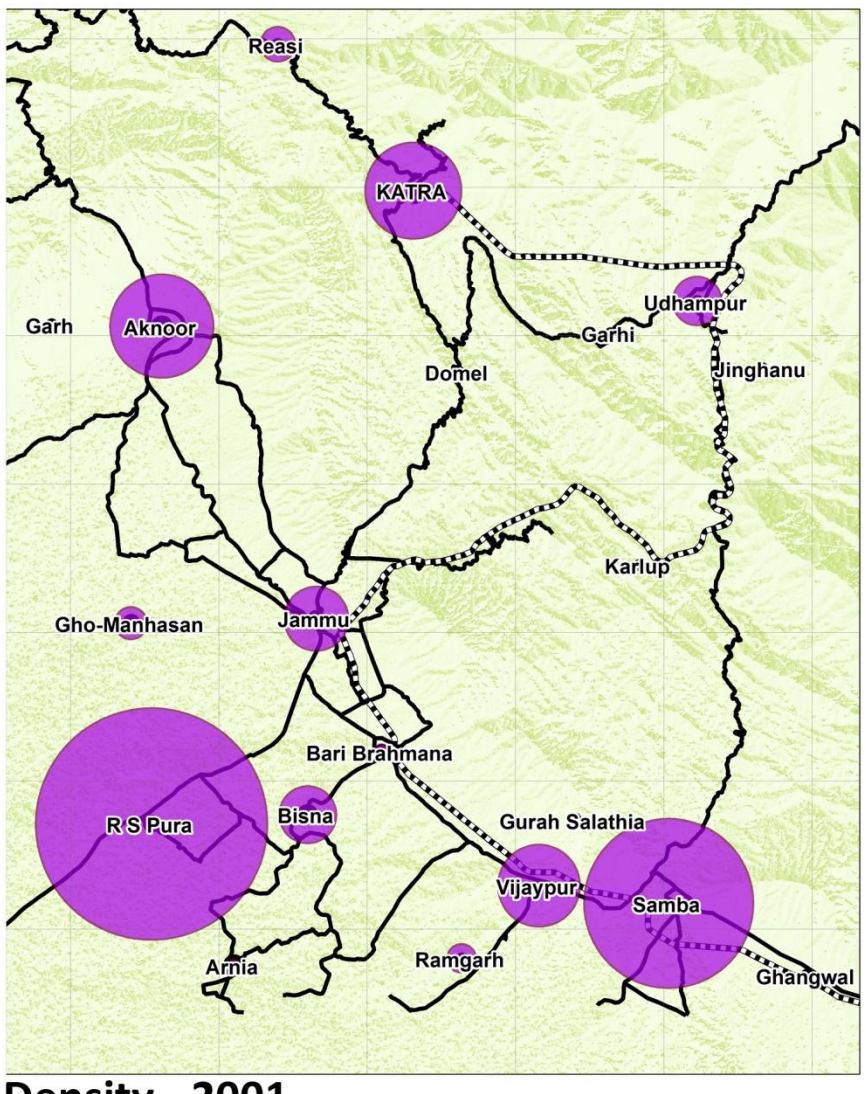
MAP 2-4 Katra Regional Pofile



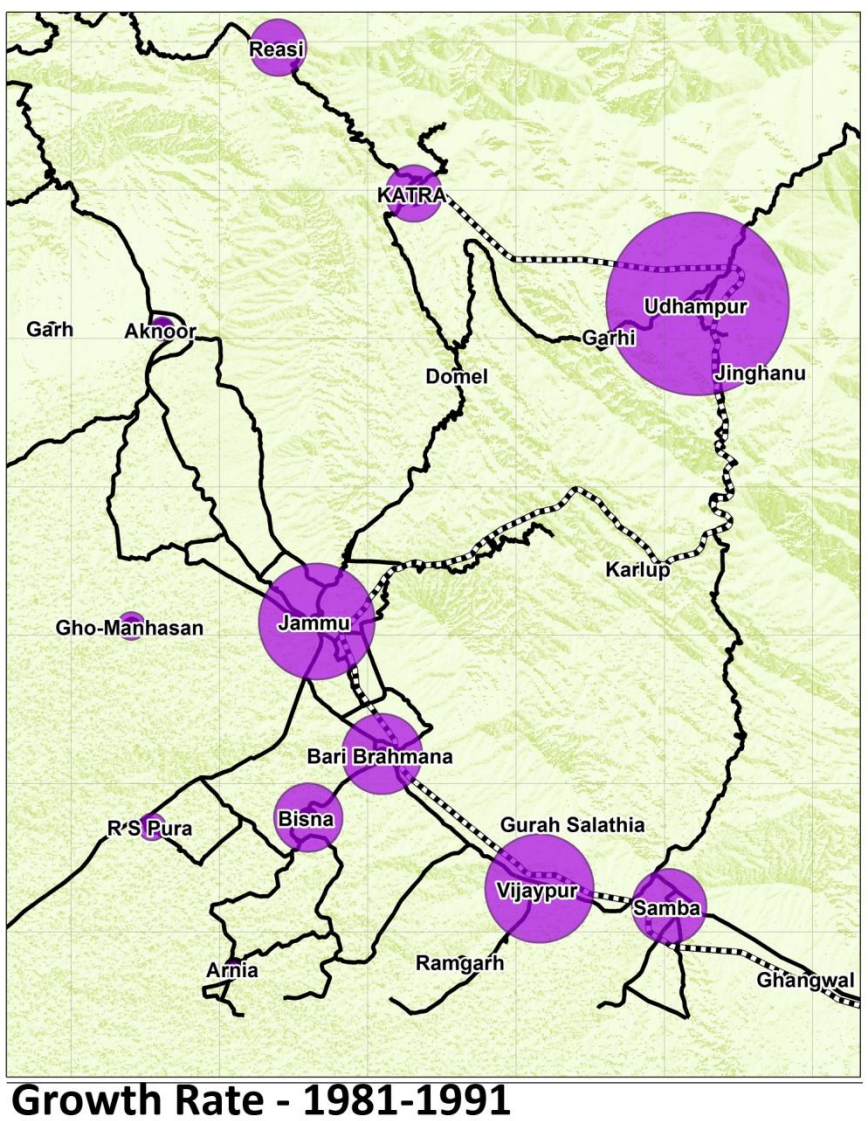
Regional Road and Railway connectivity



Population - 2001



Density - 2001



Growth Rate - 1981-1991

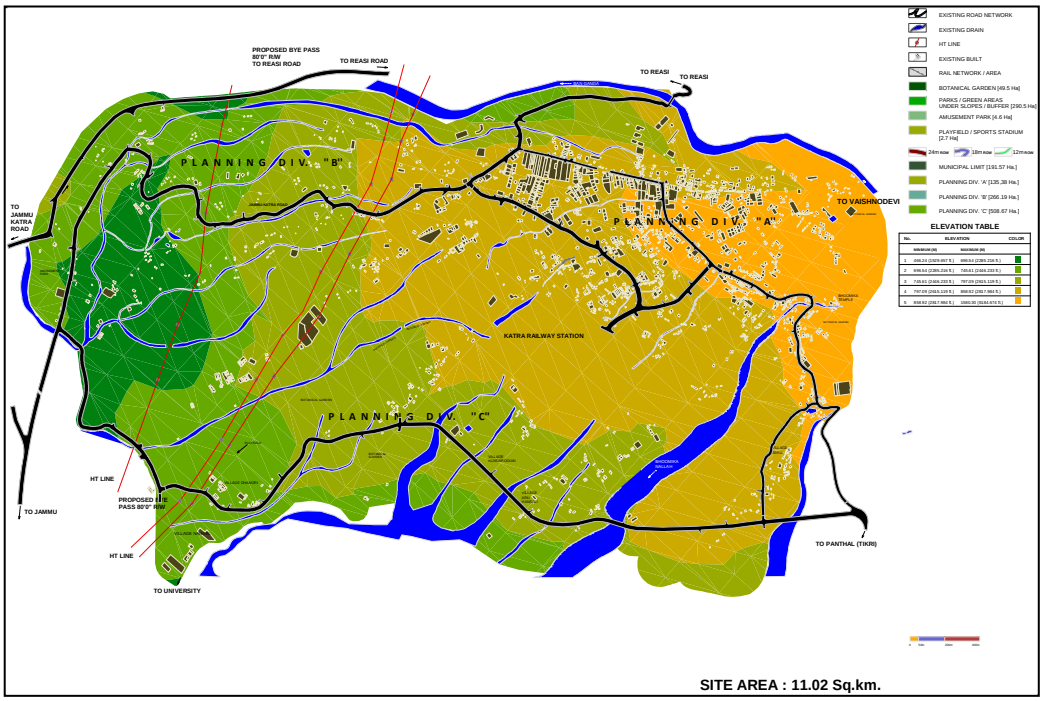
Project: **REVISION OF MASTERPLAN FOR KATRA TOWN**	Prepared for, **TOWN PLANNING ORGANIZATION, J&K STATE** Prepared by, **CENTRE FOR ENVIRONMENTAL PLANNING & TECHNOLOGY (CEPT), AHMEDABAD**
	Drawing Title: **KATRA REGIONAL PROFILE** — Map no. **02-02**
	Scale: 0 2,500 5,000 10,000 15,000 Meters

2.3 Topography, Soil, Rainfall, Climate

2.3.1 Topography

Contours for the town are generated by extracting elevation data from Google Earth. In the absence of topography survey map, the above method is adopted to understand the geography of the town. Katra has an average elevation of 754 meters*(2,474 feet)*.The town slopes from northeast corner to the south-west corner with an approximate drop of 400 m.

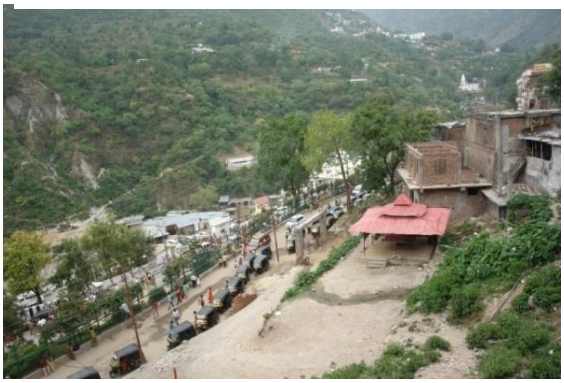
Map 2-5 : Elevation Map



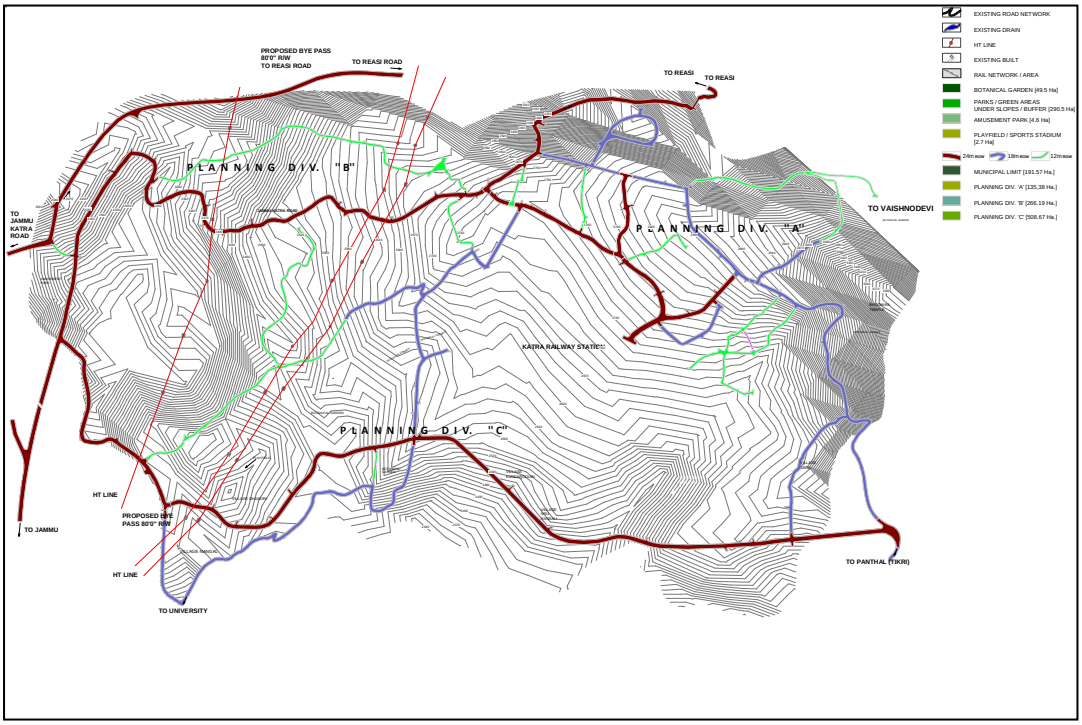
The site is characterized with undulating terrain, vegetation cover, water drains and steep slopes. Banganga River runs northeast to south-west to the north of the site and Bhoomika Nalla north to south along the eastern part of the site. The water channels are preserved from developable area. A 30 mt. buffer runs along the width of the water body overlapping with the steep slopes, which are non-developable.

Picture 2-1: Banganga check post

Picture 2-2: Undulating Terrain



Map 2-6 : Contour Map



Map 2-7: Slope Analysis

The contour map presented above is 10 feet *(3.048 m)* major interval with minor interval of 2 feet *(0.6096 m)*. The northern part of Planning Division 'A' is a hilly terrain towards Vaishno Devi temple.

The central region around the railway station is relatively flat land. Steep slopes are observed around the water drains.

2.3.2 The rainfall

The rainfall is through South-west monsoon, which lasts from July to September. The rains usually break in the first week of July and the maximum rainfall occurs during month of July, August and middle of September. During the remaining period, it is sporadic and scanty. The average annual rainfall varies between 120 cms to 180 cms. In the year of 1981 rainfall recorded was 2146 mm (as per census record). The higher reaches of Trikuta Hills enroute of Holy cave such as Chanji Chatt and Vaishno Devi Ji Darbar get about 4'and 1' snowfall respectively, in winter month. However in 2002 winter, Katra also experienced a very light snowfall (about 1"to 2").

2.3.3 Climate

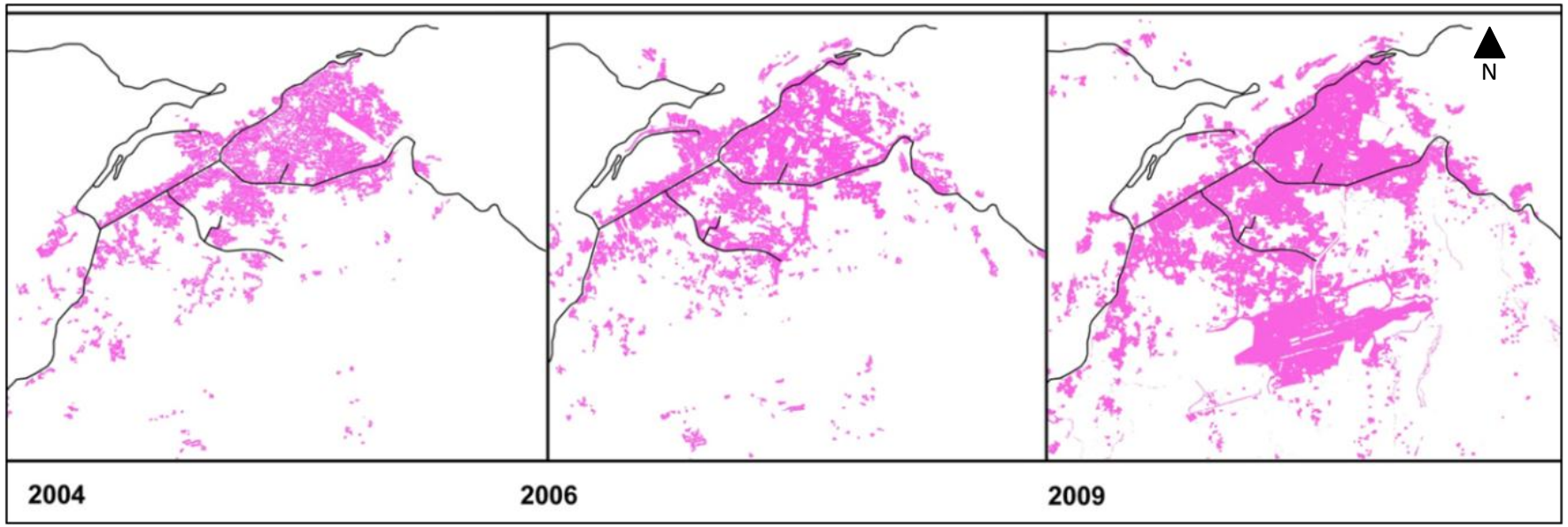
The climate of Katra is affected by the Shivalik Hills. Winter season, starts mostly from mid October and the average day temperature ranges between 20^{o} to 25^{o} C and the lowest to 3^{o}C. The summer season starts from April every year, when the day temperature varies between 30^{o} to 40^{o} C. The highest percentage of relative humidity is recorded during the rainy season of July and August.

2.4 Physical Pattern of Growth

Katra has evolved and grown since last 50 years as a town in a linear structure wherein most of the development has happened along main pedestrian bazaar. The town is vibrant in itself because of numerous activities due to Mata Vaishno Shrine. The general slope of the town is from north to south and from east to west.

Predominant land uses in the town are of residential, commercial, pilgrim accommodation and institutional. The town is oriented along a north-west access connecting the Jammu road (national highway), on north and north-west runs the sacred Banganga river and on south and south-west runs Bhoomika nalla. Most of the development has occurred along Jammu road only, as Banganga River poses constraints towards development along Reasi road. Mountains and undulating terrain poses constraints towards Panthal-Udhampur road. Development of the town is largely influenced by the holy shrine. Most of the development has occurred along Katra-Domail and Katra-Panthal road. As revealed during primary survey, most of the development has happened along these roads and it is mostly commercial in nature. It includes general and retail shop, souvenir shop, restaurants, dhabas, hotels, guesthouses. The unprecedented rise in pilgrim visiting holy shrine resulted in unplanned growth of hotels, guesthouses, dharmshalas, and shops to cater the heavy rush, which would halt at Katra during peak days because of limited clearance capacity of the holy cave. Due to this scenario, few residential houses also converted into guesthouses and hotels along Katra-Domail road, in main town centre, Uppar bazaar area and along Panthal road.

Figure 2-2: Katra Spatial Growth Pattern



Spatial pattern of Katra town consists of the old part with congested, 2 to 4 storied houses closely knit and approachable by narrow lanes. High-density development can be seen in this part of the town without proper infrastructure. In new parts, far from the main town centre wherein plotted development can be observed. The commercial development has mainly happened near existing petrol pump on Domail-Katra road and extending along hotel Asia road up to the entry of main bazaar and extending up to chinta mani temple complex. There are shops located along the road from old bus stand up to Darshani Darwaza and along Panthal road up to existing veterinary hospital. Unprecedented growth has resulted in building of massive constructions, just around the existing bus stand, which has created congestion and other problems in those areas.

As seen from the above figure 2-1, in 2004 there was lesser growth other than the core town area. Eventually over a period of time, in 2006 & 2009 development has started happening along major corridors other than the core town area. In the year of 2009, dense development can be seen in the core town area. Areas/places which were open/empty earlier started filling up with buildings, leaving less open space in the town. Also in the same year, development along the proposed railway line/corridor started happening. Development started happening on south and south-eastern corridor.

2.5 Natural and cultural heritage resources existing in the local area

2.5.1 Natural Heritage Resources

Katra town is basically located on a Kerewa, which are about 2 to 2.7 kms in length and about 1.25 kms in width. The kerewa is mostly composed of lime stone fissure rocks. On north and North –west of this kerewa runs the sacred Bnaganga and on south and south –west runs Bhoomica Nallah. Many small tributaries flow from these nallas and river throughout the KDA area. The western part of the area is covered with forest area followed by steep slope in the north western part. Some part of the notified area is also covered with dense vegetation.

2.5.2 Cultural Heritage Resources

The holy Shrine of Shri Mata Vaishno Devi is considered to be one of the holiest pilgrimages in India. Popular the world over as '*Moonh Maangi Muradein Poori Karne Wali Mata'*, which means the Mother who fulfills whatever her children wish for, Shri Mata Vaishno Devi Ji resides in a Holy Cave located in the folds of the three peaked mountain named Trikuta (Pronounced as Trikoot). The Holy Shrine attracts lakhs of devotees owing to the unflinching faith of the people who throng the Shrine from all parts of India and abroad. Katra, a small but vibrant town, situated at 50 kilometres from Jammu, (the winter capital of the State of Jammu & Kashmir), serves as the base camp for the journey to the Shrine.

There are many other religious places and tourist places surrounding the Katra town. Pilgrims coming for darshan of Shri Mata Vaishno Devi also visit the surrounding areas. Activities in and around Jammu and Kashmir are, Winter Sports, Excursions, Trekking, Shopping, Water Rafting, Golfing, Heritage, Pilgrimage, Garden & Parks, Lakes and Wetlands[4].

Figure 2-3 : Religious site in the Katra region

Source: International Journal of Hospitality & Tourism Systems, Economic Impact of Vaishno Devi Pilgrimage: An Analytical Study

[4] *www.jktourism.org*

3 DEMOGRAPHIC AND SOCIO ECONOMIC PROFILE

Chapter Contents

- *Population data, Population distribution category wise*
- *Sex-ratio*
- *Literacy rate*
- *Occupation of people*
- *Work Force Participation Rate (WFPR), Dependency Ratio etc*
- *Industrial base (Problem & Potential)*
- *Problems / Issues*

The chapter presents a brief profile of the Katra& its surrounding old KDA villages. It explains the demographic pattern existing in the region in terms of population growth trends, population density, sex ratio, etc and the main economy drivers.

3.1 Population Data, Population Distribution Category Wise

3.1.1 Residential Population Data and Growth

Katra used to be small hamlet which can be gauged from the population count of 1911, which were of the order of 828 souls i.e. there lived only 168 families. This growth of population increased to 3315 in 1971 and 8083 in 2001 A.D. respectively. As per provision census report, population of Katra Town is 9008 souls, growth rate stabilized at 11.44%. *Latest census information for villages is not available hence, 2001 population considered for KDA notified villages.*

Table 3-1: Population of Katra Town

Census year	Population	Decadal growth
1911	828	
1921	868	4.83%
1931	950	9.44%
1941	1005	5.78%
1951	1267	20.06%
1961	1529	20.67%
1971	3315	116.80%
1981	4573	38%
2001	**8083**	**81.56%**
2011	**9008***	**11.44%**

*Source: Census 2001, * Taken from provisional census report, 2011*

With the increase in pilgrim flow the resident population also grew to a decadal increase of 116.80 % during 1961-71 decade.The Govt. of Jammu & Kashmir Statenotified the settlement of Katra under the provisions of J&K State Municipal Act, making Katra as an urban town with constitution of Notified Area Committee.

Besides, the increase in resident population, the floating population has also increased multifold, especially after the constitution of Shri Mata Vaishno Devi Shrine Board in 1986.

Population component (both resident & floating) is one of the most vital components, which is taken as a base for arriving at the inferences which decide the planning strategy of the township or the city.

3.1.2 Population Distribution

Town falls under the category of Class V town, as per census definition. Total population of Katra town was 8083 while population in KDA villages was 6575 in 2001. Hence, total population under planning area was 14658.

Table 3-2: Population Details

Details	2001 census population (in absolute number)
Katra town	9008
KDA villages (6 nos.)	6575
TOTAL KDA Population	**14658**

Source: Census 2001

Comparison of town's population at district level was not possible to carry out considering the fact that new districts were formed after 2001 census. However, as information sought from different sources total estimated population of Reasi district was 3,14,667 in 2011. The area under municipal committee divides into 13 wards.

Table 3-3: Ward wise Population Distribution Details, 2011

Ward no.	Ward wise population	No. of residential units
1	751	184
2	934	135
3	984	158
4	400	65
5	697	125
6	570	119
7	904	174
8	709	147
9	352	67
10	413	80
11	665	128
12	311	53
13	1318	77
TOTAL	**9008**	**1512**

Source: Katra Municipal Committee, Katra, 2011

There is large variation in population distribution across wards. Ward no.13 is the most populated ward with a population of 984, while Ward no.12 is the least populated ward with a population of 311. *Latest census information for villages is not available hence, 2001 population considered for KDA notified villages.*

Table 3-4: Population Distribution of old KDA Rural areas (Villages)

Sr. No.	Village Name	Population		Area	
		1981	2001	Ha.	Sq.km.
1	Kun Daroorian	1359	2867	404.3	4.04
2	Kotli Bajialan	953	1610	789.1	7.89
3	Purana Daroorh	557	636	559.7	5.60
4	Arli Hansali	414	629	237.1	2.37
5	Serli	260	438	69.2	0.69
6	Nelay	181	395	28.7	0.28
TOTAL		**3724**	**6575**	**2088.1**	**20.88**

Source: Census1981, 2001

Village Kun Daroorian has the maximum population among all the sic villages falling under old KDA boundary. It is located on south-west side of the KMC limit. The decadal growth rate for this village is 110.96 & which is very high, where as the CAGR is 3.80 %. The Kun Daroorian village is the second largest villages with area of 404.3 ha.

Kotli Bajialan is the second largest settlement after Kun Daroorian village with population of 1610 in 2001. The decadal growth rate of this village is 68.94 % and its CAGR is 2.66 %. The village is located on the west of the existing KDA boundary. It has the maximum area of 789.1 ha.

In 2001, the population of Purana Daroorh, Arli Hansali and Serli was 636, 629 and 438 respectively. Purana Daroorh has the lowest decadal growth rate of 14.18 % and CAGR of 0.67 %. It is located in the north east part of KDA boundary. Arli Hansali and Serli are located on east of KDA boundary. Both the villages have CAGR of 2.11 % and 2.64 % respectively. Purana Daroorhis the third highest village with area of 559.7 ha.

Nelay is the least populated village in the existing KDA boundary with the least area of 28.7 ha. But the decadal growth rate and CAGR of Nelay is 118.23 % and 3.98 % respectively, which is much higher than all other villages in KDA boundary. It is located on north east part of KDA boundary.

In 2001, the total rural population of KDA boundary was 6575 which shows the decadal growth rate of 76.56 % which is near about to Katra's decadal growth rate.

3.2 Floating Population

There are two types of floating population; one is migrated population which works in service sector and second is service providers which comes to town only for 4-6 months.

Migrated Population

The migrated population is mainly the working class population. This population comes to Katra town for employment in various sectors such as hotel / restaurant industry, government jobs etc. There is no such data available for migrated population for Katra town and surrounding villages.

Service Provider

Katra, being an important pilgrim destination act as a magnet centre for the population from surrounding state/towns/villages. In search of employment, opportunities people move into the town due to which informal economy has flourished in the area. Migrated / Floating population is mostly engaged in tourism related industries. Service Providers work as Ponywalas, Pithoowalas, Palkhiwalas while few of them get engaged in formal & informal economic activities such as hotel industry and other labour work. They are registered with municipal committee, Katra. The municipal committee charges 12 percent commission and 3 percent welfare charges on service providers. There are 7302 Ponywalas, 6469 Pithoowalas and 5096 Palkhiwalas registered with the committee[5] in 2011. Their total population is 18867.

3.3 Population Density

Total area of Katra municipal committee is approximately400 ha (4 sq.km)[6], while total area of villages under KDA is 2088.1 ha (20.88 sq.km). Thereforethe total area of KDA is 2488.1 ha (24.88 sq.km).

Table 3-5: Population Density, 2001 census (check d area)

Details	Population (2001 census)	Area (sq.km.)	Density (Persons/sq.km.)	Density (pph)
Katra town	8083	4	2021	20.2
KDA villages	6575	20.88	315	3.1
Total KDA	**14658**	**24.88**	**589**	**5.9**

Source: Census 2001 & Existing Master Plan for Katra 2021

Gross population density is very high in town as compared to the district *(i.e.2021 persons/sq.km).* This shows the level of densification in the town. In contrast to town, density distribution in KDA villages is very low.

3.4 Sex Ratio

As per the census record the sex-ratio in the year 1971 was 854/1000 whereas in the year1981, it was little higher i.e. 856/1000 persons and in the year 2001, the ratio was 770/1000 respectively. The falling sex ratio of 770 females for every 1000 males indicates that lot of single males (laborers etc) are working in the town.

Sex ratio *(female/1000 male)* in Katra town is 923 as per 2011 information, which has increased substantially from 2001. It is higher than state's sex ratio. This may be due to increase in female birth rate. Sex ratio in KDA villages is nearer to the state average and is near about to Katra town's sex ratio.

[5] *Information collected from registration office, Katra during Primary survey*
[6] *Sourced from Existing Master Plan, Katra 2021 document (i.e. 2 to 2.7 kn in length & 1.25 km in width)*

Table 3-6: Sex Ratio, Katra Town and KDA Villages

Details	Sex Ratio
J&K State	892
Katra town (2001 census)	770
Katra town (2011)	923
KDA villages(2001 census)	813

Source: Census 2001 & collected secondary information from Katra Municipal Committee

3.5 Literacy Rate

The census record for the year 1991 is not available, as no census operation was conducted in J&K during the year. However, as per the census record of 1971, 1981 &2001 A.D. the percentage of literacy in the town is considerably rising in Katra. Details are given below:

Table 3-7: 2001 Census Literate Population of Katra Town

Year	Total population	Literates	Males	Female	Literacy rate %
1971	3315	1414	915	500	42.68
1981	4573	2380	1451	929	52.00
2001	8083	5689	3458	2231	70.38

Source: Census 2001and Existing Master Plan for Katra

Table 3-8: 2001 Census Literate Populations of KDA villages

Sr. No.	Name	Population	Literate	Male	Female	Literacy rate %
1	Kun Darorian	2867	1678	1021	657	58.53
2	Kotli Bajalan	1610	933	545	388	57.95
3	Purana Darooh	636	362	205	157	56.92
4	Arli Hansali	629	363	209	154	57.71
5	Serli	438	227	133	94	51.83
6	Nelay	395	242	169	73	61.27
TOTAL KDA villages		**14658**	**9494**	**5740**	**3754**	**64.77**

Source: Census 2001

Literacy rate in the study area is 70.38 %*(Katra town)* and 64.77 % *(KDA villages)* which is higher than tehsil, district and state's literacy rate for the year 2001.

Table 3-9: Literacy rate, 2001

Details	Literacy Rate (%)
J&K State	47.39
Katra town	70.38
KDA villages	64.77

Source: Census 2001

Table 3-10: Male, Female Literacy Rate (%)

Details	Total Literacy Rate	Male Literacy Rate	Female Literacy Rate
J&K State	47.39	63.67	36.33
Katra town	70.38	60.78	39.22
KDA villages	64.77	60.46	39.54

Source: Census 2001

Literacy rate among male is quite high than their female counterparts. This shows prevailing low level of awareness about education among female. Another reason for this may be low level of educational facilities in the KDA area.

3.6 Work Force Participation Rate (WFPR) and Non- Workers

Work force participation rate refers to percentage of total number of workers to total population. Total workers population is the sum of main workers and marginal workers.

Table 3-11: Workforce Participation Rate (WFPR)

Details	*Total population*	*Total number of workers*	*WFPR (%)*
J&K State	*10143700*	*3753815*	*37.01*
Katra town	*8083*	*2847*	*35.22*
KDA villages	*6575*	*2420*	*36.81*
TOTAL KDA	*14658*	*5267*	*35.93*

Source: Census 2001

WFPR for the town and village is almost nearer to the state. However, major portion of the population is still un-employed/non-workers in the planning area. In KDA area, the Work force participation rate is 35.93 %.

Table 3-12: Details about Non-workers

Details	Total population	Total number of non-workers	% of Non-workers (to total population)
J &K State	10143700	6389885	62.99
Katra town	8083	5236	64.78
KDA villages	6575	4155	63.19
TOTAL KDA	**14658**	**9391**	**64.07**

Source: Census 2001

There is not much difference in Katra and KDA village percentage of non-workers. The percentage of non-workers in KDA area is higher as compared to state. The percentage of total non-workers in KDA area is 64.07 % %, which is less than total State's percentage of non-workers.

3.7 Employment Structure

The share of main and marginal workers of Katra town is 95.64 and 4.36 percent respectively and for KDA villages is 75.62 and 24.38 percent respectively.

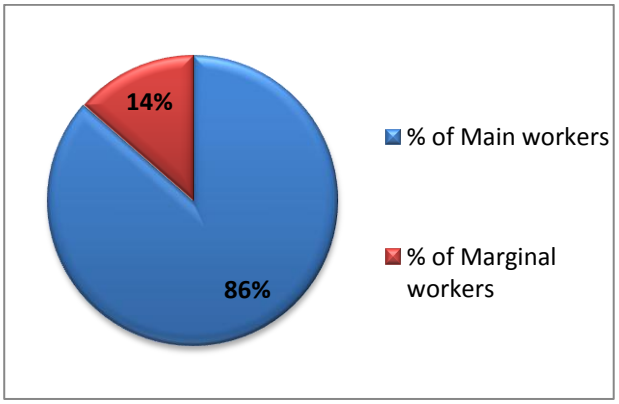
Table 3-13: Employment structure

Details	Total number of workers	Total No. of Main Workers	% of Main workers	Total No. of Marginal Workers	% of Marginal workers
J&K State	3753815	2608526	69.49	1145289	30.51
Katra town	2847	2723	95.64	124	4.36
KDA villages	2420	1830	75.62	590	24.38
TOTAL	**5267**	**4553**	**86.44**	**714**	**13.56**

Source: Census 2001

Employment structure indicates high percentage of main workers in the Katra town as compared to marginal workers. This indicates availability of enough work opportunities in the town. 24.38 percent marginal workers in KDA villages indicate less work opportunities for rural population. The percentage of main workers and marginal workers in KDA area is 86.44 % and 13.56 % respectively.

Figure 3-1: Employment Structure



3.8 Occupation of people

In the year 1991, no census was conducted in J&K state due to disturbed conditions. As such, it is not possible to find current trend precisely. As per census record of previous three decades i.e. 1961, 1971and 1981 an analysis has been made, that reflects a drastic change in the occupational pattern within the decade 1961-71. It is observed that cultivator percentage decreased from 10.2 % (1961) to 2.6% (9171) and further declined in the year 1981 to 1.4 %.Being a pilgrimage centre substantial increase has been noticed in the tertiary sector i.e. laborer category and other services which has been increased from 10.9% (1961) to 17.7% (1971) and 19.20% (1981).

Table 3-14: Comparison of different occupations (Katra Town)

Occupation	1961		1971		1981	
	Persons	%age	persons	%age	persons	%age
Cultivators	1551	10.2	85	2.6	65	1.4
Household industry	28	1.8	16	0.5	150	3.3
Trade & Commerce	115	7.5	252	7.6	480	10.5
Labor and other services	167	10.9	586	17.7	880	19.2
Non-workers dependent on Yatries / Pilgrims	1064	69.6	2376	71.0	3005	65.0

Source: Census Record of 1971 and 1981

It is revealed from the above table that, economic base of the town has considerably strengthened in Secondary and Tertiary sector, but it has dwindled in Primary sector because of increased urbanization.
As per 2001 census, break up of workers under primary, secondary and tertiary sectors has been not given clearly given.

From this data it transpires that the workers participation is 35.2% which is quite good and thus highlights a high level of economic activity in the town.
Other workers occupy larger percentage of occupational pattern in Katra town and KDA village. Town's economy is completely driven by secondary, tertiary and service sectors. While at village level, still primary sector economic activity is happening. The percentage of agriculture labourers and household workers is 4.59 % and 0.87 % respectively, which is very less compare to percentage of cultivators and other workers.

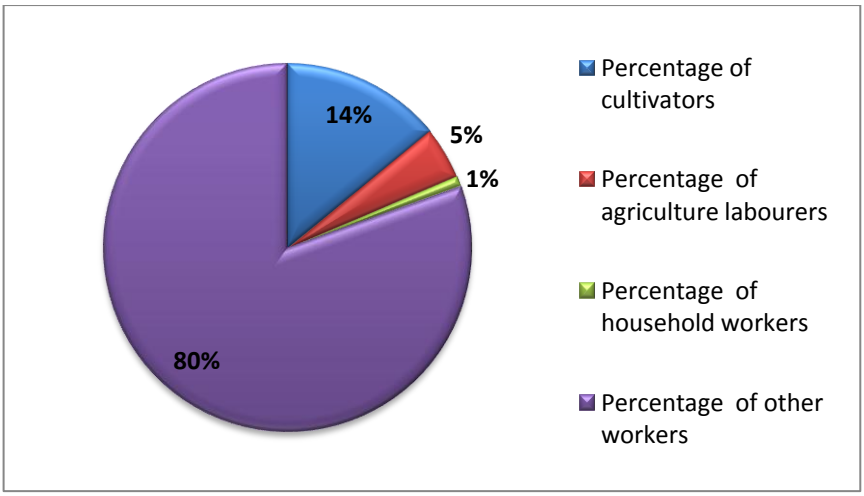
Table 3-15: Occupation Structure

Details	Total number of workers	Percentage of cultivators	Percentage of agriculture labourers	Percentage of household workers	Percentage of other workers
J&K State	3753815	6.56	42.40	6.25	44.79
Katra town	2847	0.63	0.46	0.25	98.67
KDA villages	2420	29.96	9.46	1.61	58.97
TOTAL	**5267**	**14.11**	**4.59**	**0.87**	**80.43**

Source: Census 2001

The above figure shows that, in KDA area the share of other workers is highest than share of cultivators, agriculture labourers and household workers. As per primary survey, the other population is either engaged in pilgrim activities or any other services.

Figure 3-2: Occupation Structure in KDA Area



3.9 Industrial base (problem & potential)

As per SRO 376 dt. 18.8.1975 under TP Act and SRO 64 dt. Feb 2002 under J&K Development Act the area covered by industrial activities is 3.00 acres and 1.00 acres respectively. This shows that the industrial activities are reduces at a larger scale. People are moving towards labour and other services. There are very less industrial activities in Katra town as maximum population is engaged in tourism related employment activities.

3.10 Problems / Issues

The decadal growth rate in 1981 was 38% while it increased to 81.56% in year of 2001, which may be because of increase in migrated population.

Pilgrim population is increasing at a CAGR of 6.82% and decadal growth rate of 95.56% in 2010 which is very high. Due to the increase in pilgrim population, the demand for activities related to pilgrim also increases. This may also lead to unregulated development in commercial activities.

Gross population density is very high in town as compared to the district *(i.e.2021 persons/sq.km).* This shows the level of densification in the town. In contrast to town, density distribution in KDA villages is very low.

Literacy rate is 70% in Katra town 53% in KDA villages, out of which 60% is the male literacy rate which is higher than female. This shows prevailing low level of awareness about education among female. Presence of good education infrastructure has also an impact on literacy rate.

WFPR in Katra town is 35.22% and KDA villages are 36.81 % which shows major portion of the population is still un-employed/non-workers in the planning area. This population mainly depends upon the pilgrim related activities for employment, which affects on their stable revenue. The share of industrial activities is very less in the town, as maximum population is engaged in labour and other services.

4 PHYSICAL GROWTH

Chapter Contents

- *Existing Land use distribution pattern and challenges*
- *Potential Buffers (logic of req. of buffers)*
- *Built/ inbuilt*
- *Land area available (matching with grid used for land use survey)*

The chapter presents brief introduction of the existing land use & the planning efforts taken till date for the region. Followed by the existing land use distribution pattern in the town and surrounding KDA villages.The chapter also discuss about the potential buffers required for water bodies and areas which requires conservation.

4.1 Existing Land Use Distribution Pattern and Challenges

Area within the N.A.C. limits was of the order of about 1.62 sq. kms. previously. Since Katra town, due to being the base camp for pilgrimage, receives a lot pilgrims, the State Govt. took an initiative to get a Town Planning Scheme (Detailed Development Plan) prepared for the town limits, for developing the town in an organized manner. As such, the State Govt. brought Katra town under the provision of the State Town Planning Act, 1963 notified Katra town vide SRO 376 dated 18.8.1975 and constituted a Development Board for the preparation of a Town Planning Scheme for 405 acres of land, out of which only 77 acres of land was developed under various uses, as given in the table 4.

This Town Planning Scheme, prepared by the Board was later approved by the State Govt. vide SRO 334 dated 3.7.1980 but its implementation on grounds has been very satisfactory.

After 1986, when the State Govt. constituted Shree Mata Devi Shrine Board under the new Act, the Board made a lot of improvements enroute the pilgrimage path from Banganga onwards up to the holy Bhawan. Viewing the facilities provided by the Shrine Board, the pilgrimage got a fillip, and the number of pilgrim increased from 13.86 lakhs (1986) to about 65 lakhs in 2006. Meanwhile the Govt. also notified Katra town under the provision of the State Development Act of 1970, and constituted a Development Authority for the preparation and implementation of Master Plan for the area spread over about 1322.67 acres of land.

In the meantime, the Govt. of India, approved a project for bringing Katra town on its railway map, by extending rail line from Udhampur to Katra immediately and thereafter to valley to Katra. The railway department has acquired land about 2000 kanals of lands at Katra for their station building and other infrastructure. The Hon'able Minister of Housing & Urban Development Department chaired a meeting of the concerned departments and a decision was taken to extend the local area limits beyond the proposed Railway Station, so as to redraft the Master Plan in view of the activities, keeping in view the urban expansion beyond or around the railway station in next 20 years. As such Govt. notified total local area spread over 2699.60 acres adding seven villages to the previous notification vide SRO 64 dated 7.2.2002 covering villages as under:-

a. Katra (town)
b. Aril Hansali
c. Kun Daorian
d. Kotli Bajala
e. Purana Daroor
f. Nilay Pamote, and
g. Sarli

After the notification, extended area was got surveyed by the Executive engineer, Survey-cum-Investigation Division, Town Planning Organization, Jammu and the break-up of the existing land use for areas notified from time to time is given in table No.4-1.

Table 4-1: Existing Landuse (from earlier master plan)

Land use	As per SRO 376dt. 18.8.1975 under TP Act		As per SRO 376dt. 13.9.1986 under J&K Act		As per SRO 646dt. Feb 02. under J&K Act	
	Area in acres	% Age	Area in acres	% Age	Area in acres	% Age
1. Residential	26.00	33.82	107.26	47.10	238.00	
2. Pilgrim accommodation in dormitory use.	9.00	12.85	27.80	12.29	27.80	
3. Commercial						
a. General Business	3.00	3.9	4.22	1.85	12.65	
b. Hotels	2.00	2.59	8.22	3.60	16.73	46.75%
c. Guest house	--	--	--	--	16.87	
d. Cinema	--	--	0.50	0.31	0.50	
4. Public/semi public						
e. Education	2.30	2.98	4.02	1.86	6.26	
f. Medical including veterinary	0.60	0.78	1.06	0.56	1.06	
g. Govt. offices	3.10	4.02	8.69	3.81	10.00	
h. Labor Sarai	0.30	0.38	0.50	0.31	0.50	
5. Public Utilities	1.20	1.55	1.84	0.80	2.00	
6. Social Cultural	0.60	0.78	3.61	1.64	8.34	
7. Recreational a. Parks Open Spaces etc.	7.00	9.09	8.00	3.50	10.00	
8. Religious & archeological	2.00	2.59	5.28	2.41	10.25	
9. Circulation						
a. Roads/lanes	16.00	20.78	32.03	19.37	71.82	
b. Terminal parking			6.50		6.50	
c. Air strip		6.48	6.48		6.48	
10. Industrial	3.00	3.89	1.87	0.87	1.00	
Total	**77.00 acres**		**227.88 acres**		**446.76acres**	

Land use	As per SRO 376dt. 18.8.1975 under TP Act		As per SRO 376dt. 13.9.1986 under J&K Act		As per SRO 646dt. Feb 02. under J&K Act	
	Area in acres	% Age	Area in acres	% Age	Area in acres	% Age
11. Open Area Open area, hill slopes, rough/surges, land, cultivated land, water bodies	328..00		1094.79		2252.84	
Grand Total	**405.00 acres**		**1322.67 acres**		**2699.60acres**	

Source: Master Plan Report, KDA

From the table 4.1, it is quite evident that Katra has experienced increase in various uses like residential, pilgrim accommodation, general commercial, hotel use, guest houses, education, Govt. Offices and Circulation. Thus Katra has gradually extended towards the surrounding villages. It demands control over the future development in and around this growing town, so as to achieve sustainable urban development and provide better infrastructure to the pilgrims and local population in near future.

4.1.1 Physical Characteristics

Katra was just a village about 50 years ago where the residential structure were spread around a linear pedestrian bazaar. It witnessed a very slow growth, as it is evident from the census records of 1911 up to 1961 A.D. This settlement started spreading linearly after 1951 and the expansion occurred along Katra Domail and Katra Panthal road. The structures raised then, were by and large katcha single storied with thatched roofs with C.G.I sheets. In the initial stages, pilgrimage used to be limited to the Navratra days and other important festivals like Holi, Lohari, Diwali, Chaitra Chowdashi and Amavasya etc. and the pilgrim used to stay in the residential houses as paying guests, popularly known as Panda Houses.

Katra prior to 1971 had no hotels. Only a few dharamshallas existed to cater to the needs of the pilgrims. When Northern Rail Head was fully developed at Jammu, the pilgrimage to Mata Vaishno Devi Jee started increasing day by day, which increased from 1.60 lakhs in 1960, to about 65 lakhs in 2006 A.D.

This unprecedented rise in pilgrimage resulted in unplanned growth of hotels, guest houses, dharamshallas, shops etc. to cater to their heavy rush which would halt at Katra during peak days, due to limited clearance capacity of the holy cave.

Presently, the town of Katra (within its NAC limits of 1971) consists of Chinta Mani Mohalla, Upper Bazar Mohalla, Bhimmi Mohalla, Keshav Nagar, Tootwala Mohalla. Tea garden housing colony and Kalka Nagar, villages of Kundorian, Kotli Bajala, Purana Daroor, Nilay Pamote, Sarli Hansali now part of the local area notified vide SRO 64 dated 7.2.2002.

4.1.2 Physical condition and problem of town

Physical condition of Katra town consists of the older part with congested, two to four storied houses closely knit and approachable by narrow lanes.

On the Katra-Domail road, one observes a linear form of commercial development, which is mainly shops, hotels, guest houses and few dharamshallas. Not only this, few residential houses also got converted into guest houses and then perhaps into big hotels along this road.

Similar in the fate of land parcels on the both sides of Katra-Panthal road, which is now lined by shops, hotels, guesthouses and dharamshallas. In-brief, the extensions of Katra town is linear form along major roads in the results of increased economic activity because of increased pilgrimage.

The commercial areas are in the form of linear Indian Bazaars, starting from the existing petrol pump on Domail Katraroad and extending along hotel Asia road up to the entry of the main bazaar and extending up to the Chinta Mani temple complex. Besides, shops right along the road from Old Bus stand up to Darshani Darwaza and along Panthal road up to existing veterinary exist on ground. These shops mostly deal in selling of Baints, Pooja material, dry fruits, photography, tea shops and cassette shops. Establishments of travel agents are also particularly on Katra-Panthal road.

As such Katra, being the base camp for undertaking pilgrimage to Darbar of Shree Mata Vaishno Devi Ji, has experienced a fillip in terms of increase in number of pilgrims since constitution of Shrine Board in 1986. This fillip, gave rise to authorized/unauthorized construction of hotels, guest houses, dharamshallas, shops and other business establishments in totally unplanned manner without any regards for building norms. The roads/ lanes have remains narrow. Acute congestion and construction of buildings right on the road edges make road widening very difficult now. This unprecedented growth has also resulted in building of massive constructions, just around the existing bus stand, where today authorities have been left no land for expansion of existing bus stand. Besides, enormous pressure on the existing infrastructural facilities and utilities is being experienced at present in Katra town.

Pilgrims on reaching Katra (in buses/ cars/ taxies etc) collect their yatra ticket and then move through main bazaar or Bus stand- Darshani Darwaza road on foot or three wheelers from where the holy yatra starts. During peak months movement of people through the above mentioned routes in Katra becomes very difficult.

The clearance capacity of the holy cave is 20,000 pilgrims per day. During peak season people in large numbers arrive in Katra and many others among them have to halt in Katra. But Katra does not offer any recreational facilities to these halting pilgrims. There is nothing else except one park (Shalimar Park) and a cinema in Katra. As such proposals have been mooted in the Master Plan, for halting pilgrims to have some outlets for recreation and pleasure, in coming years.

4.2 Potential Buffer (Logic of required buffer) (add nalla and water body map)

Presently, many small nallas flow through out Katra town and the proposed KDA area. These nallas originate from Himalayas in small nallas. On the northern side of KDA flows Balganga Canal and on the east side flows Jhajjar nalla. Sugal khad nalla flows in north-east to south west direction. Juni

nalla flows in western side of KDA area. Sugal khad and Jhajjar nalla have maximum water than others. These all are the seasonal nallas i.e. in these nallas, water is available only in spring season. Other than these nallas many other small nallas flow in the KDA area. These natural water bodies / nallas need to be preserved.

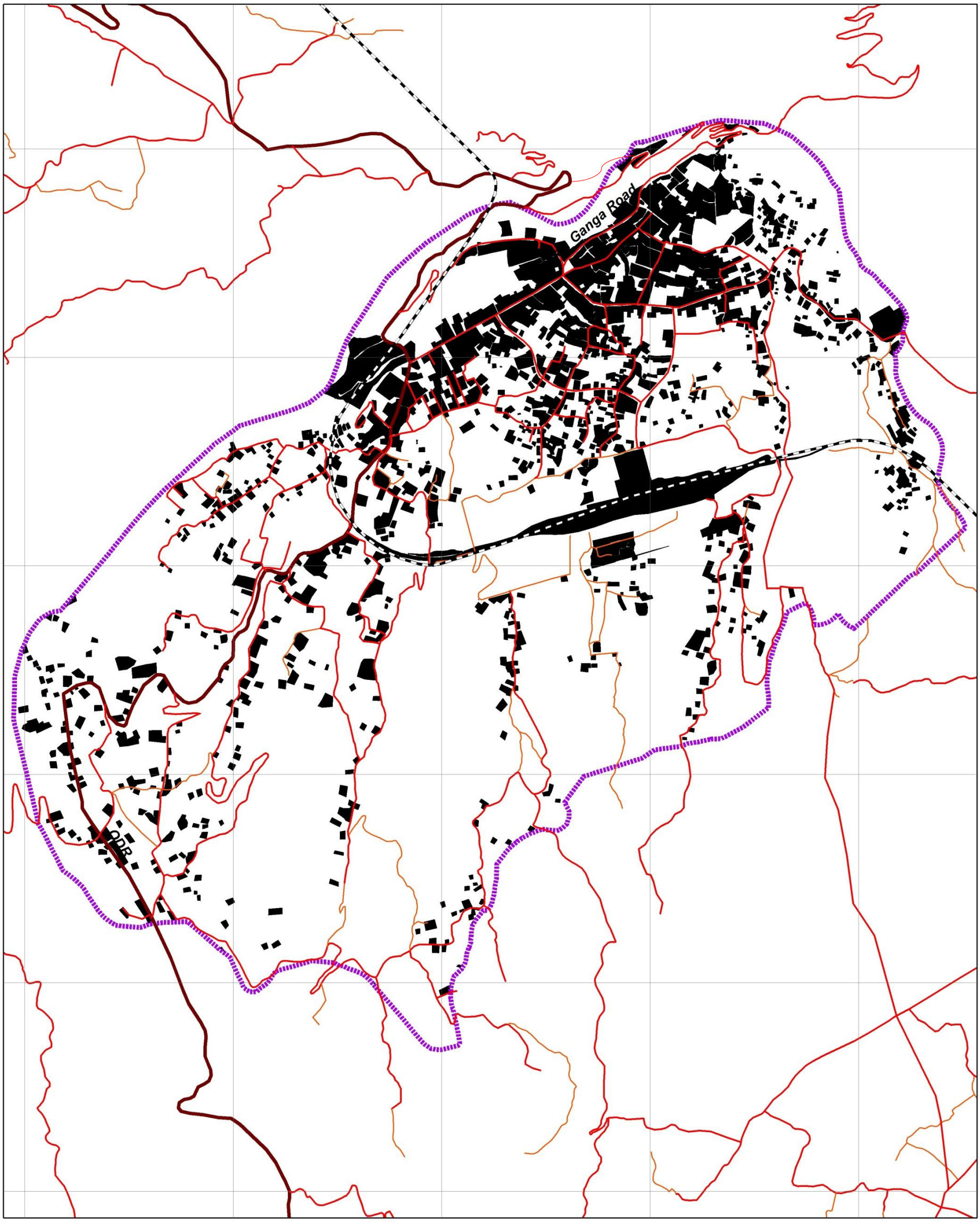
These nallas have importance of the natural heritage of the area. Hence while planning for the area, buffer of 50 – 100 meters will be provided to all the nallas / water bodies in order to protect them from development. Some of these nallas flow from the dense scrub of the area, these dense vegetations / scrub can be also maintained in the area, so that they can form a natural buffer to all the nallas. There will be no development in these buffers.

4.3 Built / inbuilt (built vs open map)

As shown in figure 1-1, the Katra town is growing from north to south direction from the year 2004 to 2009. The area surrounding the proposed railway station has developed in the past few years. The settlements in the villages are in the scattered form and have very less amount of built up areas.

The following map 3-1 shows that, maximum built-up is seen in Katra town and behind the proposed railway station. This built-up mainly includes commercial activities. A major portion of built-up area is seen growing from the eastern part to the southern part of the KDA area.

Map 4-1: Buit up vs Open Map for Existing KDA Boundary



4.4 Land Area Available (matching with grid used for land use survey)

Maximum portion of KDA area is under mountains, undulating terrain, dense & open scrub, forests and nallas. All the settlements of Katra town and villages are settled in between the hills and are surrounded by dense vegetation. It is easy to calculate residential area in Katra town but it's difficult to calculate in villages, as all the settlements are in scattered form.

Table 4-2: Existing land use, KDA area under J&K Development Act (According to old Master Plan)

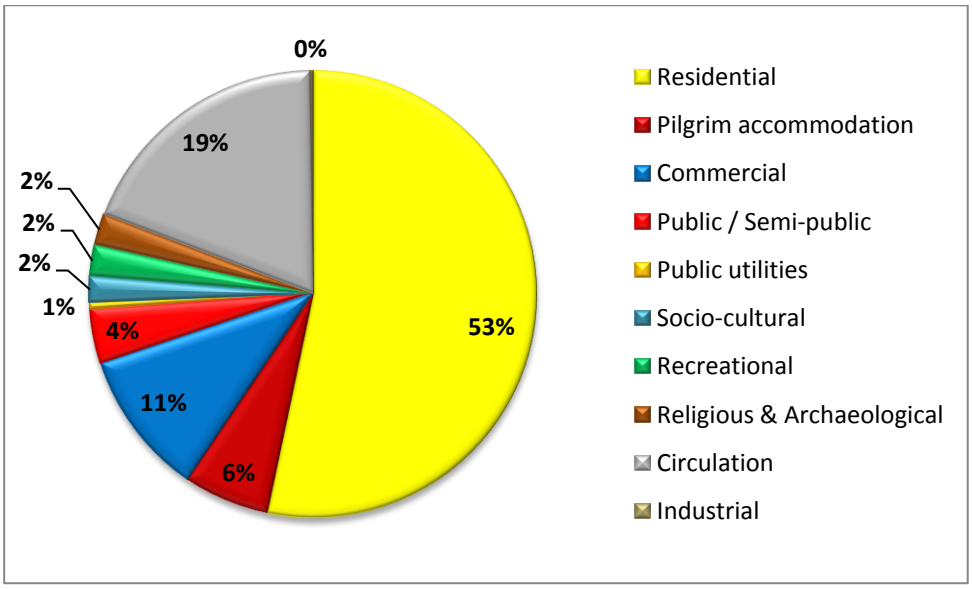
Sr. No.	Land use categories	Area (Ha)	% of total
1	Residential	96.32	8.82
2	Pilgrim accommodation	11.25	1.03
3	Commercial		
	a. General business	5.12	0.47
	b. Hotels	6.77	0.62
	c. Guest houses	6.83	0.62
	d. Cinema	0.20	0.02
4	Public / Semi-public		
	a. Educational	2.53	0.23
	b. Medical including veterinary	0.43	0.04
	c. Govt. offices	4.05	0.37
	d. Labour sarai	0.20	0.02
5	Public utilities	0.81	0.07
6	Socio-cultural	3.38	0.31
7	Recreational		
	a. Parks/Open spaces etc.	4.05	0.37
8	Religious & Archaeological	4.15	0.38
9	Circulation		
	a. Roads/ Lanes	29.06	2.66
	b. Terminal Parking	2.63	0.24
	c. Air strip	2.62	0.24
10	Industrial	0.40	0.04
TOTAL		**180.80**	**16.55**
11	Open area		
	Including hill slopes, rough /surges land, cultivated land, water bodies	911.70	83.45
GRAND TOTAL		**1092.49**	**100**

Source: Master Plan Katra 2021 AD.

As per existing master plan document (SRO 64 dated February 2002 under J&K Development Act), large percentage of land area is under residential development followed by circulation *(which includes roads/lanes, terminal parking, airstrip).* Very less area is reserved for recreational facilities, public utilities. A detailed primary land use survey of the area carried out by the CEPT team, which is elaborated in the earlier stage of the report.

Figure 4-1: Percentage share of Landuse in Total Developable area

(According to earlier Master Plan for Katra 2021 AD)



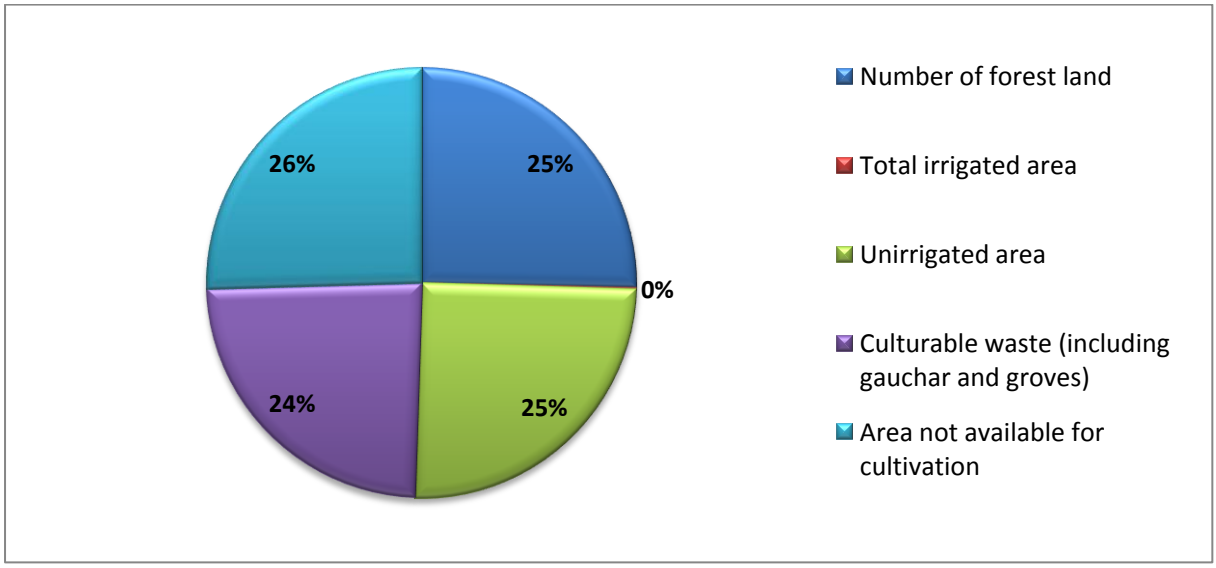
4.4.1 Land Use Distribution in KDA Villages

In the villages of KDA area, the settlements are in a scattered form, due the undulating terrain. Out of total KDA village area 29% of the area is not under cultivation followed by 27% of forest area and 26% of un-irrigated area. This shows that, major portion of the area is under non agriculture. Total irrigated area in KDA villages is only 1%. The irrigation of the area is possible because of the government canals and some private canals. Area covered by the government and private canal is 0.43% of total area.

Table 4-3: Village Wise Land Use Distribution in old KDA villages

Sr. No.	Villages	Land Use Category (Ha.)					
		Number of forest land	Total irrigated area	Unirrigated area	Culturable waste (including gauchar and groves)	Area not available for cultivation	TOTAL VILLAGE WISE AREA
1	Kun Daroorian	0	1.6	193.9	97.1	111.7	**405.9**
2	Kotli Bajialan	527.7	0.8	130.3	8.9	121.4	**789.9**
3	Nelay	0	0	12.5	4.9	11.3	**28.7**
4	Purana Droorh	0	0.4	40.5	360.8	158	**560.1**
5	Arli Hansali	0	1.2	96.7	18.6	120.6	**238.3**
6	Serli	0	0	49.4	11.3	8.5	**69.2**
TOTAL AREA IN KDA		**527.7**	**4**	**523.3**	**501.6**	**531.5**	**2092.1**

Figure 4-2: Land use Distribution in old KDA Villages

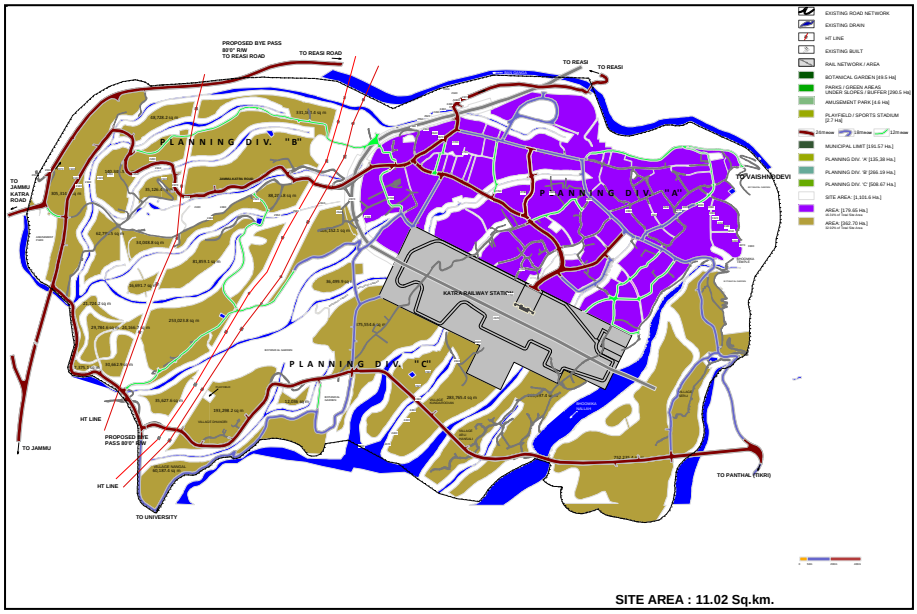


4.5 Identification of Ecologically Sensitive Areas

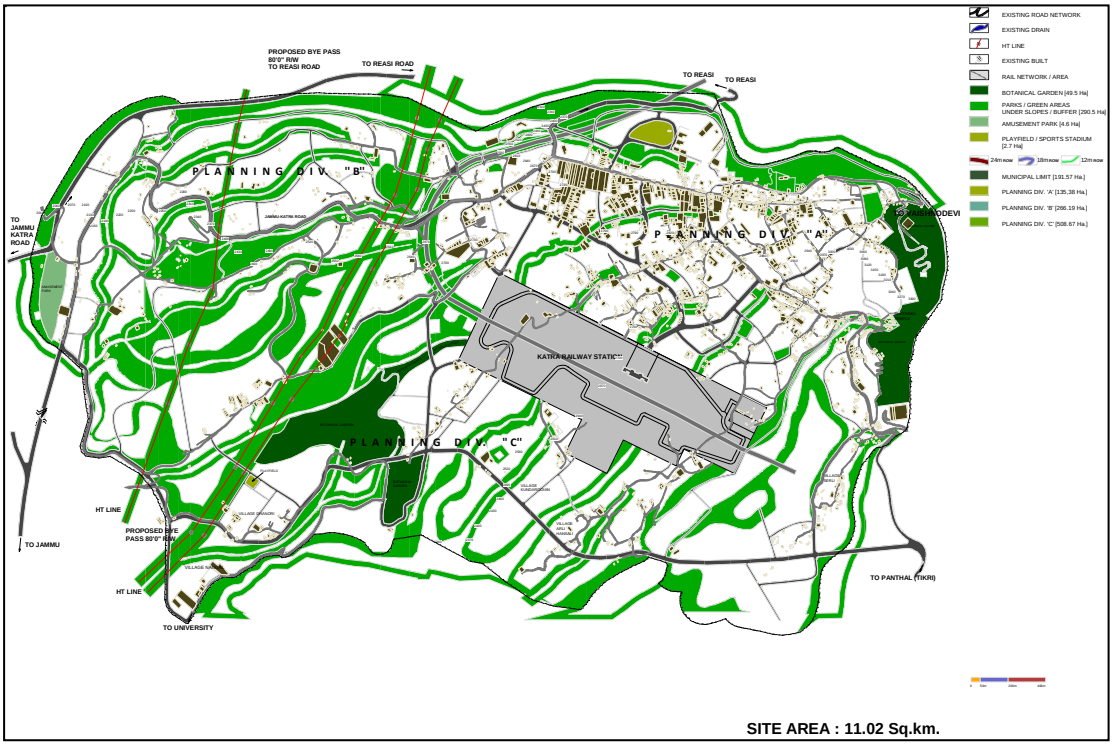
A preliminary study presented in the map below identifies around 3.6 Sq.km of land area under Planning Division 'B' & 'C' available for development. This area does not subtract existing developed land within these planning divisions. It is assumed that of the 1.8 Sq.km in Planning Division 'A' presented in map below, only marginal land may be available for development.

Picture 4-1: Steep Slope along Water Drain

Map 4-2: Developable Land Area



Map 4-3: Non- Developable Area

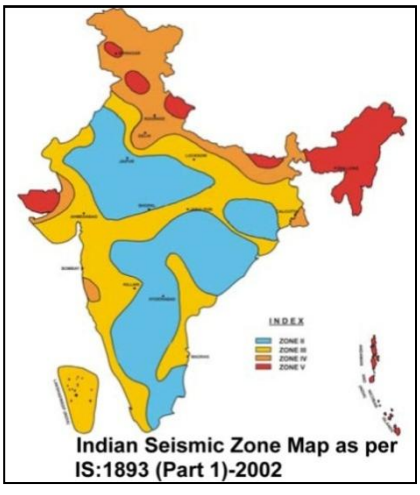


The base drawing referred to for delineating the available developable area is the proposed Master Plan for Katra Local Area 2021, TPO, Jammu. The areas herein identified under parks, botanical garden and the green areas under slopes are considered as non-developable land. A 30mt. buffer along the width of the water drains is superimposed onto these non-developable areas to arrive at the total non-developed area.

4.6 Seismic Zonation[7]

As per the National Building Code of India 2005, Katra falls in Seismic Zone IV and basic wind speed is 39 meters per second.

Map 4-4: Seismic Zones



[7] *Seismic Zonation defined as the process of subdividing a potential seismic or earthquake prone area into zones with respect to some geological and geophysical characteristics of the sites. The state of J&K falls under Zone IV, which is called the High Damage Risk Zone.*

5 EXISTING INFRASTRUCTURE AND SERVICES

Chapter Contents

- *Physical Infrastructure*
- *Social Infrastructure*
- *Problems and Issues*

This chapter outlines the status of infrastructure facilities and services in the town. Based on primary and secondary data collected from various agencies like municipal committee, PHED, Health department, Education department analysis is carried out. Primary household survey conducted as a part of the study wherein households were asked about the level and quality of infrastructure services and facilities they are getting. It is summarized in this next section of the report.

Availability and adequacy of infrastructure services has a larger role in wealth and well- being of citizens. Infrastructure services act as a catalyst for development, which foster economic growth and enhance public well-being. Hence, provision of infrastructure is defined as a Basic Services, which any developed and developing town requires in order to sustain its growth and development. The infrastructure section divides into 2 categories; 1) Physical infrastructure *(water supply, sewerage, sanitation, storm water drains, solid waste management)*. 2) Social infrastructure *(health, education, parks, gardens, banks).*

5.1 Physical Infrastructure

5.1.1 Water Supply

Water Source & Available Quantity:

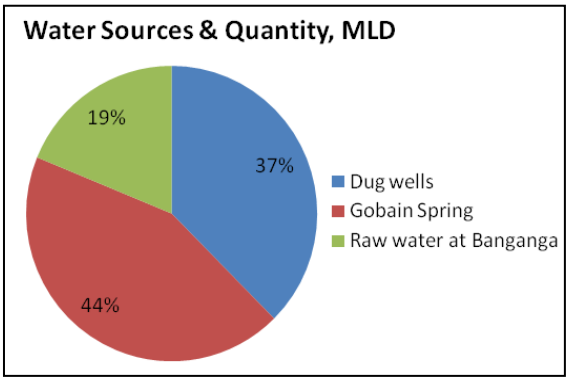
There are six sources from where water is sourced and supplied to the town and its adjoining areas through piped network. The major source of water to the town is Bangaga, Devi Pindi and Ram Springs, which contributes nearly half of the total water requirement. The other sources include Dug wells at Jhajjar and surface water of Banganga. Water from these sources supplied to the Katra town, surrounding villages and to the Shrine board area from Banganga to Bhawan.

Table 5-1: Water Sources

Water Sources	Nos.	Quantity (MLD)
Dug wells at Jhajjar	3	1.36
Gobain Spring	1	0.45
Ram springs at Banganga	1	1.13
Raw water at Banganga	1	0.68
TOTAL	**6**	**3.62**

Source: PHED Katra – June 2011.

Figure 5-1: Water source & Available Quantity, MLD



Surface water sources are mostly polluted by the sewage and wastewater generated from toilet complexes, commercial establishments along Yatri track from Banganga to Adhkunwari.

Villages which are located at a distance from the town like Purana Daroor, Serli, Nelay doesn't have proper piped water supply system. Most of the villagers are using spring, nallas, and other sources in order to fulfil their water requirements.

Water Distribution System & Connections

Picture 5-1: Overhead water tank

As per information provided by the PHED Sub-Division Katra, an about 95 percent household in Katra Municipal area is connected to the piped water supply system while the department serves only 15 percent of total population in Katra sub-division. Almost all the wards within the administrative limits of committee are covered under piped distribution network. Total 2100 water supply connections are provided, of which 1842 are residential and 258 are commercial.

Duration of Supply, Quantity of Supply & Water Quality

Picture 5-2: Private water tanker supply

As revealed during primary survey, duration of water supply is limited only up to ½ hour to 1 hour during the day, which is not sufficient to fulfil the water requirement of households. Hence, their water requirement is largely met through natural springs, private water tankers or from other sources. As mentioned earlier, total amount of water extracted from sources is 3.62 MLD, however there is an absence of information about the quantity of water delivered at the user end. Quality of water is ok.

Water Treatment

Water sourced from the above-mentioned sources is treated at treatment plant near Darshani Darwaza and Shankaracharya Hills which was established 30 years back, with additional storage tanks. It is then supplied through piped network in town and villages. Out of 5.90 MLD of water produced only about 3.5 MLD of water is available to the population of Katra.

Water Tariff

The present tariff structure is Rs.800/- year for residential and Rs.2400/- for commercial properties. Flat rate system is followed for all type of connections. The water charges are discussed as below:

Table 5-2: Existing Water Tariff Structure

Sr. No	Connection	Dia. of pipes	Tariff Structure / annum
1	Domestic	½”	800
2		¾”	2400
3		1”	8100
4	Commercial	1”	24000
5		1.5”	120000

Source: PHED Katra – June 2011.

Existing Water Requirement & Existing Gaps

The primary survey of the town reflects water supply is the major problem faced by the residents. Considering the fact that there is an absence of information about quantity of water delivered at the user end, present water requirement for household/domestic purpose and commercial purpose is estimated based on standards. The estimated water requirement for Katra town and villages is approximately 2 MLD *(estimated @135 lpcd)*.

Commercial requirement is estimated for registered hotels, guesthouses and dharamshalas having total bed capacity of 16542 beds. It is estimated @70 litre/bed as per UDPFI guidelines. Hence total water requirement of these commercial establishments comes to 1.15 MLD. There are approximately 170 registered dhabas[8] with the Katra Municipal Committee and it is assumed that about 1000 litre water/ dhaba is used by them for cooking and cleaning purpose. Therefore calculated water demand of dhabas is 0.17 MLD. Service centres, ice factories, toilet complexes, cleaning of drains, office complexes, are also extensively using water. Hence the total required for these activities is 1 MLD. This excludes the water requirement in Shrine board area from Banganga to Bhawan. Total estimated existing water requirement in the town is approximately 4.23 MLD[9].

Table 5-3: Estimated existing water requirementfor the year 2001

Sectors	Required for	Estimated water requirement, MLD
Domestic (KDA area 2001 population)	14727 persons	2
Hotels, Guest houses and Dharamshalas	16452 beds	1.15
Dhabas and Restaurants	170 nos.	0.17
Other activities		1.00
TOTAL		**4.23**

Source: Water requirement is estimated based on standards.

Table 5-4: Existing Water Supply Gaps

Details	Quantity (MLD)
Quantity of water sourced	3.62
Distribution and transmission loss (assumed, 15percent of supply)	3.07
Water requirement	4.23
Existing water gaps	**1.15**

[8] *Source: Municipal Committee, Katra*

[9] *This may subject to variation, as it has considered only registered hotels/guest houses and dharamshalas, dhabas and restaurants. There are number of commercial establishments, which are not registered, and hence their water requirement is not taken into consideration.*

Proposal for Augmentation & Improvement of Water Supply: *Water Supply Master Plan 2025*

PHE division, Reasi has prepared a detailed proposal for augmentation and improvement of water supply for Greater Katra. The proposal has been designed for 2025 population, which has been approved under UIDSSMIT. Water being the necessity, facility needs to be provided sufficiently and continuously.

As per the water supply Master Plan (PHE) it is proposed to supply 5.9 MLD of water by 2000 AD, 7.8 MLD by 2010 AD and the design segment of 10.20 MLD will be supplied by 2025 AD for the projected population. The PHE Department has assured that there would be no shortage of water supply in Katra after April, 2006. However, PHE Department shall now frame proposal to cater to the total population of the one lakh souls by 2021 AD.

Above water requirement includes shrine board areas from Banganga to Bhawan and adjoining villages of Katra town. However, the way development/expansion of Katra is taking place, planning needs to be done for Greater Katra, which shall include Shrine board areas, and adjoining villages viz. Nelay, Chandwa, Dhar Vaishno Devi Ji, Sarna, Arli Hansali, Kundarorian, Manoon, Bhagtta, Kotli Bajalan, Dhanori and Latori.

The existing distribution system is grid pattern system and at places the distribution system mains have been interconnected. The proposed distribution system also a branched one, has been designed for a period of 30 years i.e. up to 2025 AD.

The total storage capacity for design year of 2025 AD is 3.0 MLD, out of which 0.5 MLD is available at present and an additional storage capacity of 2.0 MLD is proposed under the water supply Master Plan. The total storage proposed to be provided for 2020 AD is 2.0 MLD with storage reservoir as under:-

Table 5-5: Proposed total storage

S.No	Storage reservoir location	Capacity
1.	At Shankaracharya Hill(existing)	0.454 ML
2.	Do (proposed)	0.454 ML
3.	At filtration treatment plant at Darshani Darwaza (existing)	0.045 ML
4.	Do (proposed)	0.317 ML
5.	Ad SDO office	0.181 ML
6.	Ad SDO office	0.227 ML
7.	At Nallah	0.113 ML
8.	At Aru	0.009 ML
9.	At Matyal	0.227 ML
10.	At Nadeli	0.009 ML
11.	At Bus stand	0.227 ML
12.	At Trahu	0.009 ML
13.	At Bamnal Partal	0.136 ML
Total		**2.817 ML**

5.1.2 Sewerage & Sanitation

Picture 5-3: Sulabh toilet complex – town centre

At present, Katra town lacks proper sewerage network and sanitation facility. There is an absence of underground sewerage network in the town. Primary survey of the town reveals the use of septic tanks for sewage disposal by large number of households. Septic tank gets clean at an approximate interval of 3-4 years *(depending on tank size)* by household on a private basis. Household who doesn't have septic tank disposes their wastewater directly into drains which finds its ultimate way into Banganga or natural streams located in the east and south east direction of the town. The sewerage is being handled manually by sweepers in a conventional way and being thrown in open rain- water drains and natural nallahs there by creating lot of pollution in town.

The slopes of Katra take care of the Natural drainage which finally leads to:-

i. Dunga Nallah from Bus stand to rear side of Hotel Asia and then to Banganga
ii. Nallah along PHE office/ reservoir to village Kundrorian (through proposed bus stand area
iii. Bhoomika Nallah

These entire trunk sewers will lead into the nallahs which will finally reach to treatment plant at the proposed site at Kalka Nagar and Kundrorian.

It is recommended that the sewerage & drainage system based on 10 MLD design capacity which is prepared by the SYCOM project consultants, New Delhi after scrutinizing by the State Govt. will be implemented in planner manner.

Not only this, sewage produced from toilet complexes on yatra track gets disposed off in Banganga, thereby polluting surface water body considerably. There are 6 public toilets available in the town which is used by more than 500 persons every day*(as per observation)*. Out of these, 2 are maintained by Katra Municipal Committee and rests 4 are maintained by Sulabh International on a contract basis. Condition of existing public toilets is not good. Considering large proportion of floating population coming to Katra every day there is an urgent need to provide more number of public toilets especially in commercial areas of the town. Overall sewerage and sanitation facility is not good and problem of hygiene prevails in the town.

Household in villages in and around town has facility of septic tank. However, Purana Daroor and Serli villages still open defecation practices prevails.

5.1.3 Storm Water Drains

Absence of information related to length of existing surface drains is not available. As observed during primary survey, town has open surface drains, which are covered at some places while at some places those are left open. Throwing of solid waste into these drains is mostly practiced in the

town, due to absence of proper solid waste collection and disposal practices. This result into clogging, choking and overflowing of drains, created unhygienic condition in surrounding areas.

5.1.4 Solid waste management

Solid waste management is an obligatory function of urban local body, which consist of waste collection, transportation and its scientific disposal. Municipal waste mainly comprises of waste generated from households, markets, commercial establishments, hotels and other activities of the town. Katra town does not have in place solid waste management practices, which results into poor aesthetic condition of the town.

Waste generation

The estimated solid waste generation is 5.02 ton[10], which includes domestic waste, waste from dhabas, restaurants, hotels and mule dung of ponies. However, this data seems inadequate as no information is available for how much waste is generated from other activities like street sweeping, hospital waste and other waste generated from pilgrims/yatris coming and staying in Katra.

Waste Collection

There is an absence of door-to-door waste collection practices in the town. Only street sweeping is being practiced in the town as a primary collection of waste. Streets are cleaned mostly twice a day while at some places it is being cleaned regularly. Household disposes generated solid waste near to house, round the corner, in open plots, on roads, in open drains or burnt it out. Even restaurants, small dhabas, eating rehris, tea stalls and roadside vendors' throws waste on road, as observed during primary survey. From the street corners, the committee collects waste almost every day. There is an absence of solid waste collection dustbins along major roads and sub-lanes.

Picture 5-4: Waste lying in main town centre

Picture 5-5: Street sweeping

Waste from the street sweeping is collected and dumped at secondary collection points from where it is being transported to the disposal site. There are five secondary collection points located at municipal committee counter no.2, Bus stand, near Varun hotel, Panthal road and opposite to jewels. These secondary collection points are not in sufficient

[10] *Statement showing quantity of kitchen waste and mule dung generated in the town (Municipal Committee, Katra), Katra*

quantity and quality due to absence of sufficient number of bins. Waste is littered by stray animals, which create unhygienic condition in surrounding areas.

Transportation of waste

Waste from secondary collection points lifted by vehicles available with the committee. The committee has following vehicles, which are used for waste transportation to the disposal site.

Table 5-6: Details of vehicles used for solid waste transportation

Details of vehicles used for solid waste transportation	Total number
Tractor	2
Tata 407, small van	2
Tata Ace	2
Auto	5
JCB	1

Source: Katra Municipal Committee, Data collected on June 2011.

Disposal system

There is an absence of scientific waste disposal practices in the town. Solid wastes generated from households and hotels get disposed off along Katra - Reasi road without proper treatment. This has created nuisance in surrounding areas and makes difficult to pass from this road. Katra Municipal Committee has 100 kanals of land at Kun Daroorian southern to railway complex for sanitary landfill site.

Picture 5-6: Manual handling of waste

Picture 5-7: Waste disposal site along Katra - Reasi road

Ward wise and village wise generation of domestic waste is estimated as mentioned in the table below. Assumed quantity of waste generation is 500gm/capita/day.

Table 5-7: Estimated Solid Waster Generationin KDA area

Area		Ward no.	Waste generation in Ton/day
A.	**Katra Municipal Committee**	1	0.38
		2	0.47
		3	0.49
		4	0.20
		5	0.35
		6	0.29
		7	0.45
		8	0.35
		9	0.18
		10	0.21
		11	0.33
		12	0.16
		13	0.24
TOTAL - A			**4.08**
B.	**KDA Villages**	Arli Hansali	0.31
		Kun Darorian	1.43
		Kotli Bajalan	0.81
		Purana Daroor	0.32
		Nelay	0.20
		Serli	0.22
TOTAL - B			3.29
TOTAL (A+B)			**7.36**

Source: Katra Municipal Committee

Ward no.3 generates approximately 0.5ton of domestic waste per day. Ward no.12 generates less amount of waste in comparison to other wards. Among villages, Kun Darorian village has highest amount of waste generation while least amount of waste gets generated in Nelay village.

5.1.5 Electricity Supply

Whole of Jammu region inclusive of Katra Town suffers from electric voltages. It appears that short falls in the electric supply is due to the breakdowns in the overall electric grid with which the town is linked. Suitable measures may have to be taken to mitigate these fluctuations. Even Katra town has gained special importance in the region due to pilgrimage centre. Presently 10 to 11 mw of electricity supply to Katra (including Bhawan areas) from 132 KV grids at Jhajjar Kotli.

The per capita power demand is likely to increase, during the plan period. Hence the necessary requirements of the augmentation of power will have to be made by farming suitable schemes by the PDD keeping in view the existing and the proposed town development and the circulation pattern envisaged for the city.

5.2 Social Infrastructure

5.2.1 Education Facilities

There are 26 schools in Katra town and KDA villages, wherein government institutions are more than the private institutions. Till middle school most of the children goes to the private institutions. For higher secondary education, they go to the government institutions. Town does not have any higher-level educational institutions like colleges, technical institutions hence students have to move to either Jammu or Udhampur for attending college education.

Table 5-8: Details about Existing Education Facilities, Katra

Details	Govt. Institutions				Pvt. Institutions			
	HSS	HS	MS	PS	HSS	HS	MS	PS
Katra town	1	1	1	5	-	2	1	1
KDA Villages								
Arli Hansali	-	-	3	-	-	-	-	-
Kun Darorian	-	-	1	-	-	2	-	3
Kotli Bajalan	-	1	-	-	-	1	-	-
Purana Daroor	-	-	1	-	-	-	1	-
Naleh	-	-	-	-	-	-	-	-
Serli	-	-	1	-	-	-	-	-

Note: HSS: Higher Senior Secondary, HS: Higher Secondary, MS: Middle School, PS: Primary School
Source: Chief Education Officer (CEO), District Reasi (June 2011)

Picture 5-8: Govt. Girls HIgh School, Katra

Katra town has 8 government schools and 4 private schools. Arli Hansali village has 3 government middle schools apart from this it doesn't have any other school facilities. Kun Darorian village has 1 government middle school, 2 private high schools and 3 private primary schools. Naleh village does not have any educational facilities hence they have to go to Katra for schooling facilities.

Picture 5-9: Community Health Center, Katra

There are 26 numbers of Educational institutions of different levels located within NAC limits and present extended area. Total land area under these educational institutions within NAC and present extended limits as surveyed works out to 6.22 acres. It is observed that except the Govt. Higher Secondary School, Katra, Middle School, Katra and High School, Nomain, land under other

educational institutions is below the required norms and thus lacking in play fields.

5.2.2 Health Facilities

Health facilities are very critical for the well-being of people. There is only one Community Health Centre *(CHC)* in Katra having total 30 beds capacity. Other than CHC, there is one dispensary, which runs by a charitable trust.

Facilities in the existing hospital are not sufficient and it is not capable for treating critical cases. Most of the time patients are referred to Jammu Medical Hospital, which is 40 km away from Katra. Following table depicts the available health facility in the town.

Table 5-9: Details about Existing Health Facilities, Katra

Details about Health Facilities	No. of Doctors	No. of Beds	Para-medical staff
Katra Town			
Sub – District Hospital/ Community Health Center, Katra	9	30	20
Jai Durga Dispensary	2	4	4
KDA Villages			
Sub – centre at Purana Daroor	-	1	2
Sub - centre at Kotli Bajalan	-	1	2

Source: Office of the Block Medical Officer – Katra (June 2011)

Low level of health facilities is available in villages falling under KDA notification. There are villages, which doesn't have presence of any health facilities hence they have to visit Katra to avail the facilities. Town has one veterinary hospital also which takes care of ponys and other animals.

There is one No. 20 bedded Health Centre located in Mohalla Keshav Nagar over of 0.77 acres. Besides one No. Dispensary of Health Department is located in the Old Bus stand area. One No. Health centre each is also located at Banganga. Adhkuwari, Shanji Chatt and Bhawan. The total number of beds in Hospitals is distributed as below:-

Table 5-10: Total Number of Beds in Hospitals in KDA area

S. No.	Location	No. of Beds
1.	Katra	20
2.	Adhkuwari	10
3.	Chanjhi Chatt	30
4.	Bhawan	5

5.2.3 Other social amenities (recreational & open spaces, cultural facilities etc),

A very good park namely Shalimar park close to JKTDC Dak Bunglow exists within the old city. In addition ine cinema and other small park namely Devi park exists within the town. A private entrepreneur had about 5 years ago developed an amusement park (Appu Ghar) in Nomain village, but it could not operate viably and now is closed.

Picture 5-10: Shalimar Park, Katra

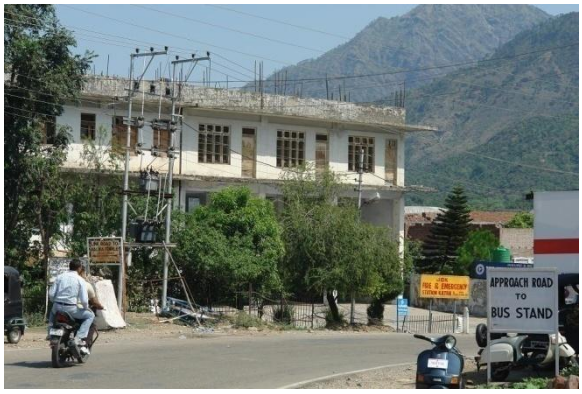
5.2.4 Fire and Emergency Station

A three bay fire station is located near the grid station at Kalka Nagar on main Katra- Domel road spread over an area of 0.80 acres to cater the town needs.

5.2.5 Petrol Pump

There are 2 petrol pumps located is along Katra-Panthal-Udhampur Road.

Picture 5-11: Fire and Emergency Station



Picture 5-12: Petrol Pump

5.3 Police Station

A police station adjacent to old bus stand exists over an area of about 5 kanals. Besides it, police check posts exist at the entry point of each route i.e. Nomain Katra, Domel Road, Chamba on Katra-Panthal road, at Balni Bridge on Katra Reasi road. Police posts also exist at Banganga, Adhkuwari and Bhawan for policing the entire pilgrimage. It is now proposed to develop an integrated tourist facility complex at Nomain for convenience of vehicles/ passengers who are being checked for security purpose at this time, before entering Katra.

Picture 5-13: Police Station, Katra

5.4 Post Office/ Information Centre

A post office is located in Bhimni Mohalla, which is in a rented accommodation along with the office of Information Dept. This post office caters to the whole town besides a sub-post office is also located on Katra-Domail road in village nomain.

5.5 Telecommunication / Telephone exchange

An electronic Telephone Exchange with a capacity of about 1400 lines is presently functioning in Katra town. It caters to Katra town, Bhawan, Chanjhi Chatt and Adhkuwari area. The building of Telephone Exchange is located behind Ambica Hotel over of 0.12 Hect. Besides it, many PCO/ STD booths are also functioning in the town.

5.6 Religious

Town has number of religious institutions such as Hanuman temple, Shivalaya Bhoomika temple, Church on Katra - Panthal road, Chintamani temple.

5.7 Physical and Social Infrastructure in Katra town and KDA villages as per Primary Survey for Households

5.7.1 Infrastructure Facilities

This section of the study describes the status of physical infrastructure and social infrastructure facilities in the town.

Water Supply

In Katra town and KDA villges, Primary survey reveals 73 percent and 75 percent households use PHE water supply respectively. In Katra town 15 percent households are using private water tankers as and when required in case of acute shortage.

Table 5-11: Water supply

	Katra Town		KDA Villages	
Sources of Water	**No. of Households**	**% of total**	**No. of Households**	**% of total**
PHE	56	73	39	75
PHE + Pvt. water tankers	12	15	3	4
Only Pvt. Water tankers	3	4	-	
PHE + Natural spring water	3	4	5	6
Ground water / Natural spring	1	1	2	6
PHE + Other sources	2	3	3	10
TOTAL	**77**	**100**	**52**	**100**

In katra town, almost all the households have reported duration of water supply is ½ to 1 hr. in a day. 53 percent respondents have rated water quality as Ok, while 26 percent have reported it as Good.

In KDA villages, duration of water supply is ½ hr. in a day. There are villages such as Arli Hansali *(few parts/locations)*, Purana Daroor wherein accessibility of PHE water supply is absent. People are using

natural spring water/ well water or ground water for fulfilling their water requirement. As revealed in Arli village, water scheme runs by villagers on a community ownership basis. Under central government scheme, 90 percent fund is given by government while rest raised by villagers. A water storage tank and pipelines lay down in the village. Rs.25/- is collected from all the village households for maintenance of tank and pipe network. Majority of respondents have mentioned ok satisfaction level while rest has rated it as poor, for water supply services they are getting.

Table 5-12: Quality of water in Katra town

	Katra Town	
Quality of Water	**No. of Households**	**% of total**
Good	20	26
Ok	41	53
Poor	16	21
TOTAL	**77**	**100**

Drains

In katra town, 58 percent respondents mentioned presence of open drains near their house. This leads to unsightly appearance, wastewater from household flows and solid waste gets disposed of into it. As revealed 39 percent, drains are covered while 3 percent are partially covered.

There is an absence of proper maintenance and management of drains, 48 percent respondents mentioned complete absence of drains cleaning and maintenance by committee near to their houses. At times, they have to carry out cleaning of drains by themselves in order to maintain health and hygiene level near to their houses. 38 percent revealed frequent cleaning of drains *(once in 2 days/3 days or in a week)* while only 14 percent mentioned daily cleaning of drains is carried out by the committee.

In KDA villages, 92 percent drains are open and rests are closed and semi-closed. There is an absence of proper maintenance and management of drains. People carry out cleaning in case of clogging of drains. Satisfaction level among villagers regarding drains is poor.

Figure 5-2: Type of drains in Katra town

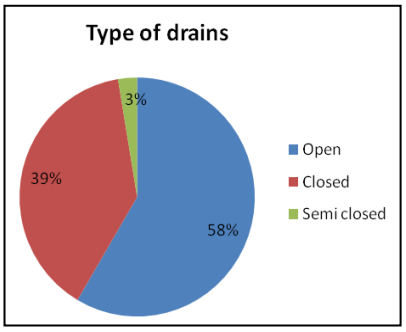


Figure 5-3: Type of drains in KDA villages

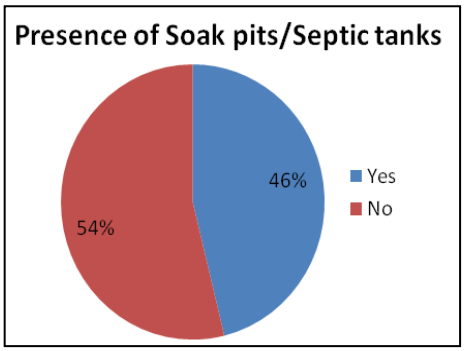


Table 5-13: Maintenance by committee

Maintenance by Committee	No. of Households	% of total
Daily	11	14
Frequently (2 days/3 days/in a week)	29	38
Never	37	48
TOTAL	**77**	**100**

Level of satisfaction regarding drains among large percent of households is Ok, followed by Poor satisfaction level.

Sewerage and Sanitation

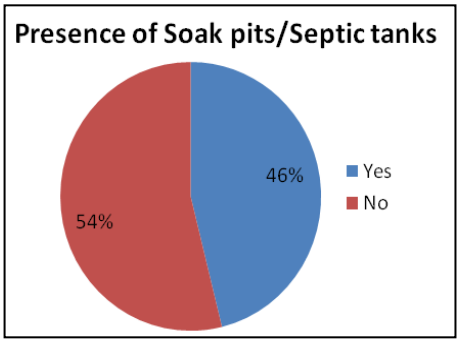
In katra town, there is an absence of underground sewerage network in Katra. 79 percent of surveyed respondents' have septic tanks within their premises. 21 percent households do not have septic tanks due to which they dispose their sewage either into open drains or into open land near to their houses.

Table 5-14: Presence of septic tank

Presence of Septic Tank	No. of Households	% of total
Yes	61	79
No	16	21
TOTAL	**77**	**100**

In KDA villages, of surveyed households, 46 percent households have septic tanks within their household premises. Rest does not have a facility of septic tank, which results into disposal of generated sewage and wastewater into open drains, or open land near to their houses. There is an absence of public toilet facilities in villages. Open defecation prevails in villages.

Figure 5-4: Presence of soak pits/septic tanks



Solid Waste Management

Katra town lacks efficient solid waste management system. Absence of door-to-door waste collection practice which results into throwing of waste either on roadside, burnt out or thrown into nallas. There is an absence of waste collection dustbins at major locations, on roads and sub-lanes.

55 percent respondents said that street cleaning is almost never carried out in their areas whereas 26 percent people mentioned it is carried out once in every 2-3 days. However, 19 percent respondents seem to be getting the benefit of this facility every day.

In KDA villages, generated solid waste from households get either disposed of into open land near to house or open drains or burnt out by villagers. There is an absence of waste collection dustbins at

major locations, on roads and sub-lanes. 83 percent respondents said that street cleaning is almost never carried out in their areas whereas 11 percent people mentioned it is carried out once in every 2-3 days. Only 6 percent respondents seem to be getting the benefit of this facility every day.

Table 5-15: Frequency of street cleaning

	Katra town		KDA villages	
Frequency of Street Cleaning	**No. of Households**	**% of total**	**No. of Households**	**% of total**
Daily	15	55	3	6
Frequently (2 days/3 days/in a week)	20	26	6	11
Not much/ Almost never	42	19	43	83
TOTAL	**77**	**100**	**52**	**100**

People are not satisfied or happy with the existing scenario of solid waste management and practices in the town.

Electricity

In katra town and KDA villages, electricity cut off of daily 3-5 hours and at times more than 5 hours is there in the town. In KDA villages, other unscheduled power cut off occurs during any time of the day. Some of the respondents are fine with it while few of them have reported it as the biggest problem.

Roads

Both in katra town and KDA villages, width of majority of access roads to the houses varies between 3-6 mt. However houses which are located on main roads have access road with of 9 mt. in Katra town, 66 percent access roads are pucca followed by kuccha *(i.e. 24 percent), whereas, in KDA villages,* 58 percent access roads are kuccha followed by pucca *(i.e. 23 percent)*. There are places wherein though roads are pucca, it is unclean and congested. Condition of kuccha roads is even worse with uncleanlienss and congestion.

Figure 5-5: Road width in katra town

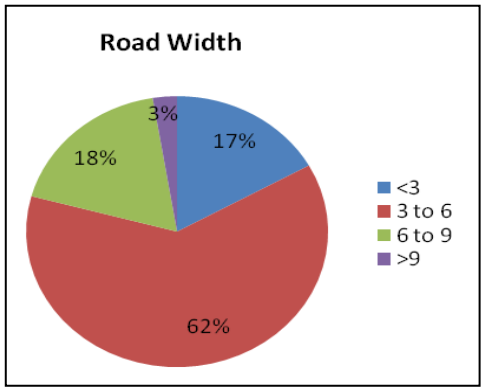
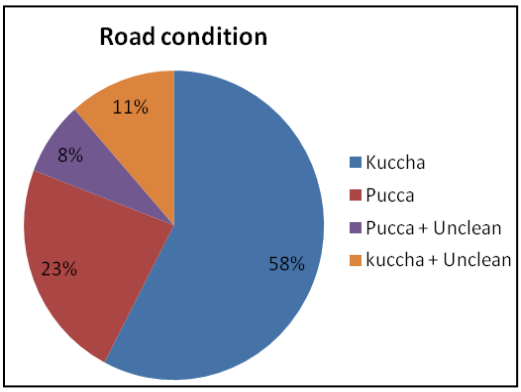


Figure 5-6: Road Condition in KDA villages



Traffic movement in villages is very low as compared to Katra town. If parking provision can considered as a parameter in villages, 54 percent of surveyed households do have parking space

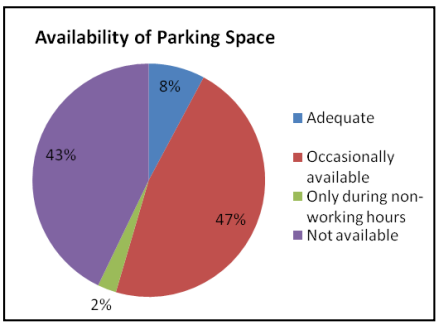
available occasionally. 33 percent of them have reported absence of any parking facilities available to them.

Table 5-16: Condition of roads

Condition of Roads	No. of Households	% of total
Kuccha	18	24
Pucca	51	66
Pucca + unclean	6	8
Kuccha + congested	1	1
Kuccha + unclean	1	1
TOTAL	**77**	**100**

Parking is a big problem as observed in Katra during primary survey. 47 percent of surveyed households have occasional availability of parking space for their vehicles near their house. 43 percent of them do not have it at all. 8 percent have adequate parking space availability while rest have it only during non-working hours. Less vehicular movement observed specially near to households, which are located along sub-lanes and inner pockets of the town.

Figure 5-7: Availability of parking space



Street Lights

in katra town, 40 percent of surveyed households reported insufficient streetlights on their access roads while 31 percent does not have availability of streetlights. Overall satisfaction among respondents regarding roads and street light infrastructure is ok.

In KDA villages, 65 percent of surveyed households reported insufficient streetlights on their access roads while 25 percent of them feel it is insufficient.

Figure 5-8: Street lighting in Katra town

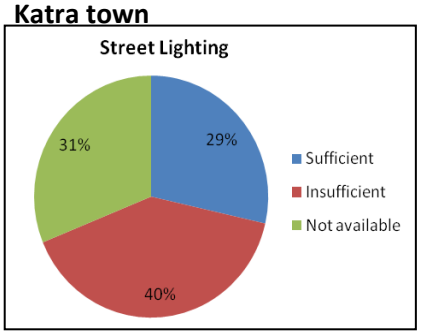


Table 5-17: Streetlights in KDA villages

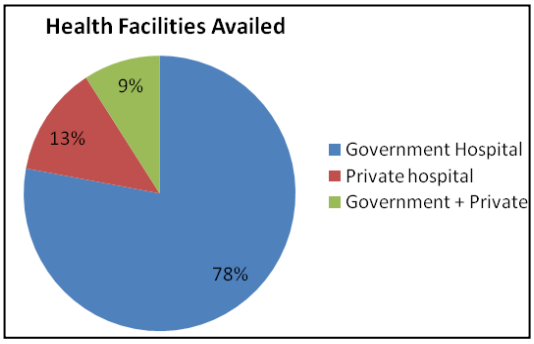
Street Lights	No. of Households	% of total
Sufficient	5	65
Insufficient	13	25
Not available	34	10
TOTAL	**52**	**100**

Overall satisfaction among respondents regarding roads and street light infrastructure is poor.

Health Facilities

Katra has one sub-district hospital, which is generally called as referral hospital due to lack of adquate infrastructure facilities. Though 78 percent of the respondents have mentioned availing government hospital, they are not safisfied with the services they get from there. Hence in case of emergency people prefer to go to private clinics, doctors or to Jammu. People are using both the facilities depending on the kind of alignment.

Figure 5-9: Health facilities

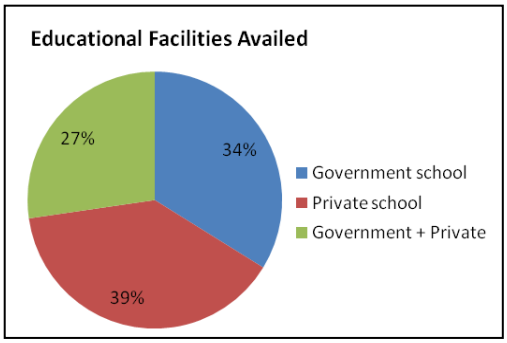


Villagers are availing a facility of sub-district hospital in Katra town. Other than this they doesn't have any other form of health facilities available. 73 percent of surveyed respondents has an access to health facilities. There is a presence of dispensary in few of the surveyed villages.

Educational Facilities

In Katra town, there is as such no problem faced by the people in the town for availing educational facilities. 39 percent respondents mentioned going to private schools while 34 percent mentioned government schools as their preference. People are Ok with the kind of facilities they are getting however youth respondents are not satisfied with that and they want to have a college and other technical educational institutions in the town.

Figure 5-10: Educational facilities



In KDA villages, villagers are getting educational facilities. 64 percent respondents are availing government educational facilities whereas 17 percent avails private schools. 19 percent preferred both. They have to go to Katra town for getting educational facilities. Educational facilities up to Anganwadi, Primary and Secondary schools are available in almost all the surveyed villages. However, Purana Daroor is a village wherein due to absence of any kind of educational facilities villagers have to travel till Katra for availing the facility.

Table 5-18: Educational facilities availed in KDA villages

Educational facilities availed	No. of Households	% of total
Government	33	64
Private	9	17
Government + Private	10	19
TOTAL	**52**	**100**

Parks / Gardens

Town has only one park/garden called as "Shalimar Baug". Other than this it does not have open parks/garden/playgrounds or any other recreational facilities for the people and children.

5.7.2 People's Opinion About Infrastructure Facilities

People's opinions were asked in terms about infrastructure facilities they are getting. It is summarized as below.

Table 5-19: People's opinion about infrastructure facilities in Katra town

Physical Infrastructure	People's opinion about infrastructure facilities (percent of respondents)		
	Good/ Sufficient	Ok/ Insufficient	Poor/ Not available
Water Supply	6	68	26
Drains	3	51	47
Sewerage & Sanitation	3	31	**66**
Solid Waste Management	6	40	**53**
Roads	4	52	44
Electricity	14	81	5
Street light	29	40	31
TOTAL	**100**	**100**	**100**

In Katra town, People rated the Sewerage & Sanitation, Solid waste management facilities as poor in comparison to other facilities. However, other facilities like water supply and roads needs an attention, as revealed during primary survey.

Table 5-20: People's opinion about infrastructure facilities in KDA villages

Physical Infrastructure	People's opinion about infrastructure facilities (percent of respondents)		
	Good/ Sufficient	Ok/ Insufficient	Poor/ Not available
Water Supply	0	62	38
Drains	0	40	**60**
Sewerage & Sanitation	0	19	**81**
Solid Waste Management	4	31	**65**
Roads	8	29	**63**
Electricity	8	67	25
Street light	10	25	**65**
TOTAL	**100**	**100**	**100**

In KDA villages, people rated Drains, Sewerage & Sanitation, Solid waste management, Roads and Electricity facilities as poor except water supply and electricity. Hence, infrastructure sector requires an immediate attention in villages.

Table 5-21: People's opinion about infrastructure facilities (percent of respondents)

Social Infrastructure	Katra town			KDA villages		
	Good	Ok	Poor	Good	Ok	Poor
Health	3	69	29	0	60	40
Education	5	78	17	0	69	31
TOTAL	**100**	**100**	**100**	**100**	**100**	**100**

As per people's perception, availability and quality of social infrastructure facilities *(health, education)* is ok.

6 ROAD NETWORK AND TRANSPORTATION

Chapter Contents

- *Existing Transportation network, Level of services along important roads*
- *Level of operation and coverage*
- *Mode of transportation and its trends*
- *.Parking issues*
- *Observations and Issues*

This section focuses the connecity chennals such as National Highways, State highways, Major Roads, Railways in the region. In this sections existing conditions of roads, traffic volume and composition, parking facilities as wellas public transportation services are analysed.

6.1 Existing Transportation Network, Level of Services along important Roads

6.1.1 Roads

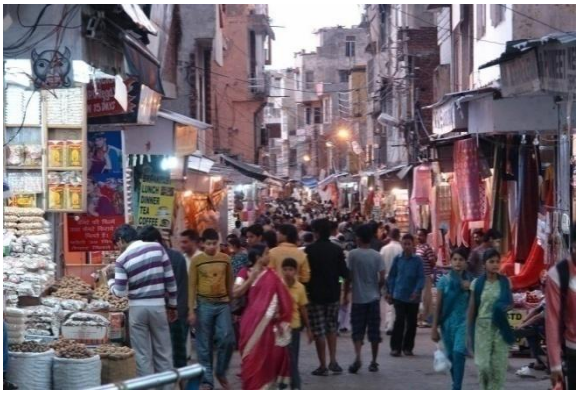
Town has evolved in a linear pattern over a period of time along the major roads, which passes from the town centre. Major state and districts roads passes from the town. Major roads, which connect Katra with other districts and state is as below;

- Katra – Panthal – Tikri Road which meets with NH-1C at Tikri and ultimately connects to Udhampur, Rajouri, Poonch.
- Katra – Domail Road – Jammu, it is also called as Jammu road which connects Katra with Jammu.
- Katra – Reasi Road, which connects Katra with Reasi District.

Picture 6-1: Road towards Domail - Jammu

These roads are pucca-metalled roads and their width varies from 24-30 mt. However, condition of these roads is not good and repair work is going-on-on Katra – Reasi Road. Roads are maintained by different agencies such as State Public Works Department *(PWD),* National Highway Authority of India *(NHAI)* & Border Roads Organization (BRO). These roads serve the inter-city and intra-city traffic movement and always buzzed with motorized vehicles *(light & heavy)*.

Picture 6-2: Uppar Bazaar road



Katra has a proper road network within its administrative boundary. As per existing master plan document, total length of road network within the local area limits of municipal committee is 71.82 km. Major roads in the town are mentioned as below and width of these roads varies from 12-18 mt.

- Bus stand - Banganga road – Darshini Darwaja
- Bus stand – Uppar Bazaar
- Bus stand – Panthal road

Other town roads include roads along sub-lanes and inner pockets of the area. Most of these roads are pucca metalled and cemented at some places. At some locations width of sub-lanes is very narrow *(less than 3 mt.)* which hardly allows people to walk and two wheelers to pass at the same time. This scenario is mostly observed in the main town centre and commercial streets areas *(i.e. Uppar bazaar, on Banganga road and Udhampur road)*. Generally, roads and lanes in Katra town roads are with side drains but without footpaths. Condition of sub-lanes and inner roads is very poor which does not have proper pavement, overflowing of drains and congestion. Town does not have organized parking places except bus stand area; taxi stand and auto-rickshaw stand, which seems insufficient and overloaded during peak season.

Picture 6-4 : Inner Sub-lanes in Uppar Baazar area

Picture 6-3 : Paid Private parking space

Number of paid parking facilities is available at different locations in the town for four wheelers and mini-buses. Charges for the same vary from Rs.50-100/ vehicle per day/night. These places are also overloaded with parked vehicles. Due to which most of the times vehicles are parked on main roads, along sub-lanes and inner pockets of the town resulting into congestion and other problems.

Picture 6-5: Main Bus Stand area

KDA villages, which are located in and around town *(i.e. Hansali, Kun Darorian)*, have good connectivity. In villages, which are placed at a far off distance, have poor connectivity and most the roads are kuccha, having poor condition. Purana Daroor village is located up in the hill and it is does not have proper road connectivity which poses difficulties to villagers, as revealed during primary survey.

Bus Stand, Taxi Stand & Auto Stand

Present bus stand is located in the heart of the town and spread over an area of 1.012 Ha *(including taxi stand)*. Bus stand and taxi stand has a parking capacity of only 25-30 buses and 50-60 taxies/cars respectively. The KDA has already notified the area for the proposed bus stand as per existing master plan document and work is under progress. This will relieve the existing chaotic conditions created in the town during peak season of the year. Villages do have an accessibility of bus stand and buses.

Picture 6-6: Site reserved for new bus stand

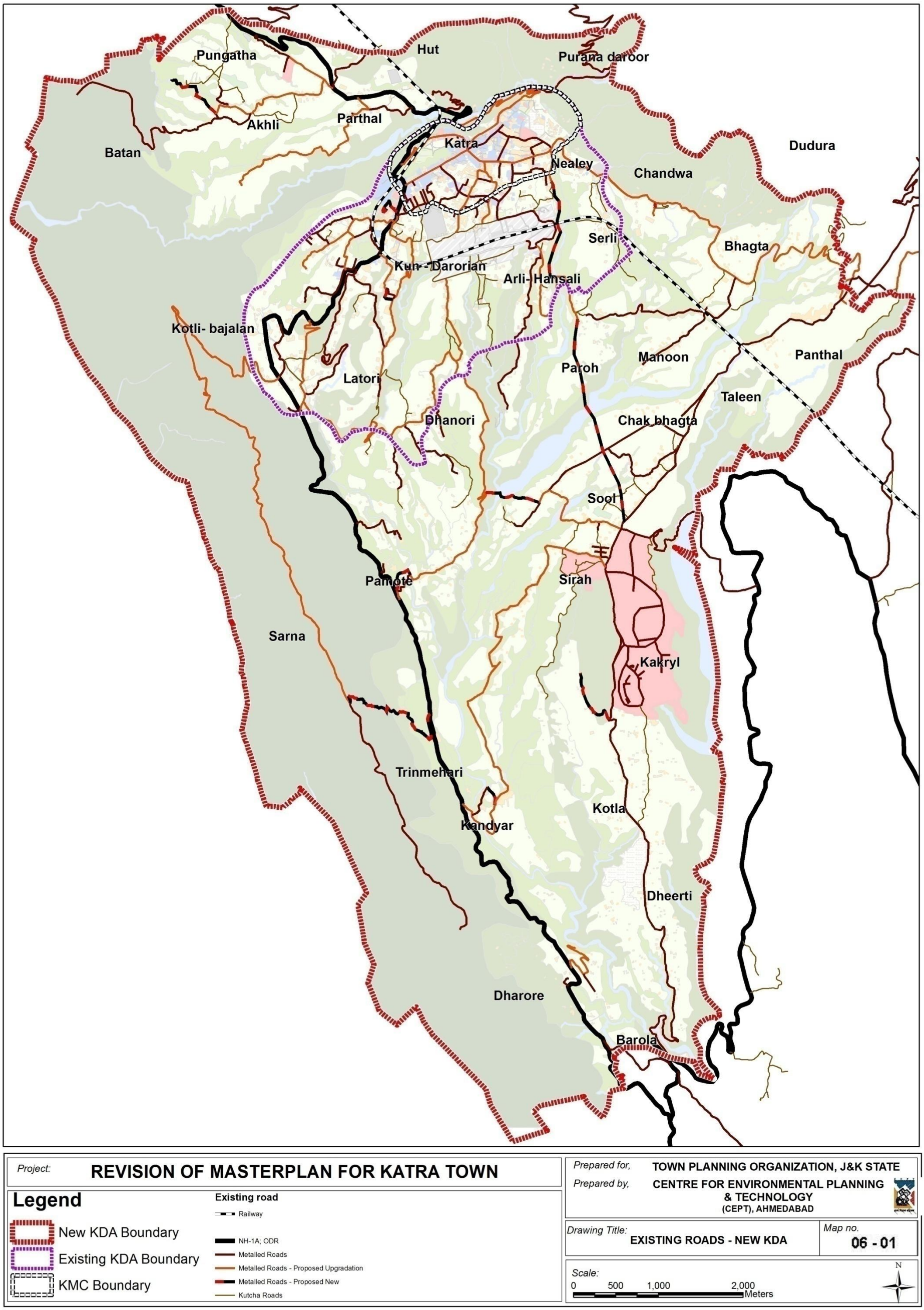
There is a reserved parking stand for Auto-walas near to bus stand area in main town centre. Considering the capacity and space available at a time, approximately 50 autos are parked. Another Auto stand is near Banganga.

6.1.2 Railway Network

The project for bringing Katra on the Railway Map of the Nation is approved by the Government of India *(GOI)*. The railway department has acquired about 2000 Kanals of land in KDA villages naming Kun Darorian, Arli Hansali & Serli for building up station and other infrastructure. This will be the most deciding and important factor in overall development of the area. It will also become a key economic driver for the area, by attracting considerable tourists, and migrants. The existing rail line from Udhampur has been extended to Katra and thereafter to valley via Katra. Hence, Katra will emerge as an important destination on rail and tourism map. It is expected that with a direct railway link to Delhi and other part of country the pilgrim inflow to Katra and the Shree Mate Vaishno Devi Shrine will increase

Picture 6-7: Railway line

Map 6-1: Existing Road and Railway Network



Project: **REVISION OF MASTERPLAN FOR KATRA TOWN**

Prepared for, TOWN PLANNING ORGANIZATION, J&K STATE

Prepared by, CENTRE FOR ENVIRONMENTAL PLANNING & TECHNOLOGY (CEPT), AHMEDABAD

Legend

- New KDA Boundary
- Existing KDA Boundary
- KMC Boundary

Existing road

- Railway
- NH-1A; ODR
- Metalled Roads
- Metalled Roads - Proposed Upgradation
- Metalled Roads - Proposed New
- Kutcha Roads

Drawing Title: EXISTING ROADS - NEW KDA

Map no. 06 - 01

Scale: 0 500 1,000 2,000 Meters

N

6.2 Traffic and Transportation

Existing Traffic Scenario

Traffic and Transportation scenario of the town is disturbing. Town is always buzzing with number of tourists and pilgrims' population, due to which traffic scenario has worsened in Katra over a period. Main town centre, near the bus stand area is the most congested place of the town. Other major roads and corridors in the town are always busy with vehicular movement. Chaos gets created during peak month of the Yatra with pedestrian, vehicular traffic movement, ponywalas and pithoowalas movement.

Major modes of transportation in the town include Auto-rickshaw, mini-buses, two wheelers, buses, four wheelers. Town serves more intra-city traffic and vehicular movement rather than inter-city traffic and vehicular movement. Every day 105 buses, 85 taxies and 100 private cars come to Katra[11].

Traffic volume count survey conducted at various locations as mentioned below on pre-designed survey formats. These locations are primarily main locations of the town and always busy with lots of traffic movement. Volume count was carried out by the team at different locations and during different time of the day.

- Main chowk/ town center
- On Banganga road
- Katra – Udhampur road
- Asia mode on Katra-Domail-Jammu road

Reason behind selection of the above is inconvenience caused and improper design of junctions. Up and down traffic movement observed on these junctions and roads. Analysis of it is highlighted in the following section. The survey was conducted for 2 hours during morning and evening hours on a pre-designed Performa manually.

Picture 6-8: Asia mode – on Jammu Road

Picture 6-9: Morning traffic in Bus stand area

6.2.1 Modal Split - Traffic Composition

As observed during primary survey, Car/Jeep, 2 wheeler and Auto-rickshaw form the major traffic composition along these junctions and roads.

[11] *Source: Existing Master Plan 2021, Katra*

Table 6-1: Traffic Composition on major junctions/roads

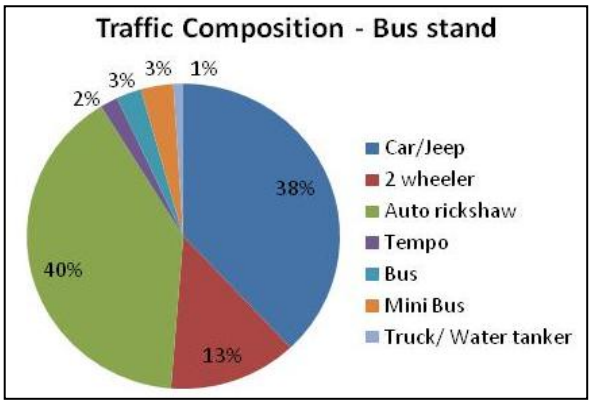
Type of Vehicles	Bus stand		Asia mode		Banganga road		Udhampur road	
	No. of vehicles passed (counted absolute number)							
	10.30-11.30 am	6-7 pm	10.30-11.30 am	6-7 pm	10.30-11.30 am	6-7 pm	10.30-11.30 am	6-7 pm
Car /Jeep	403	447	441	477	47	80	50	77
2 wheeler	183	114	145	148	26	18	23	50
Auto-rickshaw	477	416	185	159	148	315	15	28
Tempo	27	14	40	57	4	3	2	5
Bus	23	35	108	100	0	0	3	8
Mini Bus	54	21	38	60	0	0	5	9
Truck/ water tanker	12	11	8	18	0	1	10	17
Hand cart	27	10	0	1	0	2	0	0
Cycle	2	1	1	1	0	0	0	0

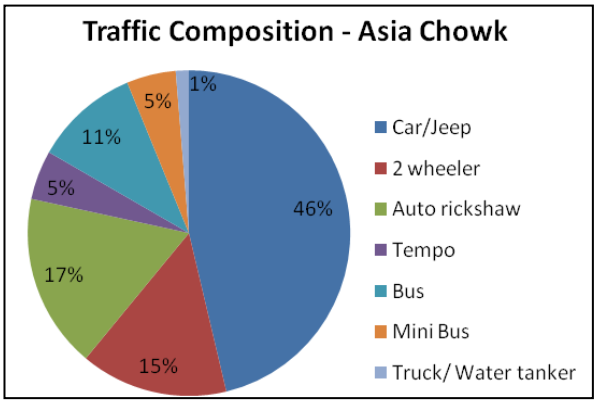
Source: Primary survey conducted for traffic volume count in Katra, (5th June- 15th June 2011).

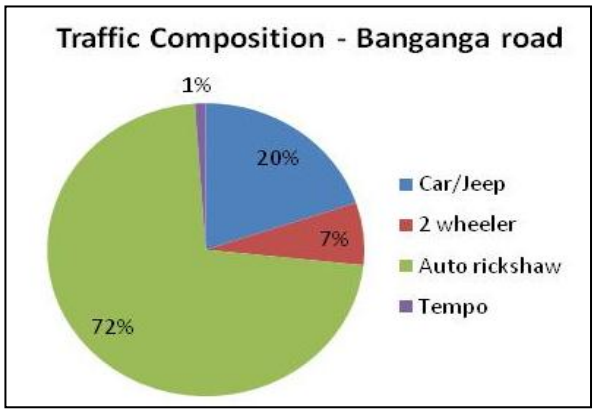
Picture 6-10: Auto stand at Banganga

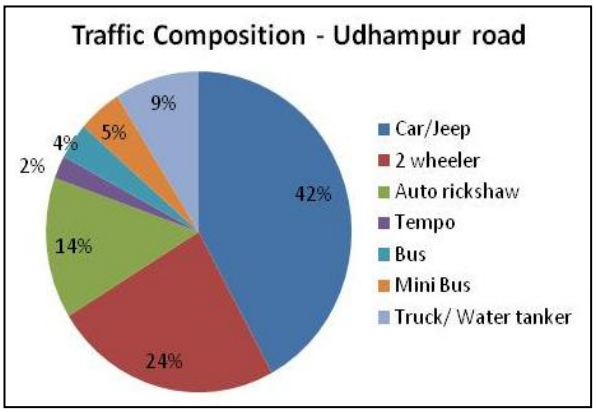
Bus stand and Asia mode junctions are places where maximum traffic flow occurs during both time intervals. Car/Jeep movement wasmostly observed during evening hours at all locations. This indicates that more number of tourists is coming by personal or hired four wheelers during this time. Two wheeler movements is more during morning time in Bus stand area and on Banganga road, which indicates movement of local population for work and other purpose. Bus stand area has the maximum movement of auto-rickshaw in comparison to the other three locations, considering the fact that auto-rickshaw stand is in bus stand area. On Banganga road, more auto traffic is observed during evening hours. This may be due to yatris/pilgrims leading towards yatra or coming from yatra. There is another auto-parking stand near Banganga. More tempo movement was observed in bus stand and Asia mode. In Asia mode maximum movement of buses, mini-buses observed, indicating tourists' arrival from Jammu to Katra. Bus stand, Asia mode and Udhampur road has good movement of private water tankers, this may be due to water supply in hotels/ guest houses/residencies. In general, four-wheeler, two-wheeler and three-wheeler dominate the road at all locations.

Figure 6-1: Traffic composition on major junctions/roads









6.2.2 Traffic Volume

Classified volume count surveys were carried out at all locations mentioned above. Appropriate Performa were used to record the number of vehicles moving across the count point during a given time.

The major objective of classified traffic volume survey is[12];

- To appreciate traffic characteristics in terms of size composition and variation – directional and temporal.
- To appreciate the spatial distribution of traffic, and
- To establish the level of service on the road network system.

As per the standard practice in urban transportation studies, volume of different types of vehicles are converted into single unit using the factors *(equivalent PCU values)* recommended by Indian Road Congress *(IRC)*. These PCU *(Passenger Car Unit)* values express the capacity of roads. Each vehicle type is equivalent PCU based on their relative inference values. The relative PCU of a particular type is affected to a certain extent by increase in its proportion in the total traffic[13]. The following table shows the PCU counts obtained at various locations in the peak hours of 10.30-11.30 am and 6-7 pm.

[12] *Source: UDPFI Guidelines, Volume 1*
[13] *Source: UDPFI Guidelines, Volume 1*

Table 6-2: Traffic Volume & PCU count

Type of Vehicles	Bus stand		Asia Chowk		Banganga road		Udhampur road	
	PCU count							
	10.30-11.30 am	6-7 pm	10.30-11.30 am	6-7 pm	10.30-11.30 am	6-7 pm	10.30-11.30 am	6-7 pm
Car /Jeep	403	447	441	477	47	80	50	77
2 wheeler	91.5	57	72.5	74	13	9	11.5	25
Auto-rickshaw	572.4	499.2	222	190.8	177.6	378	18	33.6
Tempo	37.8	19.6	56	79.8	5.6	4.2	2.8	7
Bus	50.6	77	237.6	220	0	0	6.6	17.6
Mini Bus	75.6	29.4	53.2	84	0	0	7	12.6
Truck/ water tanker	26.4	24.2	17.6	39.6	0	2.2	22	37.4
Cycle	13.5	0.5	0	0.5	0	1	0	0

Source: Estimated from the actual traffic volume and PCU standards are adopted from Indian Road Congress guidelines for traffic and transportation

Note: PCU count for different type of vehicles is; car/jeep: 1, 2 wheeler: 0.5, auto-rickshaw: 1.2, tempo: 1.4, bus: 2.2, mini bus: 1.4, truck/water tanker: 2.2, cycle: 0.5

Count for cars/jeeps and auto-rickshaws is maximum at all the places. In addition, a high count of mini buses and busesseen at bus stand and Asia chowk. The traffic is comparatively low at Banganga Road and Udhampur Road as compared to traffic at bus stand and Asia mode. These two roads prove to the busiest of all major roads with maximum congestion precisely because of combined load of intra- city and inter-city traffic.

6.3 Observations & Issues

Following are some of the observations and issues related to roads, traffic and transportation.

Poor quality of Road Surface

Roads in Katra require surface maintenance. There are several problems in respect of the surface quality of these roads. Relatively high rainfall and overload of vehicles also cause severe damage to road surfaces.

Problems due to Road Excavations

Ongoing road excavations for utilities and repair work at various road junctions further worsen the problems of congestion and traffic overload. There is a problem of untimely backfilling and closing of these excavations.

Inadequacy of Road Width & Absence of Footpaths

Roads in Katra doesn't have a foot walk space. It has side drains and at some locations these drains are not properly covered with concrete slabs as a result of which safety of the pedestrians is at

stake. The road side is often encroached by wayside traders, hawkers and other businesses for private use, thus denying a safe walking space for pedestrians. The absence of proper road shoulders makes the pedestrians enter the carriageway, which in turn creates another safety hazard and results in slowing down vehicular traffic.

Roadside Drains

Drains run parallely along roads in Katra. It is partially covered up while on some major roads its open. Those create unhealthy conditions for people and are usually overloaded and also choked due to wastes and trash in it.

Use of Road Space for Unauthorized Activities

The utilization of road space for various activities – space for sundry vendors, vehicle repairers, unauthorized parking of vehicle (buses, cars and lories in particular), storage space for construction material, dumping of rubble that hamper the smooth flow of vehicular and pedestrian traffic is a major problem in Katra.

Lack of Parking Facility

Large number of pilgrims come to the town in their own vehicles, mostly owned/ rented cars/ jeeps. The average time spends by pilgrims from coming to Katra, going to 'Yatra' and return to the town and leaving from Katra is around 24hr – 30hr, sometime evenmore depending on the months and seasons. These pilgrim have to park the vehicle in the town in designated parking spaces or in bylans.

Town doesn't have organized parking places except bus stand area, taxi-stand and auto-rickshaw stand which seems insufficient and gets overloaded during peak hours/season. There are number of paid parking facilities available at different locations in the four wheelers and mini-buses. Charges for the same vary from Rs.50-100/ vehicle per day/night. These places are also overloaded with parked vehicles. Due to which most of the times vehicles are parked on main roads, along sub-lanes and inner pockets of the town, narrowing of the area available for movement, which results into bottle-necks, creating traffic block, congestion and other problems.

7 HOUSING

Chapter Contents

- *Housing, slum & squatter settlements, demand- supply gaps in housing, identification of low income areas, problems/ issues thereof*

This section elaborates the Housing Sector Scenario of the Notified Area in terms of existing stock, household size and available infrastructure facilities.

Primary household survey carried out in Katra town. It is conducted to seek different information such as demographic, socio-economic status, available infrastructure facilities to households, opinion and perception of households about the area and willingness to pay for services.

Shelter is a basic human need after food and clothing. The residential development of Notified Area is in the form of small, medium large settlements in scattered form due the undulating terrain in the area. The settlements of the villages are sparsely settled all over the Notified Area.

Connectivity of the villages in the Notified Area to the surroundings developed areas, especially the existing urban centers like Katra, Reasi, Udhampur and Jammu, has played a significant role in the development of the area.

The villages within old KDA area have experienced development in Pilgrims' related activities. Most of the residential activities are converted into commercial or hotel usage.

7.1 Existing Housing Situation in Katra Town and old KDA Villages

As per the census records 3315 persons lived in 605 houses in 1971 whereas in 1981, 4573 persons occupied 811 houses showing an increase of 34% (in number of houses) in the decade with the household size of 5.5.

Presently, the structural condition of most of the houses in the town is almost pucca with RCC slab roofing. 50% of the employees working in Government Departments and Shrine Board in Katra, living in Government accommodation and the rest dwell in rented accommodation. Service population working in institutions like hotels, guest houses and shops etc. are putting up in rented accommodation in the town.

The structures in the old town are two to four storied high whereas structures in the extended areas are single and double storied mostly. 238 acres of land in present Local Area (notified vide SRO dated 7.2.2002) in under residential use, which constitutes about 23.36%of the total developed area.

Census information for the year 2001 is acquired and extracted for understanding the existing Housing Sector Scenario of the KDA Area. A stratified random sampling approach was adopted and 5 percent sample size was selected for the survey.

As per 2001 census, the total households in the KDA area are as follows:

Table 7-1: Number of Households in Katra Town and KDA villages

Area	Household Number	Population
Katra Town	1432	8083
Old KDA Villages	1151	6575
TOTAL	**2583**	**14658**

Source: Census 2001

In 2011, there are total 1512 households in Katra town[14]. In 2001, the total number of households in the old KDA area was2583 for the population of 14658.

7.1.1 Household Details (origin, family type)

As per primary survey, in Katra town about 84 percent of respondents are from Katra only, while rest 16 percent are migrants. They are migrated long back *(before 20-25 years)* to Katra and most them have shifted in search of job opportunities. Migrated people are from places like Ramnagar, Bhaderwah, Pamote, Reasi, Jammu, Kathua. 45 percent of them lives in a joint family and other 55 percent are nuclear family.

In KDA villages, as per primary survey, 96 percent of surveyed respondents belong to the same village. 62 percent households live in a nuclear family while rest lives in a joint family.

Household Size

As revealed during primary survey, in Katra town 38 percent households have household size less than 5, 51 percent have household size from 5 to 7 while rest 12 percent have more than 7 household size. Hence, average household size in the town varies from 5 to 7.

In KDA villages, average household size varies from 5 to 7 among surveyed households. 23 percent households have household size less than 5 while 27 percent have household size of more than 7.

Table 7-2: Household size

Household size	Katra Town		KDA Villages	
	No. of Households	% of total	No. of Households	% of total
Less than 5	29	38	12	27
5-7	39	51	26	50
More than 7	9	12	14	23
TOTAL	**77**	**100**	**52**	**100**

Both in Katra town and KDA villages, about 50% of household have household size varying from 5 to 7.

Age Group, Sex Ratio & Marital Status

In Katra town, 32 percent of surveyed people fall within the age group of 30-45 years followed by 16-30 years.

In KDA villages, almost equal distribution of population observed among different age group. This indicates the balance in demographic characteristics in villages. The surveyed sex ratio is 932 female per 1000 male, which is lower than Katra town.

[14] *Total number of residential units information sought from secondary data collected from Katra Municipal Committee, Katra, 2011*

Table 7-3: Age group

Age group	Katra Town		KDA Villages	
	No. of Households	% of total	No. of Households	% of total
0-15	86	22	83	25
16-30	101	26	88	26
30-45	125	32	93	27
More than 45	83	21	76	22
TOTAL	**395**	**100**	**340**	**100**

In Katra town, 53 percent of surveyed people are married followed by single. Sex ratio is 985 female per 1000 male. In KDA villages, 56 percent people are married and approximately 42 percent are single. Both in Katra town and KDA villages, the percentage of single are almost same.

7.1.2 Educational Status

The educational scenario in Katra town is not good. 30 percent of surveyed people have their education limited up to middle and higher secondary school only. 17 percent have higher senior secondary education while 28 percent are pursuing studies.

In KDA villages, 23 percent people have higher secondary education up to 11th -12th standard. 32 percent are pursuing studies. The educational scenario in Katra town is not good. 30 percent of surveyed people have their education limited up to middle and higher secondary school only. 17 percent have higher senior secondary education while 28 percent are pursuing studies.

Table 7-4: Educational status

Educational Status	Katra Town		KDA Villages	
	Total number of people	percent of total	Total number of people	percent of total
Illiterate	33	8	59	17
Less than 5th standard	50	13	13	4
5-10th standard	120	30	54	16
11-12th standard	66	17	78	23
Graduation	15	4	28	8
Studying	111	28	108	32
TOTAL	**395**	**100**	**340**	**100**

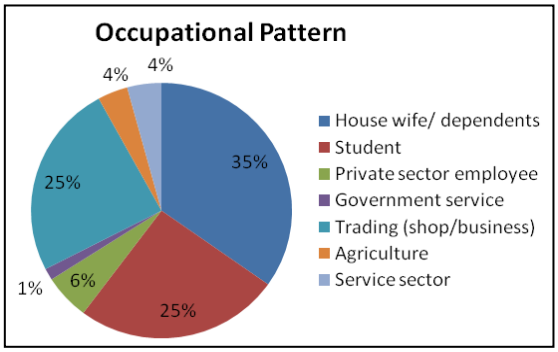
As observed during survey, those who have education up to 10th standards are the people falling within the age group of 30-45. However, their children have either studied till 12th or graduation or still studying. In Katra town and KDA villages, younger generation is studying and level of awareness about education is prevailing among them. The problem lies in the availability of educational facilities in Katra and KDA area, as informed most of them have to move out of Katra for their higher education either to Jammu, Udhampur or out of the state. Due to this problem, most of the girls have to take drop out from school after 12th or 10th. If educational infrastructure facilities can be improved, it would be good for them, as responded.

7.1.3 Occupational Pattern

In Katra town, 61 percent of surveyed people are dependents and students presently. 25 percent are engaged in business and trading activities. 6 percent are service sector employees while very few are government sector employees.

In KDA villages, 59 percent of surveyed people are dependents and students presently. 18 percent are engaged in business and trading activities. 7 percent are service sector employees while very few are government sector employees.

Figure 7-1: Occupational Pattern



Monthly Household Income

In Katra town, approximately 35 percent households have income ranges from Rs.5000-10000/- per month. 29 percent households have income ranges between Rs.2000-5000/- per month. Only 9 percent of surveyed households have monthly income of more than Rs.25000/-. There is large variation in monthly income of residents of Katra, which varies with income group, socio-economic parameters.

In KDA villages, approximately 23 percent households have income ranges from Rs.2000-5000/- per month. 56 percent households have income ranges between Rs.5000-10000/- per month. There is large variation in monthly income of village residents, which varies with income group, socio-economic parameters.

Figure 7-2: Monthly household income in Katra town

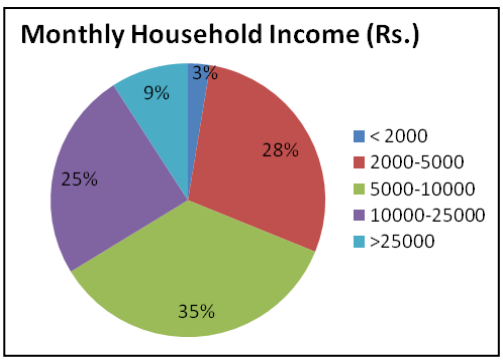
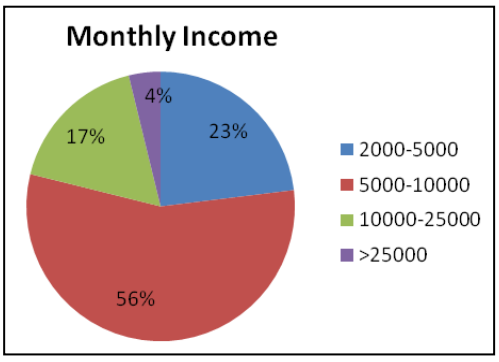


Figure 7-3: Monthly household income in KDA area



7.1.4 House Details

Ownership Status

In Katra town, 91 percent of surveyed households owns the house and rest 9 percent lives as a tenant.

In KDA villages, all the surveyed households own the house. There is an absence of rented accommodation in villages.

Figure 7-4 : House Type in KDA villages

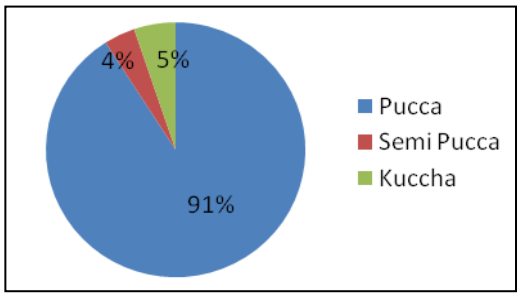
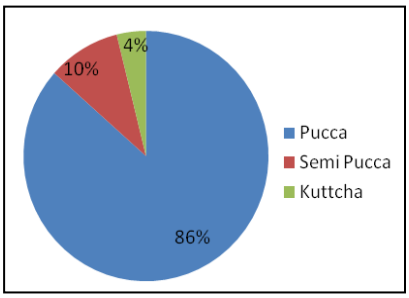


Figure 7-5 : House Type in Katra Town



Type of Development & House Structure

In Katra town and KDA villages, the entire town has plotted development. As observed In Katra town and KDA villages, 91 percent and 86 percent houses are pucca respectively, and rests are semi-pucca and kuccha structures in nature.

No. of Rooms & Height of Structure

In Katra town, 64 percent houses have 3-5 rooms plus kitchen, varndah, toilet/bathroom. 19 percent of them have only 1-2 rooms. Very less percentage of houses, have more than 10 rooms.

In KDA villages, 79 percent houses have 3-5 rooms plus kitchen, varndah, toilet/bathroom. 13 percent of them have 6 to 10 rooms. Very less percentage of houses, have more than 10 rooms

Table 7-5: No. of rooms

No. of Rooms	Katra town		KDA villages	
	Total number of respondents	% of total	Total number of respondents	% of total
1-2	15	19	3	6
3-5	49	64	41	79
6-10	10	13	7	13
More than 10	3	4	1	2
TOTAL	**77**	**100**	**52**	**100**

In Katra town, 50 percent of surveyed houses have Ground floor *(G)* structure only while 43 percent of them have G+1 structure. Very less houses have G+2 storied structures and in KDA villages, 65 percent of surveyed houses have Ground floor (G) structure while 35 percent of them have G+1

A. WILLINGNESS TO PAY FOR SERVICES

In Katra town, on being asked whether the respondents are willing to pay for services, if government provides

them better facilities. The respondents told the following.

Table 7-6: Willingness to pay for services

Willingness to pay for services	No. of Households	% of total
Yes	37	49
No	17	22
TOTAL	**100**	**100**

Households those who have shown their interest in contributing to pay for services, can afford up to Rs.500/- increase per year in order of getting better infrastructure services and amenities.

B. WILLINGNESS TO RELOCATE

In Katra town and KDA villages, as survey revealed, 86 %and 88 % of respondents do not wish to relocate at some other place in spite of problems they are facing respectively. The reason being is the place where they born, their immense faith towards Mata Vaishno Devi. Of these, some of the respondents would like to relocate but due to money and other constraints, they are not able to move out of the town. Remaining 14 percent in katra town and 12 percent in KDA villages who wants to relocate mentioned better future for their children, job opportunities, and better infrastructure facilities as their primarily concern areas for relocation. Most of them would like to relocate/shift to Jammu.

C. REQUIREMENTS OF THE PEOPLE

Infrastructure both including physical and social such as water supply, better roads, sewerage and sanitation, street lights, cleanliness, better educational facilities for children, better health facilities, employment opportunities for women and youth population are some of the requirements as mentioned by people in Katra and KDA villages.

D. PERCEPTION OF PEOPLE ABOUT THE AREA

As revealed, people do not have any problems with the tourists coming to Katra. For them they are the major source of their income and livelihoods. While few of them mentioned local people are not getting jobs/employment in Katra due to in-migrated service sector population from other districts. However, cleanliness, clogging of drains, congestion, and noise pollution are some of the issues, which needs to be tackled. Some of them told if condition in town improves due to infrastructure development, overall development, economic opportunities then they would like to stay back.

Summary of Findings – Household Survey Katra Townand KDA villages

KATRA TOWN

- In Katra town, of surveyed, 16 percent are migrants who are migrated long back to Katra
- average household size varies from 5 to 7.
- In Katra town, 32 percent of surveyed people are falling within the age group of 30-45 years.
- In Katra town, 30 percent of surveyed people have their education limited up to middle and higher secondary school (10^{th}, 12^{th}) only

- 25 percent people are engaged in business and trading activities.
- 35 percent households have income ranges from Rs.5000-10000/-per month.
- 91 percent of surveyed households own the houses.
- The entire town has plotted development, 91 percent houses are pucca.
- 64 percent houses have 3-5 rooms plus kitchen, varndah, toilet/bathroom.
- 50 percent of surveyed houses have Ground Floor structure.
- 73 percent households use PHE water supply, 15 percent households are using private water tankers. Duration of water supply is ½ hr to 1 hr per day. Water quality is rated as Ok.
- Drainage is posing a problem for the residents. Open drains is posing unsightly appearance. 58 percent respondents mentioned presence of open drains near their house. Cleaning and maintenance of drains is a problem.
- Absence of underground sewerage network in Katra. 79 percent of surveyed respondents have septic tanks within their premises.
- Absence of door-to-door waste collection practices. 55 percent respondents said that street cleaning is almost never carried out in their areas. People are not satisfied with the existing scenario of solid waste management in the town.
- Electricity cut off daily 3-5 hours and at times more than 5 hours is there in Katra.
- Width of majority of access roads to the houses varies from 3 to 6 mt. 66 percent access roads is pucca followed by kuccha structure. Most of them are unclean and congested. Parking is a big problem. 47 percent of surveyed households have occasional availability of parking space for their vehicles near their house. 40 percent of surveyed households reported insufficient streetlights on their access roads.
- Available health facilities in the town prove inadequate in case of emergency due to which people have to move to Jammu.
- People are using both government and private education facilities. Town does not have higher order educational institutions such as colleges, technical educational institutions.
- Town does not have open parks/gardens/playgrounds or any other recreational facilities.
- Large percent of respondents rated present physical infrastructure facilities in the town as Ok, except Sewerage and Sanitation and Solid Waste Management facilities, which they rated as poor.
- Availability and quality of social infrastructure facilities is Ok.
- 49 percent respondents are willing to pay for services, if government provides them better facilities. People are ready to pay up to Rs.500/- increase per year in order of getting better infrastructure services and amenities.
- 86 percent of respondents do not wish to relocate at some other place. The reason being is the place where they born, their immense faith towards Mata Vaishno Devi. Those who wants to relocate mentioned better future for their children, job opportunities, and better infrastructure facilities as their primarily concern areas for relocation. Most of them would like to relocate/ shift to Jammu.
- Infrastructure both including physical and social are the requirements as mentioned by people.
- As revealed, people do not have any problems with the tourists coming to Katra. However, few of them mentioned local people are not getting jobs/employment in Katra due to in-migrated

service sector population from other districts.

- Cleanliness, clogging of drains, congestion, and noise pollution are some of the issue, which needs to be tackled. If condition in town is improved due to infrastructure development, overall development, economic opportunities then people would like to stay back in Katra.

KDA VILLAGES

- Of surveyed, 96 percent of surveyed respondents belong to the same village.
- Average household size varies from 5 to 7.
- Almost equal distribution of population observed among different age group.
- 23 percent people have higher education up to 11^{th} -12^{th} Std.
- 18 percent people are engaged in business and trading activities. Agriculture in villages forms secondary sector after tertiary sector.
- 56 percent households have income ranges from Rs.5000-10000/-per month.
- The entire town has plotted development, 88 percent houses are pucca.
- 79 percent houses have 3-5 rooms plus kitchen, varndah, toilet/bathroom.
- 65 percent of surveyed houses have Ground Floor structure.
- 75 percent households use PHE water supply, Duration of water supply is ½ hr in a day. Water quality is rated as Ok. In Arli Hansali, Purana Daroor villages PHE water supply is absent. People are using natural spring water/well water or ground water for fulfilling their water requirement. Satisfaction level among respondents regarding water supply is ok.
- 92 percent drains are open and people carry out cleaning in case of clogging of drains.
- 46 percent of surveyed households have septic tanks. Those who do not have disposes generated sewage and wastewater into open drains or open land near to their houses.
- Absence of solid waste management practices. 83 percent respondents said that street cleaning is almost never carried out in their areas.
- Daily scheduled electricity cut off for 3-5 shours is there.
- Accessibility is a major problem/issue to villages like Purana Daroor, Arli Hansali. 58 percent access roads in these villages are kuccha.
- 65 percent of surveyed households reported insufficient streetlights on their access roads.
- 73 percent of surveyed respondents have an access to health facilities.
- In few villages, educational facilities up to primary and secondary school are available in almost all the surveyed villages.
- People rated Drains, Sewerage & Sanitation, Solid waste management, Roads, and Electricity facilities as poor.

7.2 Housing for Migrants (Hotel Workers & Service Providers)

Service Provider in Katra consists of Ponywalas, Pithoowalas and Palkhiwalas. This is one of the important sectors in Katra, which provide employment and contribute to the local economy. They are registered with municipal committee, Katra. The municipal committee charges 12 percent commission and 3 percent welfare charges on service providers. Total 25 Ponywalas, 25 Pithoowalas & 25 Palkhiwalas were surveyed.

7.2.1 Ponywalas

Registration

Picture 7-1: Registration card of Ponywala

Without registration with the committee, not a single service provider can be involved in their job. Total no. of registered Ponywalas is 7302[15].

Origin

28 percent of surveyed Ponywalas are from Reasi District while rest 72 percent are from other districts of the state. Most of them belong to Rajouri District.

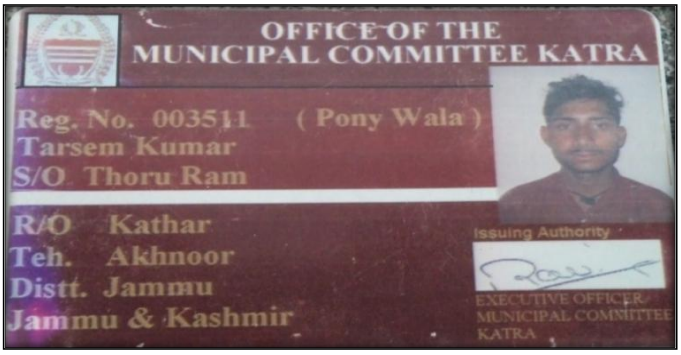


Table 7-7: Origin of Ponywalas

Origin	No. of respondents	% of total
Within district	7	28
Other districts	18	72
TOTAL	**25**	**100**

Months of stay in Katra

Most of the Ponywalas belongs to other districts and come to Katra only during peak months of Yatra. During their stay, they live in squatter, shanty and rented accommodation. 60 percent of surveyed Ponywalas stays for the duration of 4-6 months in Katra. 40 percent of them stay for a little longer duration of 6-8 months. In remaining months, they carry out agriculture and other related work at their places.

Table 7-8: Months of stay in Katra

Months of stay in Katra	No. of respondents	% of total
4 – 6	15	60
6 – 8	10	40
TOTAL	25	100

Trips within a week & Charge per Trip

It was asked to Ponywalas about the trips they make within a week in order to understand the work they carry out in Katra. All of them answered they are able to make 1 trip within a day and 5-10 trips within a week. 1 trip means from Banganga – Bhavan and returning back to the same place. Some Ponywalas make only a half trip, from Banganga to Ardhquari and return to the same place. Most of them charges Rs. 500-1000/- per trip which however varies based on distance, weight of person.

[15] *(as information provided by registration office, Katra) during primary survey*

Table 7-9: Trip charges - Ponywala

Route	Hire charges (Rs.)	Commission (Rs.)	Welfare fund (Rs.)	Total (Rs.)
Katra to Bhavan				
Adult up to 75 kg	330.43	39.65	9.92	380
75 to 100	356.52	42.78	10.7	410
75kg + child 3 to 9	400	48	12	460
>100	400	48	12	460
Katra to Adhkumari				
Adult up to 75 kg	173.91	20.87	5.22	200
75 to 100	191.3	22.96	5.74	220
75kg + child 3 to 9	200	24	6	230
>100	208.7	25.04	6.2	240
Katra to Sanjichhat				
Adult up to 75 kg	278.26	33.39	8.35	320
75 to 100	313.04	37.57	9.39	360
75kg + child 3 to 9	339.13	40.7	10.17	390
>100	339.13	40.7	10.17	390
Sanjichhat to Bhavan or Bhavan to Bhairon				
Adult up to 75 kg	121.74	14.61	3.65	140
75 to 100	139.13	16.7	4.17	160
75kg + child 3 to 9	147.83	17.74	4.43	170
>100	147.83	17.74	4.43	170
Bhavan to Katra via Bhairon				
Adult up to 75 kg	382.61	45.91	11.48	440
75 to 100	408.7	49.04	12.26	470
75kg + child 3 to 9	478.26	57.39	14.35	550
>100	478.26	57.39	14.35	550
Bhavan to Adhkumari via Bhairon				
Adult up to 75 kg	208.7	25.04	6.26	240
75 to 100	217.39	26.09	6.52	250
75kg + child 3 to 9	260.87	31.3	7.83	300
>100	260.87	31.3	7.83	300

Source: Chart displayed at Registration center, near Banganga, Katra

Picture 7-2: Registration counter at Banganga

How do you work?

There is an absence of direct contact/transaction between pilgrims and ponywalas. All registered Ponywalas work on a contract basis. Pilgrims go to registration counter and after paying, they get the receipt mentioning the number of Ponywalas. Ponywalas get their payment after trip from the counter. They get their payment after returning through the counter.

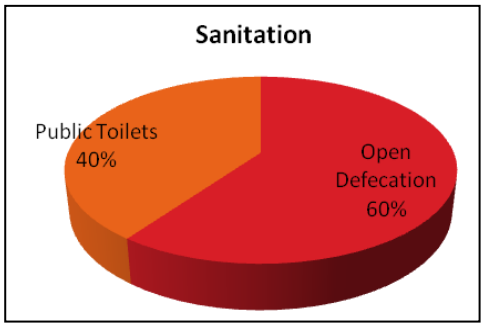
Living condition of Ponywalas

Most of the surveyed Ponywalas stay in a rented accommodation in a group of 2-4 people. 56 of surveyed Ponywalas spend Rs.1000-1500/- as room rent for one room, 24 percent spend Rs.1500-2000/- and rest 20 percent spend Rs.500-1000/-. Their average expenditure on food is Rs.3000-4000/-. Other than this they have to pay contract charges which ranges from 10-15 percent. Their living condition is very poor. Katra Municipal Committee has provided approximately 250-300 shelters for ponywalas near Banganga[16] but considering the number of ponywalas this is insufficient.

Infrastructure services

Main source of water supply is tap and spring. 60 percent of surveyed Ponywalas use tap water and rest 40 percent use spring water for their consumption. Accessibility of sanitation facility to Ponywalas is dismal considering the fact that they live in a rented accommodation and in a group. 40 percent of them have an accessibility of public toilets while rests do open defecation.

Figure 7-6: Sanitation facility - Ponywala



Shelter & Medical facilities for Ponies

There is a presence of shelter for ponies nearer to their place of accommodation, as mentioned by Ponywalas. Medical facilities are also available for ponies. Town has one veterinary hospital located on Panthal road.

7.2.2 Pithoowalas

Like Ponywalas, Pithoowalas also have to follow the same process of registration with Katra Municipal Committee to get their identity card. The committee charges 12 percent commission charges and 3 percent well-fare fund.

Origin

Total no. of registered Pithoowalas is 6469[17]. As survey revealed, 24 percent Pithoowalas are from within district, while rest 76 percent are from other districts of J&K. Approximately 32 percent out of 76 percent are from Rajouri district.

Distance from Origin

36 percent of surveyed Pithoowalas come within a distance of 50 km, 24 percent are from 50-100km, 8 percent are coming from a distance of 100-200km and rest 32 percent comes from a distance of 200 – 500km.

[16] *As information provided by officials at registration office, near Banganga, Primary survey*
[17] *(as information provided by registration office, Katra) during primary survey*

Months of stay in Katra

Mostly Pithoowalas work in Katra for 4 to 6 months. In remaining days, they carry out agriculture and other related work.

Trips within a week & Charge per Trip

Pithoowalas hardly be able to make a single trip within a day and 5-10 trips within a week. One trip means from Banganga to Bhavan and again Bhavan to Banganga. Some Pithoowalas make a half trip. Half trip means to go from Banganga to Ardhquari and to return from Ardhquari to Banganga. Different charges levied based on distance.

Table 7-10: Trip charges - Pithoowalas

Journey Detail	Hire charges (Rs.)	Commission (Rs.)	Welfare fund (Rs.)	Total (Rs.)
Katra to Bhavan& Back				
20kg luggage or child 3 to 9 yrs	434.78	52.17	13.05	500
Katra to Bhavan				
20kg luggage or child 3 to 9 yrs	217.39	26.09	6.52	250
Bhavan to Katra via Bhairon				
20kg luggage or child 3 to 9 yrs	260.87	31.3	7.83	300

Source: Chart displayed at Registration center, near Banganga, Katra

Living condition of Pithoowalas

Living standard of Pithoowalas is very bad and in a pathetic condition. Most of the time they spend their whole day and night along road and in open places. 64 percent of surveyed Pithoowalas uses tap drinking water and 36 percent use spring water. For sanitation, most of them have an access of public toilets while rest 28 percent practice open defecation.

7.2.3 Palkhiwalas

Total no. of registered Palkhiwalas is 5096[18]. Of surveyed Palkhiwalas 24 percent, are from Reasi district only and 76 percent are from other districts of the state. Most of the Palkhiwalas belong to Rajouri district.

Distance from Origin

32 percent Palkhiwalas comes from a distance of 50 km, 8 percent comes from a distance of 50-100 km, 12 percent comes from a distance of 100-200 km and rest 48 percent are coming from a distance 200 – 500km.

Months of stay in Katra

Most of the Palkhiwalas works for the duration of 6 to 8 months. In remaining days, they work in agriculture field and carry out other related work. Palkhiwalas hardly be able to make a single trip

[18] *(as information provided by registration office, Katra) during primary survey*

within a day and 5 to 10 trips within a week. One trip means from Banganga to Bhavan and again Bhavan to Banganga. Some palkhiwalas make a half trip. Half trip goes from Banganga to Ardhquari and to return from Ardhquari to Banganga. Charges taken by Palkhiwalas mentioned as below.

Table 7-11: Months of stay in Katra – Palkhiwalas

Journey Detail	Hire charges (Rs.)	Commission (Rs.)	Welfare fund (Rs.)	Total (Rs.)
Katra to Bhavan & Back				
Adult up to 75 kg	2052.17	246.26	61.57	2360
75to 100	2886.96	346.44	86.6	3320
>100	3191.3	382.96	95.74	3670
Katra to Bhavan & Back via Bhairon				
Adult up to 75 kg	2356.52	282.78	70.7	2710
75to 100	3226.09	387.13	96.78	3710
>100	3521.74	422.61	105.65	4050

Source: Chart displayed at Registration center, near Banganga, Katra

Living condition of Palkhiwalas

Mostly Palkhiwalas stays in a rented accommodation and in a group of 4 people. 36 percent Palkhiwalas spend Rs.1000-1500/ for one room rent, 48 percent spend Rs.1500-2000/- and rest 16 percent spend Rs. 500-1000/- on rent. Average expenditure on food by Palkhiwala is Rs.3000-4000/-.

Infrastructure facilities for Palkhiwalas

Main source of water supply is tap and spring. 60 percent Palkhiwalas use tap water and rest 40 percent use spring water. Most of the Palkhiwalas do not use public toilet because of their stay in rented room. Generally, owner does not provide toilet hence open defecation prevails among them. 28 percent Palkhiwalas use public toilet and remaining 72 percent carry out open defecation.

Summary of Findings

Ponywalas

- 72 percent of surveyed ponywalas are from other districts of the state.
- Most of them come to Katra during peak season, stays for 4-6 months. During their stay they live in squatter, shanty and rented accommodation in Katra.
- They are able to make 1 trip / day and 5-10 trips in a week. Charges for the same is Rs.500-1000/- per trip.
- All registered ponywalas work on a contract basis.
- Most of the surveyed ponywalas stay in a rented accommodation in a group of 2-4 people.
- Provided infrastructure services to them is very poor.
- There is a presence of shelter for ponies nearer to their accommodation place.

Pithoowalas

- 76 percent of surveyed pithoowalas are from other districts of the state.
- Most of them come to Katra during peak season, stays for 4-6 months.
- They are able to make 1 trip / day and 5-10 trips in a week.

- Living standard of Pithoowalas is very bad and in a pathetic condition.
- They are deprived of basic facilities and amenities.
- For sanitation, most of them have an access of public toilet while rest practice open defecation.

Palkhiwalas

- 32 percent of surveyed palkhiwalas comes from a distance of 50km.
- Most of the palkhiwalas works for the duration of 6-8 months.
- Mostly Palkhiwalas stays in a rented accommodation and in a group of 4 people.
- Open defecation practice prevails among them.

7.3 Accommodation Facilities for Pilgrims

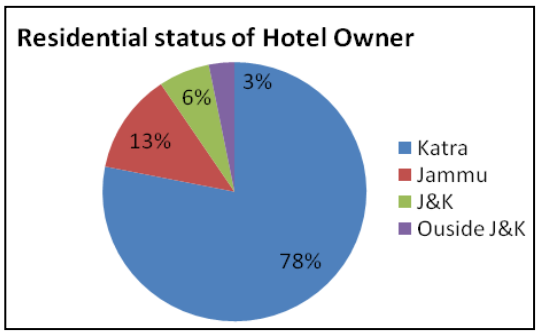
7.3.1 Hotel Industry

Picture 7-3: Hotel located near Bus Stand

The small town of Katra is always buzzing with enormous activity being a base camp for Mata Vaishno Devi Shrine. Tourists keep pouring in the town in huge numbers throughout the year. It thus becomes an evident that the hotel industry segment of Katra catering to pilgrims is one of the biggest business components adding to the economy of the town. There are about 211 registered hotels, guesthouses[19] in Katra. Other than that, there is large number of dharamshalas, govt. guesthouses, and dormitories prevailing in the town. Hotels in Katra are majorly located along Jammu-Domail road and the old Bus stand square to Dak-Bungalow road. Besides these, there are few Dharamshalas and Bhavans for the convenience of pilgrims. The following section gives the details of hotel industry in Katra based on primary survey. Random sample survey carried out and total 32 units of different categories were surveyed.

Residential status of Hotel Owners

Figure 7-7: Residential status of hotel owner



As survey revealed, about 78 percent hotel owners are from Katra itself. About 13 percent are from Jammu city. A very small segment of hotel owners is from Punjab and Delhi. This shows the dependency of majority of people in the town on hotel business, a major source of their income and livelihood.

Year of Establishment

About 16 percent hotels are running for a span of more than 20 years. However, there has been a spurt of new hotels/dharamshalas/guest house during last one year, with about 12 percent new

[19] *Source: Shri Mata Vaishno Devi Shrine Board*

hotels being added in to the list of hotels. Approximately 25 percent hotels have come up in last five years in the town. There is still a scope for new development in the coming years in this segment of the economy.

Status of the Hotels

100 percent registered hotels/dharamshalas/guest houses are there in Katra, as per survey with a registration fee varying from Rs.300/- per year to more than Rs. 2000/- per year.

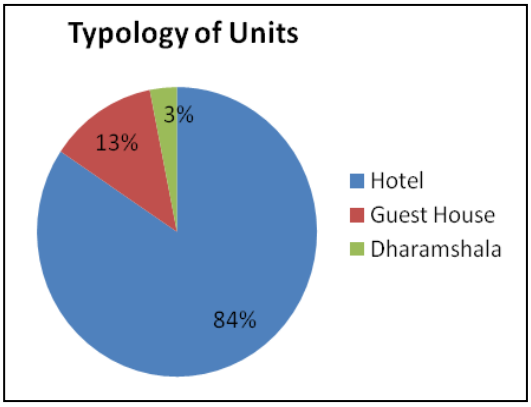
Location & Distance from public transit facility

Of surveyed hotels/dharamshalas/guest house, 72 percent are located in the main town centre area while rest placed at different locations in Katra. All of them are within a reach of less than 0.5 km from the bus stand.

Typology of units

Survey results shows that approximately 84 percent units out of total surveyed units are hotels; 13 percent are guesthouses and rest are dharamshalas in Katra. This indicates that Guesthouses and Dharamshalas constitute less proportion in Katra.

Figure 7-8: Typology of units



Category of Hotels

Amongst surveyed hotels/dharamshalas/guest house, 56 percent are of Class A and Class B category hotels, 19 percent are class C category hotels, while rest 16 percent are 3 star and 9 percent are 2 star hotels.

Table 7-12: Category of Hotels

Category of Hotels	No. of Hotels	% of total
Class A	9	28
Class B	9	28
Class C	6	19
2 Star	3	16
3 Star	5	9
TOTAL	**32**	**100**

Total Room Capacity

Majority of hotels/dharamshalas/guest house have room capacity of 10 to 50 rooms. A very less percentage of hotels have room capacity of 51 to 100 rooms and below 10 rooms.

Table 7-13: Total Room Capacity

Room Capacity	No. of Hotels	% of total
Less than 10	2	6
10-30	13	41
31-50	13	41
51-100	2	6
>100	2	6
TOTAL	**32**	**100**

Category of Rooms & Tariff Structure

As survey revealed, most of the hotels/dharamshalas/guest house have more number of double-bedded and three bedded rooms. There are hotels/dharamshalas/guest house, which have varied type of rooms such as single bedded, double bedded, three bedded, suit, family room and other. This indicates that hotel industry in Katra caters varied type of tourists.

Table 7-14: Category of rooms and tariff structure

Details	Category of Rooms					
	Single bedded room	Double bedded room	Three bedded room	Suit	Family room	Other
Total no. of hotels	5	31	20	11	7	1
Total no. of rooms	8	108	40	19	8	1
Tariff (range in Rs.)	2001-4000	<500 to >4000	<500 to >4000	2001 to >4000	2001 to >4000	>4000

The tariff for single bedded room varies from Rs.2001 to 4000 per night. It is noted that facilities for single bedded rooms is majorly available only in class A hotels. Double-bedded rooms' tariff shows a great variation since it is the most commonly available and most preferred room facility in hotels. Hence, tariff varies between Rs.300 to more than Rs.4000 per room per night. Three bedded room facility is the 2nd most easily available after double bedded rooms. Tariff for these rooms varies from less than Rs.500 to more than Rs.4000 per room per night. Suit category of rooms is majorly found in class A, 2 star and 3 star hotels. The tariff for suit is mostly more than Rs.4000 per night. Family room has 4-5 beds and its tariff varies from Rs.2000 to more than Rs.4000 per room per night. There is also a very small component of royal room, which is exclusively offered by 3 star hotels having tariff more than Rs.6000 per room per night.

Type of Tourists & Duration of Stay

All the people who put up in these hotels/dharamshalas/guest houses are from other states, as per survey. These tourists generally come to the town only for Mata Vaishno Devi Darshan. Hence, their duration of stay is mostly limited up to maximum 2 days.

Occupancy Rate & Capacity Utilization

In order to tap the rate of occupancy and capacity utilization of existing hotel industry in Katra, this specific question were asked to the surveyed hotels. Survey revealed the following;

Peak season

During peak season of the year, Katra faces the maximum rush of tourists for Mata Vaishno Devi Darshan. Months of peak season are April, May, June & July. The occupancy rate during this time varies from 70-80 percent in hotels/guest houses/dharamshalas. About 16 percent hotels have reported occupancy rate of 80 percent in their hotels during peak season. On the other hand, approximately 19 percent hotels have reported occupancy rate less than 50 percent even during peak season.

Table 7-15: Occupancy rate & Capacity utilization – Peak season

Occupancy rate (%) during peak season	No. of Hotels	% of total
<20	-	-
21-30	-	-
31-40	-	-
41-50	6	19
51-70	8	25
71-80	13	40
>80	5	16
TOTAL	**32**	**100**

Lean season

Lean season in Katra is the time of minimal rush for Mata Vaishno Devi Darshan. This season generally comes during winter months, i.e November, December, January & February. The occupancy rate during this period drops down to about 20 to 30 percent in 25 percent of surveyed hotels/guest houses/dharamshalas. However, for the majority of hotels/guest houses/dharamshalas *(41 percent)*, the occupancy rate during lean season is 40 percent to 50 percent.

Table 7-16: Occupancy rate and Capacity utilization – Lean season

Occupancy rate (%) during lean season	No. of Hotels	% of total
<20	1	-
21-30	8	-
31-40	9	-
41-50	13	19
51-70	-	25
71-80	-	40
>80	1	16
TOTAL	**32**	**100**

Infrastructure facilities and other services offered in the hotel

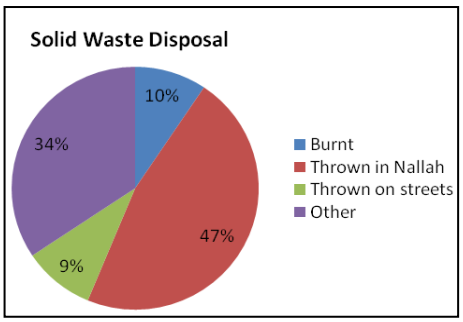
Water Supply:

Due to acute shortage of water in Katra, 97 percent hotels have to buy at least one water tanker per day during peak season. Tanker cost varies during peak and lean season. During peak season, water tankers are available @Rs.1200 to 1500 per tanker and in lean season, it costs about Rs.800. There are hotels/guest houses/dharamshalas, which do not have any requirement of water tankers even during peak season because of existing underground springs in their hotel premises. During lean season, approximately 6 percent hotels/guest houses/dharamshalas do not need tankers and PHE supply is sufficient for such hotels/guest houses/dharamshalas. However, 91 percent hotels/guest houses/dharamshalas need tankers even during lean season also.

Solid Waste Collection and Disposal:

Due to absence of proper waste collection practices, generated solid waste gets disposed off to nearby waste dumping place. Most of the surveyed hotels/guest houses/dharamshalas carry out self-disposal of generated solid waste of their hotels/guest houses/dharamshalas. It is either burnt out or gets disposed off into open drains or nallah near Banganga.

Figure 7-9: Solid waste disposal



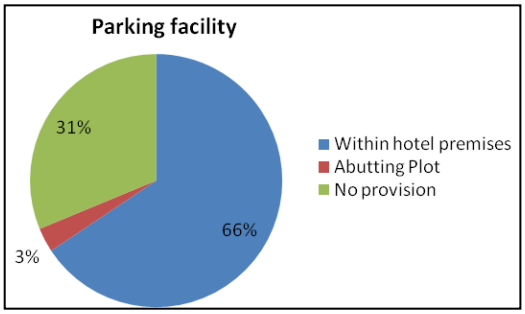
Sanitation:

Each of the surveyed hotels/guest houses/dharamshalas has septic tank for disposal of sewage. However, there are open drains running on both sides of the street marring the aesthetics of the town.

Parking facility:

With the flow of tourists increasing with each passing day, the problem of parking is a serious concern in Katra. The survey indicates about 27 percent tourists who come for Mata Vaishno Devi Darshan prefers to travel by their own vehicles.

Figure 7-10: Parking facility



Although 66 percent of surveyed hotels/guest houses/dharamshalas provide parking facility within their premises, there is still about 31 percent hotels/guest houses/dharamshalas, which does not have any parking facility for the tourists. Rest 3 percent hotels/guest houses/dharamshalas park vehicles on abutting plot. Of 66 percent hotels/guest houses/dharamshalas that have parking facility, 16 percent have parking capacity of more than 20 vehicles at a time. While 68 have parking space for less than 10 vehicles in their premises. Hence those who do not have enough parking spaces either share it with the neighbouring

hotels/guest houses/dharamshalas or abutting plot or park vehicles on the road. This has created chaos and congestion problem in the town, which is on a rise.

Food Facility within Hotels:

72 percent of surveyed hotels/guest houses/dharamshalas have either an in-house restaurant or pantry facility for the tourists. Other than this, there is a wide range of restaurants to carter different category of tourists in the town.

Employees in Hotels

As survey revealed, 30 percent hotels/guest houses/dharamshalas have a staff of more than 30 people. These staffs further divides into executive and non-executive staff. The general trend observed is that the bigger the hotel, the more is the staff. About 19 percent hotels/guest houses/dharamshalas have staff capacity between 21 and 30 people. There are about 5 percent hotels/guest houses/dharamshalas that have a staff of less than 5 people.

Accommodation facility for hotel employee

90 percent employees are local from the town and from the state in surveyed hotels/guest houses/dharamshalas. 87 percent hotels/guest houses/dharamshalas provide accommodation facility for their employees. Rest 13 percent hotels/guest houses/dharamshalas does not provide any accommodation facility for its employee.

Table 7-17: Accommodation facility for hotel employee

Accommodation facility for hotel employee	No. of Hotels	% of total
Provided	28	87
Not Provided	4	13
TOTAL	**32**	**100**

Of 87 percent hotels/guest houses/dharamshalas who have provided accommodation facility for their employees, 39 percent lives in hotel/guest house, 39 percent lives in staff quarters provided by the hotel management while 21 percent staff lives in a rented rooms provided by the management in the outskirts of the town.

Table 7-18: Type of accommodation facility

Type of accommodation facility for hotel employee	No. of Hotels	% of total
In hotel/guest house	11	39
Staff quarters	11	39
Rented room accommodation provided by hotel management	6	21
TOTAL	**28**	**100**

Plans for future Expansion

69 percent of surveyed hotels/guest houses/dharamshalas have no plans for further expansion of their business in the near future. Approximately 25 percent have plans to expand in the coming five years by either adding another floor or building other luxuries such as auditoriums etc. Rest 6 percent have a farsighted vision of expansion in next 5 to 10 years.

Table 7-19: Plans for future expansion- hotels

Future plan for Expansion	No. of Hotels	% of total
No plans	22	69
Within next 5 years	8	25
5-10 years	2	6
TOTAL	**28**	**100**

Problems and Requirements

For a town like Katra with enormous tourist inflow every day, the problems that people faces here is quite basic. A huge portion of hotel business is largely dependent on water and about 58 percent hotel owners' faces acute water shortage problems. The extensive use of private water tankers even in lean season is an added cost to the hotels. About 25 percent hotels mentioned electricity is a major problem. There is a scheduled power cut of 4 hours and an unscheduled power cut of about 3-4 hours every day. Few hotels have mentioned unavailability of skilled labour in the town. Cleanliness has also been sighted as an issue considering that there is no proper facility for solid waste disposal in the town. Some of the hotels have brought in light the exploitation by service providers in the town, especially overcharging by *ponywal*as.

8 CHAPTER: TOURISM

Chapter Contents

- *Tourism in Katra*
- *Assessment of Tourism Industry*
- *Economic Impact of tourism in Katra*

This section describes developments in tourism industry in the Katra Region. Imapcts of tourism on livelihoods as well as tourism facilities in the region are analysed.

8.1 Tourism in Katra

8.1.1 Introduction

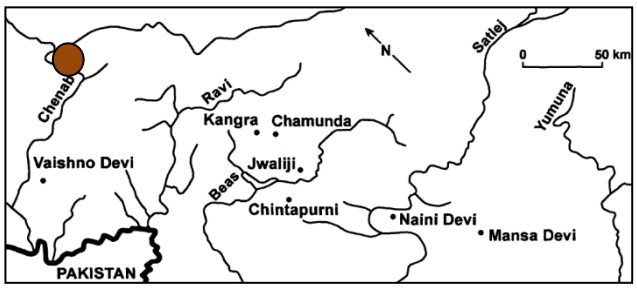
Katra town, lying in the foothills of Trikuta Mountains has an importance due to location of the Holy Cave of Goddess Shree Mata Vaishno Devi Ji. Earlier town is known as Thath, which renamed as Katra in 1891 by Maharaja Gulab Singh, on his tour to this area. The word Katra in Punjabi means a Trade Centre. Most of the historical perspective of the town is related with the holy cave. The original cave is believed to have been in existence since long. It is believed that the discovery of shrine was around 700 years back while geologists roughly put the date of this cave as about one million years old. Many historians believe that even prominent Guru Govind Singhji had visited *(around 16th century)* the shrine through Purmandal by a kuccha track linking Purmandal with Katra, thereby emphasising, the importance of Shri Mata Vaishno Devi Ji from time immemorial[20].

Picture 8-1: Katra – Trikuta Mountains

Picture 8-2: Shri Mata Vaishno Devi Temple

Picture 8-1: Shiwalik Region: Devi Shrines

Shri Vaishno Devi Mandir is one of the holy Hindu temples dedicated to Shakti. It has been designated as the "Elder Sister" among the six other Devi shrines *(Mansa Devi, Chintapumi, Naina Devi, Jvaliji [Jvalamukhi], Kangra [Kangrevali Devi or Vajreshvari]*, and Chamunda) in a narrow belt of the Siwaliks between the Yamuna and Chenab Rivers.



The temple is near the town of Katra. The shrine is at an altitude of 5,200 feet *(1,584.96 mt.)* above mean sea level and a distance of approximately 14 km from Katra town. Originally, Shri Vaishno Devi patronized primarily bydevotees from the local region, which meant not only a small number ofworshipers but also greater homogeneity in their socio-economiccharacteristics.In more recent decades, there has been a major increase inpilgrims from members of the prosperous and educated mercantile,industrial, and professional classes from urban areas.Concurrent with this growth in pilgrimage is the tremendous increase in tourism.

[20] *Master Plan Katra, 2021 A.D.*

8.1.2 Pilgrim Population

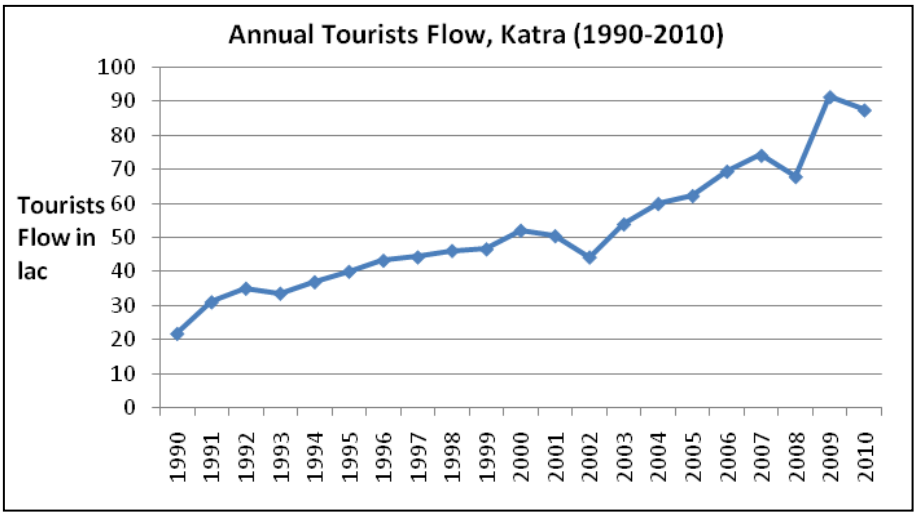
Town receives the huge amount of floating Pilgrim/ Yatri population almost through the year. An annual pilgrim flow was approx. 87.49 lacs during the year of 2010. About 20000-50000 pilgrims visits Katra per day.

Table 8-1: Pilgrim/ Floating Population visiting Katra (1980-2010)

Year	Pilgrim / Yatri Population (in lac)	Decadal growth (%)	CAGR (%)
1980	12.12	-	-
1990	21.87	80.45	6.08
2000	52.17	138.55	9.08
2010	87.49	67.70	5.31
AVERAGE		**95.56**	**6.82**

Source: Report on Master Plan for Katra 2021 A.D. & Tourism Development Corporation, Govt. of J&K (JKTDC)

Figure 8-1: Annual Pilgrims Flow, Katra (1990-2010)



Picture 8-2: Tourists moving towards Banganga

Detailed yearly and monthly information about pilgrim/yatri arrival is collected from the Tourism Development Corporation, Government of J&K and Shri Mata Vaishno Devi Shrine Board web portal. Annual pilgrims flow in Katra has increased substantially from 1990 onwards. Year 2009 shows the highest pilgrim flows in Katra *(detailed table is as per annexure II)*. Variation can be seen in pilgrim/ yatri flow during different months in a year. It generally varies based on peak, lean and average season. Peak season is during the months of April, May, June and October. Lean season is from December to March and during rest months, an average pilgrim/yatri flow can be observed in Katra.

Table 8-2: Monthly arrival details of Pilgrim/ Yatri in Katra

Months	Pilgrims Flow (in lac.)					Avg. Pilgrims Flow
	2006	2007	2008	2009	2010	
January	2.64	2.93	3.40	4.14	4.00	3.42
February	2.55	2.55	2.25	2.98	3.77	2.82
March	5.55	4.89	6.18	6.74	7.22	6.12
April	6.46	5.84	6.24	6.99	8.78	6.86
May	7.32	7.99	9.66	8.16	9.15	8.45
June	9.56	9.57	11.18	19.14	9.66	11.82
July	7.18	7.15	5.31	9.10	8.71	7.49
August	6.30	7.04	2.72	8.25	8.30	6.52
September	6.20	7.56	4.25	7.83	6.29	6.43
October	6.46	7.71	6.57	7.65	8.15	7.31
November	4.68	5.63	5.07	4.75	6.64	5.35
December	4.60	5.32	5.10	5.63	6.83	5.49
TOTAL	**69.51**	**74.18**	**67.92**	**91.35**	**87.49**	**-**
Avg. Pilgrims flow/ Month	**5.79**	**6.18**	**5.66**	**7.61**	**7.29**	**6.51**

Source: Tourism Development Corporation, Govt. of J&K (JKTDC)

As data revealed, May, June, July, August, October are peak months in a year however other months except 2 months *(i.e. January, February)* also have reasonable amount of pilgrims flow. Hence, it can be said that average pilgrims flow throughout the year in the month of June is 11.82 lacs. Average monthly flow of pilgrim during last 5 years is 8.32 lac and average pilgrim flow during 10 months of the year is 7.19 lac.

Figure 8-2: Monthly pilgrim flow in Katra (2006-2010)

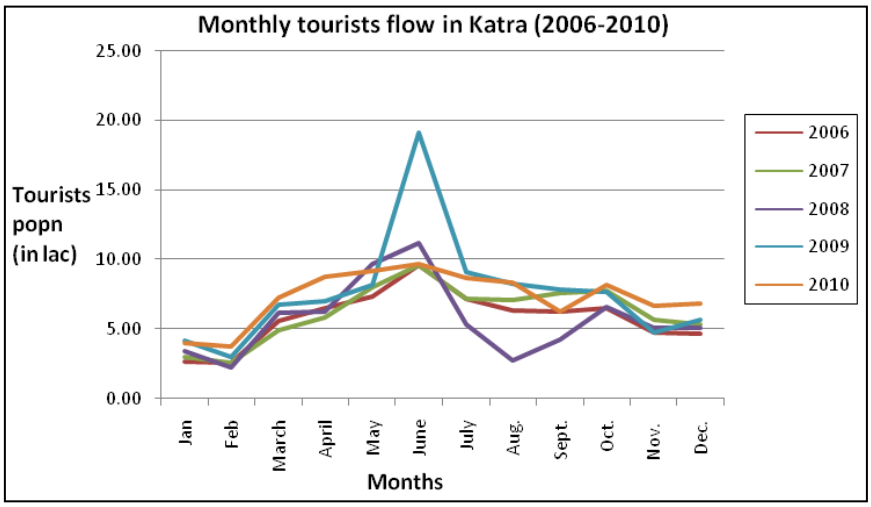


Table 8-3: Pilgrim/ Yatri flow per day

Months	Pilgrim/Yatri Flow per Day (in absolute no.)					Avg. Yatri Flow
	2006	2007	2008	2009	2010	
January	8512	9440	10978	13370	12892	11038
February	9116	9096	8051	10637	13472	10074
March	17905	15784	19943	21736	23297	19733
April	21548	19469	20795	23301	29279	22878
May	23605	25777	31160	26311	29501	27271
June	31879	31892	37269	63785	32210	39407
July	23148	23073	17133	29344	28084	24156
August	20314	22705	8759	26623	26771	21304
September	20670	25213	14161	26107	20957	21422
October	20851	24882	21179	24658	26278	23569
November	15607	18754	16886	15836	22148	17846
December	14834	17150	16444	18158	22025	17722
TOTAL	**227988**	**243233**	**222758**	**299866**	**286914**	**-**
Avg. Pilgrims flow/ Day	**17692**	**18865**	**17290**	**23221**	**22225**	**21346**

Source: Tourism Development Corporation, Govt. of J&K (JKTDC)

Average pilgrim flow per day is 21346/day from 2006-2010 while average per day flow during 12 months is 106730 / day.

The most important activity that a pilgrim has to undertake on reaching Katra is to register for the Yatra. Yatra Registration is carried out at the Yatri Registration Centre *(YRC)* located near the main bus stand area. All pilgrims without exception are required to register themselves prior undertaking the Yatra. Shri Mata Vaishno Devi Shrine Board carrier of the registration, which is the only Statutory & Legal authority for the purpose. No other organization, private or public is authorized to issue the Yatra slip. The registration process is entirely free and is fully computerized. Yatris are required to cross the first Check Post located at Banganga *(around 1.5 kilometres from the YRC)* within 6 hours of the issue of the slip. Generally, preferred time for yatra is evening time. One Yatra Slip is issued for a maximum of 9 family members.

Since the carrying capacity of the Shri Mata Vaishno Devi is limited, the maximum numbers of yatries who can have darshans in a single day are about 30000 at present. However, during the peak rush periods, the number of yatri arrivals is far in excess of this number. In such a situation, the yatries are then asked to wait at Katra itself. This phenomenon is called 'Waiting' and no yatra slips are issued during waiting. Instead, red/pink waiting slips are issued. These have to be validated at the YRC, the following morning or whenever "Waiting" is called off. Then the waiting slips are taken back and the original yatra slips are issued following which yatries can begin the pilgrimage. The phenomenon of waiting is inconvenient but is necessary owing to the geographical limitation of the Holy Shrine. Yatries are advised to check the yatra status from this website before embarking on the yatra. As a thumb rule, weekends during May, June and the second half of December or any other block of school/college/office holidays invariably witness heavy rush thereby necessitating

"Waiting". This needs to be taken care while planning for a future, as population characteristics play a vital role in the planning process for a town.

Tourist's primary survey conducted as a part of Revised Master Plan for Katra 2021 in order to understand the pattern of tourists coming to Katra. Detailed primary survey performa was prepared by the CEPT team wherein information such as nationality, from where they are coming, frequency of visit to Katra etc. sought. Total number of surveyed tourists is 83. Following section highlights the output results from the survey.

8.2 Pilgrims Primary Survey Findings

Arrival of Pilgrims to Katra

As per primary survey, approximately 81 percent of surveyed tourists have come from other states while 17 percent belong to the same state. A small percent of tourists are coming from other nation.

Table 8-4: Tourists Arrivals in Mata Vaishno Devi Shrine

S. No.	Year	Total Yatra Flow	Local	Non-Locals	Ratio
1	2000	5191915	700240	4491675	13:87
2	2001	5056919	N.A.	N.A.	
3	2002	4432178	N.A.	N.A.	
4	2003	5400296	682277	4718019	13:87
5	2004	6109895	798206	5311689	13:87
6	2005	6251998	797295	5454703	13:87
7	2006	6950573	804648	6145925	12:88

Source: Shri Mata Vaishno Devi Shrine Board, Katra & JKTDC

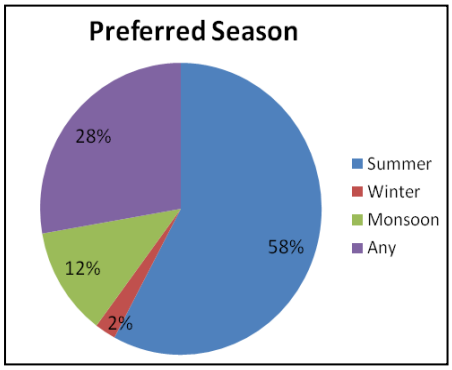
As shown in above table, in 2006, out of the total pilgrim population 88% of pilgrims are coming to Katra from all over the nation.

Frequency of Visit

40 percent of surveyed tourists have come to visit ShriMata Vaishno Devi for the first time, whereas, 60% of the pilgrims visit Katra for 2nd time.

Of total number of tourists who are coming for the 2nd time, 63 percent come once in a year. Local tourists come twice/thrice in a year, which constitutes 37 percent of total tourists coming for the 2nd time.

Figure 8-3: Preferred season by tourists



Preferred Season & Reasons for Visit

58 percent of surveyed tourists prefer summer season for their yatra. It is the suitable and convenient season for family and friends to group together. Monsoon is the less preferred season followed by winter.

Those who preferred monsoon and winter as their seasons for travel to Mata Vaishno Devi, Katra consider good weather and less rush for Darshan as their main criteria. Approximately 28 percent tourist does not have specific choice regarding season preferences for their yatra. According to them, it depends on time availability and convenience of family and friends.

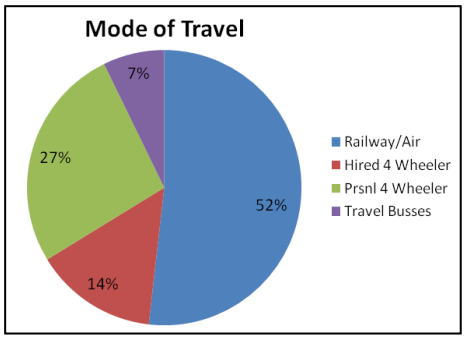
Mode of Transport

Mode of Travel to Katra

Railway is the major mode of transport for tourists who come to visit Mata Vaishno Devi, Katra from their home town/city/state. 52 percent respondents have mentioned railway as their preferred mode of transportation. Tourists coming from the same state or nearby state prefer to travel by their personal four wheelers.

14 percent respondents mentioned hiring a four-wheeler as their means of travel. Only 6 percent have reported to come by travel buses.

Figure 8-4: Mode of travel- tourists



Local mode of travel in Katra

Four wheeler and Auto is the local mode of transport in Katra for tourists. As observed 39 percent tourists, roam around in Katra by 4 wheeler Auto rickshaw is the 2nd most preferred mode of transport by 39 percent of surveyed tourists. Rest walk around the town by foot only.

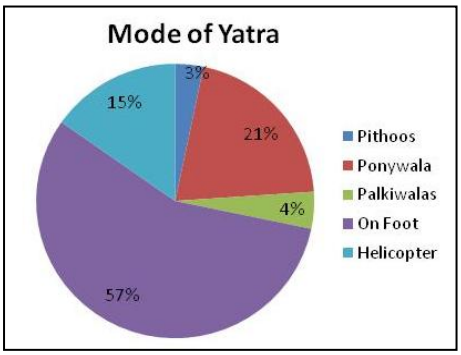
Table 8-5: Local mode of travel in Katra

Local mode of travel in Katra	Number (absolute)	% of total
Auto rickshaw	32	41
4 wheeler	34	39
On foot	17	20
TOTAL	**83**	**100**

Mode of Mata Vaishno Devi Darshan/ Yatra

As survey revealed, 57 percent tourist prefer to do Yatra on Foot followed by Ponywalas. Approximately 15 percent tourist use helicopter services for Yatra. The remaining hires Pithoowalas and Palkiwalas. During survey, tourists raised an issue of inconvenience caused due to same paths of Ponywalas, Pithoowalas, Palkiwalas and people on foot. They also mentioned to have an organized fee structure for this service providers so that Yatris do not end up paying exorbitant prices.

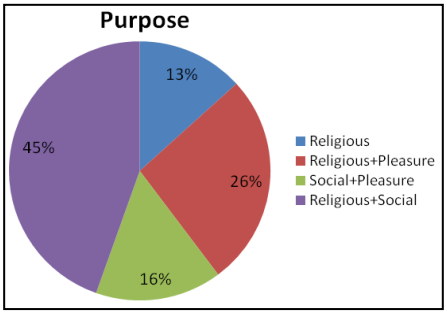
Figure 8-5: Mode of Yatra



Purpose of Visit

37 percent of surveyed tourists come to Katra for religious and social purpose followed by religious and pleasure *(i.e. 22 percent tourists)* purpose.

Figure 8-6: Purpose of visit



The Tour

It is revealed, 58 percent tourist only comes for Yatra and return back while rest (*42 percent)* follows the circuit tour wherein they go to nearby places. Following table highlights the preferred tourist destinations for the tourist who come to visit Katra.

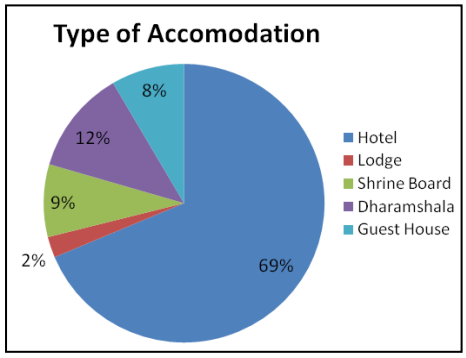
Table 8-6: Preferred location of circuit tour

Preferred location of circuit tour	Number (absolute)	% of total
Kashmir	20	57
Amritsar	11	31
Shimla	3	9
Other	1	3
TOTAL	**35**	**100**

People in a Group

It is observed that approximately 54 percent tourists come in a group of 3-5 people. 30 percent come in a larger group of 6-10 or more. 14 percent of surveyed tourist is couple.

Figure 8-7: Type of accommodation



8.3 Accommodation facilities

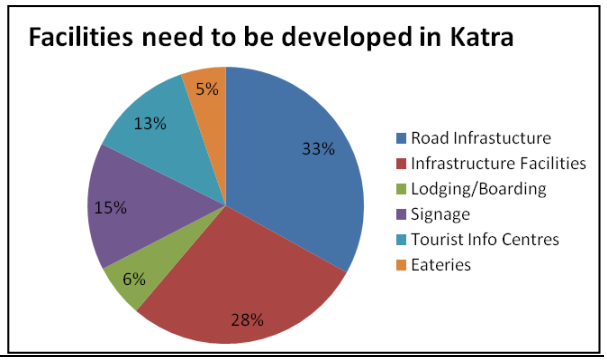
Duration of stay in Katra

2 days is the maximum duration of tourist's stay in Katra.

Location & Type of accommodation in Katra

Around 81 percent tourists prefer to stay in Katra town whereas about 17 percent prefer to stay near the shrine. 69 percent tourists prefer to stay in various categories of hotels in Katra. A very small percentage of tourists prefer to stay in guesthouse, lodge type of accommodation.

Figure 8-8: Facilities to be developed in Katra



8.4 Infrastructure facilities

Facilities need to be developed in Katra

It has been asked to tourists about the kind of facilities need to be developed in Katra, in response to that 33 percent tourists mentioned

improvement in road infrastructure as the foremost needed facilities in Katra. This is followed by basic infrastructure facilities like water, sanitation, parking and electricity.

8.5 Tourists opinion about Katra as a Pilgrimage Destination

98 percent of surveyed tourists think that Katra has a potential to become a major pilgrimage city however it would require many efforts to carry out its development.

Problems and Suggestions

Following table highlights the problems and suggestions as mentioned by tourists during primary survey.

Table 8-7: Problems and Suggestions by tourists

Problems	Suggestions
Electricity	Need for good waiting areas
Drinking water	Separate route for ponies & pedestrians
Cleanliness	Creation of public squares, shelter spaces
Chaos for Darshan pass	Expansion of the main town centre
Expensive Auto facility	Waiting sheds
Congestion and unorganized traffic	Cheaper hotels
Exorbitant price of ponywalas	Fee management
	Organized helicopter service

8.6 Economic Impacts of Tourism with reference to Shree Mata Vaishno Devi

The economic value of tourism to an economy is often measured by way of estimating its contribution to the national income, employment and tax revenues accruing to an economy. In order to estimate the contribution of tourism, one must determine to what extent production, employment and tax revenues generated out of tourism.[21]However, this is difficult to determine. This difficulty is due to the lack of detailed data on marginal productivities, factors, or inputs employed in tourism. For each tourism activity and purpose of visit, gross receipts from tourism are computed by equating to the product of the number of tourists multiplied by their average duration of the stay in days and per tourists' daily expenditure.[22]

8.6.1 Economic Impacts of Accommodations / Hotel Industry (Income and Employment generation)

The accommodation category includes hotels, lodges, dharamshalas, guesthouses etc. All such accommodations generate employment and income to the people of Katra along with surrounding areas. All these accommodations are broadly classified as follows:

- Shrine Board Accommodation consisting of Rooms & Dormitories.
- Private Hotels
- Lodges
- Dharamshalas

[21] *Mathieson, A. and Wall, G. 1982; Williams, T.A. 1979, Nabi, G. 2000*
[22] *De Kadt, E. 1979, Chattopadhyay, K. 1995*

- Guest Houses &
- JKTDC Hotels consisting of rooms & dormitories.

Accommodations built & managed by Shri Mata Vaishno Devi Shrine Board: Shri Mata Vaishno Devi Shrine Board, Katra has done a remarkable job, from the point of view of the pilgrims, by getting a variety of accommodation constructed at Katra as well as at Jammu to suit all types of pockets and differential needs of the pilgrims coming for darshan of Shri Mata Vaishno Devi. The Shrine Board had constructed accommodation units with all modern amenities at the most competitive rates namely Vaishnavi & Saraswati Dham adjacent to the Jammu railway station, and Niharika & Trikuta Bhawan complexes at Katra near the bus stand area. The whole land across the Trikuta hills belong to shrine board who in turn constructed a number of units at Adikuwari, S.chat and Bhawan to accommodate pilgrims. The total bed capacity of all the accommodations provided by the Shrine Board is 40,655 and it has generated a total rental income 61.4 million rupees in the year of 2006-07.

Table 8-8: Income generated through rentable accommodation

Sr. no.	Financial Year	Income earned through rentable accommodation (InRs.)
1	2004-05	4,81,89,021
2	2005-06	5,90,18,622
3	2006-07	6,13,74,556

Source: Shri Mata Vaishno Devi Shrine Board

Simultaneously, Offering & Donations and Income of the Shrine Board directlyreflects the economic impact of the Vaishno Devi pilgrimage in the Katra town and inthe state (J&K) in particular. In order to analyze the impact, figures of last few yearsare presented. The Shrine Board is not only involved in the provision ofaccommodation facility but also has its own outlets for sale of food items, othereatables, souvenirs/ *Prashad* etc. As per the information, Board had around 1833employees in 2004-05 and the figure rises to 2244 persons employed on differentdesignation based on the technical knowledge and expertise till June 2007.Simultaneously, around 2000 new direct or indirect jobs have been created every yearon an average.[23]

Table 8-9: Offerings and Donations

Sr.No.	Period	Offerings & Donations (In Rs.)	Total income (In Rs.)
1	2000-01	312617540	68,82,42,738
2	2001-02	283741635	68,32,76,123
3	2002-03	272021631	66,40,35,612
4	2003-04	365161296	79,69,46,144
5	2004-05	408570192	93,43,30,570
6	2005-06	521327055	1,14,83,93,773
7	2006-07	578550634	1,26,85,73,899

Source: Shri Mata Vaishno Devi Shrine Board

[23] *Economic Impact Of Vaishno Devi Pilgrimage: AnAnalytical Study by S.K.Gupta*

Private Hotels: The private hospitality industry of Katra provides deluxe to veryordinary accommodation facilities. The hotels in Katra are generally categorized intothree types according to their capacity, In-house facility and the tariff they charge. Asper the information obtained from Tourism department, there are following categoriesof hotels operation in Katra:'A' Category Hotels;'B' Category Hotels and 'C'Category Hotels.

The A' Category Hotels includes some of the prominent hotels like The Orchid, Devi Grand, Country Inn & Resorts, Hotel New Subash, Hotel Asia Vaishno Devi,Hotel Asia Shripati, Hotel Ambika et al. As per the information received fromTourism department, there are around 12 'A' category hotels. It is found from theresearch that the total daily revenue from 'A' category hotels with 100% capacity utilization would be Rs. 12.645 Lakhs (see table 8-11). It has found that 'A' Category hotels on an average employ 35 persons out of which 7 personnel are in managerialand supervisory job and others are involved in non-administrative activities. Thus, thetotal employment generation by the 12 'A' category hotels is estimated as (35 x 12) =420 persons.

Further, it has found 'B' Category hotel numbers of rooms are less than 'A' category hotels and charge fewer tariffs. As per the information collected from the Tourismdepartment, there are around 70 'B' category hotels in Katra e.g. Hotel New Natraj,Hotel Basera, Hotel Durga, Hotel Malti Palace etc. The estimation of income andemployment is done on the basis of five hotels. The daily potential revenue generationby the sample hotels is presented in the table 8-12. It is found that average daily tariffrevenue per hotel from all non a/c rooms in this category of hotels is Rs. 18740.5 and from all a/c rooms / suites it is Rs. 4661. Thus, the average total daily tariff from theabove-mentioned two types of rooms is Rs.23401 per hotel. On the basis of this it isestimated that the total daily potential revenue generation for all the 70 hotels under'B' category is Rs. 16,38,070 i.e. Rs. 59,78,95,550 per year. Using the researchfindings regarding hotel capacity utilization at 52.44%, the total yearly revenue from'B' category hotels in Katra is estimated as Rs. 2,15,04,176.99.

It is found from the research that this category of hotels employs an average of 20 persons per hotel, out of which 4 are administrative and operational officials and16 are non-administrative and operational employees. With this the total directemployment generation by 70 such hotels is estimated to be 1400 persons.

Table 8-10: Total Estimated Daily Revenue from 'A' category Hotels

S. No. of the Hotel	Total No. of Rooms	No. of Non- AC Rooms	No. of AC Rooms/ Suites	Tariff from Non ac Rooms		Tariff from A/c Rooms/Suites	
				Avg. Tariff per room per day*(Rs.)	Total Tariff per day (Rs.)	Avg. Tariff per room per day(Rs.)	Total Tariff per day(Rs.)
1	198	N.A.	198	N.A.	N.A.	3500	693000
2	37	31	6	1325	41075	2100	12600
3	48	41	7	1020	41820	2245	15715
4	47	40	7	800	32000	1350	9450
5	55	47	8	900	42300	2000	16000

S. No. of the Hotel	Total No. of Rooms	No. of Non- AC Rooms	No. of AC Rooms/ Suites	Tariff from Non ac Rooms		Tariff from A/c Rooms/Suites	
				Avg. Tariff per room per day*(Rs.)	Total Tariff per day (Rs.)	Avg. Tariff per room per day(Rs.)	Total Tariff per day(Rs.)
6	50	42	8	1045	43890	1945	155560
7	70	60	10	1000	60000	1690	16900
8	38	32	6	970	31040	1500	9000
9	33	5	28	1250	35000	1750	8750
10	31	26	5	995	25870	2750	13750
11	38	32	6	1249	39968	2899	17394
12	42	36	6	1000	36000	1250	7500
Total	**687**	**392**	**295**	**11554**	**428963**	**24979**	**835619**
Average	**57.25**	**35.64**	**24.58**	**1050.36**	**38996.64**	**2081.58**	**69634.91**

Source: International Journal of Hospitality & Tourism Systems, Economic Impact of Vaishno Devi Pilgrimage: An Analytical Study

Table 8-11: Total Daily Revenue Generation Potential of 'B' category Hotels

S. No. of the Hotel	Total No. of Rooms	No. of Non- AC Rooms	No. of AC Rooms/ Suites	Tariff from Non ac Rooms		Tariff from A/c Rooms/Suites	
				Avg. Tariff per room per day*(Rs.)	Total Tariff per day (Rs.)	Avg. Tariff per room per day(Rs.)	Total Tariff per day(Rs.)
1	19	19	0	890	16910	-	-
2	20	17	3	562.5	9562.5	550 (4 bed)	1650
3	37	31	6	900	27900	1100 (3bed)	6600
4	37	31	6	850	26350	1200 (4 bed)	7200
5	24	20	4	649	12980	799	3196
Total	**137**	**118**	**19**	**3851.5**	**93702.5**	**3.649**	**18646**
Average	**27.4**	**23.6**	**4**	**770.3**	**18740.5**	**912.25**	**4661.5**

Source: International Journal of Hospitality & Tourism Systems, Economic Impact of Vaishno Devi Pilgrimage: An Analytical Study

Consequently 'C' category hotels are opted by maximum number of pilgrimsvisiting the shrine. Higher demand for such hotels has led to the establishment of 84'C' category hotels in Katra. Some of these hotels are Hotel Kanchan, Hotel TaraDelux, Hotel Vasu, Hotel Kings, Hotel vivek, Hotel Damini, Hotel Prem, and HotelMahindra Palace etc. In 'C' categories of hotels on average there are 20 rooms. It isfound from the study that the average daily revenue potential of each 'C' categoryhotel from non a/c rooms is Rs. 8,220 and for suite a/c rooms is Rs. 1900. Analysis ofthe following table shows that the total daily revenue potential with 100 % capacityutilization of the two types of rooms is Rs. 10,120. The total yearly revenuegeneration from 84 such hotels with 52.44% capacity utilization is Rs. 16.27 crore.As per the research findings, this category of hotels employs as average of 8 personsper hotel which includes 2 persons as administrative officials and operational

and 6 persons as non-administrative and operational employees. The total direct employment generation by 84 hotels is estimated to be 672 persons.

Table 8-12: Total Daily Revenue Generation Potential of 'C' Category Hotels

S. No. of the Hotel	Total No. of Rooms	No. of Non-AC Rooms	No. of AC Rooms/ Suites	Tariff from Non ac Rooms		Tariff from A/c Rooms/Suites	
				Avg. Tariff per room per day*(Rs.)	Total Tariff per day (Rs.)	Avg. Tariff per room per day(Rs.)	Total Tariff per day(Rs.)
1	28	24	4	500	12000	850	3400
2	17	17	-	337.5	5737.5	-	-
3	20	20	-	475	9500	-	-
4	20	20	-	385	7700	-	-
5	20	20	-	350	7000	-	-
6	16	14	2	412.5	5775	700	1400
7	15	15	-	200	3000	-	-
8	9	9	-	550	4950	-	-
9	24	24	-	550	13200	-	-
10	30	30	-	600	18000	-	-
11	23	23	-	200	4600	-	-
12	42	42	-	312.5	13125	-	-
13	29	29	-	505	14645	-	-
14	8	8	-	415	3320	-	-
15	19	19	-	400	7600	-	-
16	17	14	3	400	5600	750	2250
17	9	8	1	500	4000	550	550
Total	**346**	**336**	**10**	**7092.5**	**139752.5**	**2850**	**7600**
Average	**20.353**	**19.765**	**2.5**	**417.2059**	**8220.735**	**712.5**	**1900**

Source: International Journal of Hospitality & Tourism Systems, Economic Impact of Vaishno Devi Pilgrimage: An Analytical Study

Lodges: There are around 58 registered lodges in Katra as per the informationgathered from the J&K Tourism Office, Katra and Municipality. The researchfindings revealed that there are, on an average 20 rooms in one lodge. It has also beenfound that 75% of the rooms (.i.e. 15 rooms) in the lodges have double occupancywhere as remaining 25% (i.e. 5 rooms) have single occupancy capacity. The surveyshows that the average tariff for double occupancy room is Rs. 150 and for singleoccupancy room is Rs.110. Therefore, the average daily revenue potential fromdouble occupancy rooms per lodge (for average of 15 rooms) is Rs. 2250 and fromsingle occupancy rooms (for average of 5 rooms) is Rs. 550. Thus, the average totaldaily potential revenue from the above-mentioned two types of rooms is Rs. 2800 perlodge on an average. As per survey it is revealed that in lean seasons the lodgesremain less than fully occupied, during the peak season these operate at more than100% capacity utilization as many occupants hire accommodation for less than halfday but are charged for full day tariff and thus a single room is rented out to second oreven third occupant within 24 hours.

This leads to 100% average capacity utilizationover the full year as revealed by the survey. Thus, the total yearly revenue for 58lodges at 100 % capacity utilization is estimated to Rs. 3.1084 crore. As per thefindings, a lodge, on an average, provides employment to 5.4 persons. This indicatesthat the estimated employment generation through all lodges in Katra is 313 persons.

Dharamshalas: These are much cheaper than various other types of lodging facilities.Pilgrims generally take these Dharamshalas for short stays only, thus one bed is oftenchanges guests over a number of times per day. This compensates the earnings ofDharamshalas during lean season. Although it is known that theseDharamshalas do not charge any amount for accommodation they provide, yet theymake it compulsory for the pilgrims for the pilgrims to purchase the *Prashad* fromtheir shops only, which is usually expensive than the one being sold in the openmarket. With this strategy, they attract customers and achieve almost 100% ofcapacity utilization in their dharamshalas. As per the information collected from theNAC, the total bed capacity of all dharamshalas in Katra is 2992. It is found in thesurvey that the average number of rooms in one dharamshala is 15. With this, thetotal number of dharamshala at Katra is estimated to be 200. The revenue theygenerate is estimated to be Rs. 100 per day per bed. Thus, the total daily revenuewith the total bed capacity of 2992 beds (@ Rs. 100 as revenue per bed) is estimatedto be Rs. 299200. Thus, on basis of 100 % capacity utilization, the total annualrevenue received by all dharamshalas in Katra is estimated to be Rs. 10.928 crores.It is evident from the research that on an average 3.6 persons are employed in adharamshala to take care of the pilgrims. It is also revealed during the course ofsurvey that the total number of dharamshalas in Katra is 200. This indicates that thetotal employment generation in the area through dharamshalas would be to the tune of720 persons.

Guest Houses: Guest Houses are relatively more economical than the private hotelsavailable in Katra. As per the J&K Tourism office's record, there are 5 registeredguest houses that cater to the needs of pilgrims in Katra. The total bed capacity ofthese 5 registered guest houses is 103 and the average daily revenue per bed is Rs.200. Thus, the daily revenue generation potential of the available guest houses isestimated to be Rs. 20,600. These guest houses, with a total capacity utilization of100% generate total annual revenue of Rs. 75.15 lakh in a year.

Accommodation unit of J&K Tourism Development Corporation (JKTDC): TheCorporation has made Tourist Reception and Retiring Centres, Tourist Bungalow andYatri Niwas in Katra that are owned and managed by JKTDC. The Huts and Touristbungalow of the corporation are also having facilities of dining room with Kitchen /restaurant facility. The total bed capacity of JKTDC at Katra is 815. As the JKTDCaccommodation is divided into three categories, Tourist Bungalows (including huts),Tourist Reception Centres and Yatri Niwas, the revenue generated from these iscalculated separately due to the dissimilarity in their bed capacity and tariff rates. Inthe absence of detailed information on the exact number of different types of rooms'vis-à-vis their exact capacity utilization, the average has been taken for determiningthe effective average tariff for all types of rooms throughout the year.The total bed capacity of Tourist Bungalow is 84 beds, but the revenue varies fordifferent types of rooms. It is observed that on an average there are 2 beds in eachroom. The tariffs of these 42 rooms in Tourist Bungalow are Rs. 550, Rs. 450, Rs.350and Rs. 300 per day. Thus, the average daily revenue received per room is around Rs.412.50. Simultaneously, the potential average revenue generated from all 42 rooms ofthe Tourist Bungalow is estimated to be Rs. 17,325 per day, i.e. Rs.

63.24 lakhs peryear. Thus, the total yearly revenue generation from Tourist Bungalows with thecapacity utilization of 52.44% is estimated to be Rs. 33.16 lakhs.

The next category of JKTDC accommodation is Tourist retiring center with totalcapacity of 156 beds in three types of rooms, i.e. double bedded, four bedded andeight –bedded with tariff rates as Rs.400, Rs. 250 and Rs.350 respectively, i.e. Rs. 200 per bed in double bedded rooms, Rs. 72.50 per bed in four bedded rooms and Rs.43.80 per bed in eight bedded rooms. It was also observed that the differentialfacilities in the rooms account for differential tariffs. Hence, the average revenue perbed in various types of rooms is estimated to be [(200+72.50 + 43.80)/3] = Rs. 105.43per bed. Thus, the average daily potential revenue received from all these 156 roombedsis estimated to be Rs. 16,447.08, i.e. Rs. 60.03 lakhs per year. There are 125beds in the dormitories/ common hall. The average tariff of dormitories is Rs. 25 perbed. Thus, the average daily potential revenue received from all the beds of thedormitory is estimated to be (125 x 25) = Rs. 3125. i.e. Rs. 11.406 lakhs per year.Hence, the total potential revenue received from both types of accommodation, i.e.room-beds and dormitory is estimated to be (Rs. 60.03 lakhs + Rs. 11.406 lakhs) isRs. 71.436 lakhs per year. Thus the total revenue generated from the Tourist retiringcenre with the observed over all capacity utilization of 52.44 % is estimated to be Rs.37.46 lakhs per year.

The last category of JKTDC accommodation is the Yatri Niwas. The bed capacityhere includes 300 beds in independent rooms and dormitory of 150 beds. As persurvey, the average revenue per bed in rooms is estimated to be [(150+100+43.75)/3]Rs. 97.916 and the average revenue per bed in dormitory is estimated to be Rs. 50.Hence the average potential daily revenue from room- beds accommodation isestimated to be (300 @ Rs. 97.916) i.e. Rs. 29,375 i.e. Rs. 107.22 lakhs per year.
Similarly, the average potential daily revenue received from dormitory & beds in YatiNiwas is estimated to be (150 @ Rs. 50) Rs. 7500 per day or Rs. 27.375 lakhs. Thus,the total potential revenue from both types of accommodation is expected to be Rs.134.59 lakhs per year.

The survey has shown that on an average, 26 persons are employed in any unit ofJKTDC. Since it has three units viz. Tourist Bungalow, Tourist retiring centre andYatri Niwas and it is estimated that the total employment generation from these unitswould be 78. The above analysis shows that the hotel industry in Katra generatesrevenue from all types of accommodations available at Katra, i.e. Shrine Boardaccommodation, Private Hotels, Lodges, Dharamshalas etc. is estimated to be 88.57crores.

8.6.2 Income and Employment generation from Transport sector

Increased inflow ofpilgrims in Katra for the holy *darshan* has raised demand on transport services.Pilgrims coming from various parts of the country and arriving at Jammu recourse toroad transport to reach at the base camp, Katra due to non-availability of rail transport between twin cities. i.e, Jammu and Katra. The preferred means of road transportation are buses, mini buses, taxies and sometimes a chartered helicopter from Jammu. As per the survey, it is estimated that there are 330 buses, 99 minibuses, 152 cars/Vans (taxies) that are rendering transport services to the pilgrims. Increaseddemand for bus transportation to Katra has facilitated local tour and travel agencies toexpand their existing fleet of vehicles. The total yearly revenue of all the mini-busesis estimated to be Rs. 14.85 crores per year. There are three types of buses, taken intoconsideration viz. luxury buses, semi-luxury buses and ordinary buses. The averageannual gross revenue earned is estimated by taking the arithmetic mean of the annualrevenue earned by the three types of buses-new as well as old buses. The average annual gross revenue earned by these buses is estimated to Rs. 11.523 lakhs per year (per bus). As per the survey information, averages of 6 buses are operated by the 55 tour/travel/transport agencies/companies. This amount to a total number of 330 buses being operated on this route. The gross revenue from 330 buses operating at Katra is thus estimated to Rs. 38.02, crores per year.

Picture 8-3: Taxi Stand, Katra

Auto-rickshaws constitute the major means of local transport industry in Katra. Approximately 700 registered autowalas is there, of which 300-350 are in a running position every day[24]. There is Auto Rickshaw Association in Katra and is placed in the main market center area. Registration fee is Rs.400/- per year and parking charges is Rs.5/- per day at rickshaw stand. 60-70 percent of them are migrants from Reasi district while rests are from Katra, as revealed during primary survey.

Picture 8-4: Auto –rickshaw rates

The survey results have shown that there are 2.5 persons employed per bus on an average. This indicates that for a total fleet of 581 vehicles (aggregation of different types of vehicles as discussed above); the total employment generation would be 1100 persons per year. Beside this Auto-Rickshaw has also contributed to the generation ofwealth and employment.

[24] *Information sought during primary survey of Auto-rickshaw driver in Katra*

Helicopter Service: In order to boost the yatra inflow vis-à-vis to provide a platform(mean) to old and infirm pilgrims to plan their pilgrimage to the Shri Mata VaishnoDevi, Helicopter service was introduced in 2002. Though service for short durationswas started over a couple of times earlier also but the same were withdrawn by theoperators due to one reason or the other. Shri Mata Vaishno Devi Shrine Board thatmanages the Shrine and Yatra related affairs roped in Deccan aviation Limited to flytwo Bell 407 helicopters on Katra-S.chat and back route. Tariff of Rs. 2000/- wasmade it perfect to serve the pilgrims who do not trek due to health / time problem. Thesurvey shows that DAL over a period of 5 years has made increase in the No. ofPilgrims ferried manifolds. Number of passengers that used the services of DAL overthe last 2.5 years is illustrated below along with the income of the company:

Table 8-13: Income of Deccan Aviation Limited

Year	Aviation Company	Passengers Travelled	Income (In Rs.)
2005	D.A.L	N.A.	1.10 crores
2006	D.A.L	79966	15.12 crores
2007(Jan-June)	D.A.L	42603	6.60 crores

Source: Deccan Aviation Ltd. & SMVDSB

The average monthly income of DAL in the last year 2006 was 1.26 crores where asthe 1st6 months of 2007 have already helped DAL to fetch monthly income of Rs. 1.1crores and by seeing the trends, it is expected that D.A.Ls monthly income may toucharound 1.75 crores by the end of year 2007.

8.6.3 Economic Impact of Tourism on Service Providers (Pithoos and Ponywallas)

Pithoos render labour services to the pilgrims by carrying their luggage during the journey to the Shrine andback. The Ponywallas, with the help of ponies cater pilgrims by carrying them along the difficult Trikuta hills to reach Bhawan of Mata Vaishno Devi.

Pithoos: More than 8000 Pithoos are earning their livelihood due to Mata Vaishno Devi shrine. It is found that average monthly income of a Pithoo is Rs. 3863.Considering this, an attempt is made to find out total annual income generation by thePithoos engaged in this activity at Katra. In order to work out the total annual earnings of the registered Pithoos and Porters in Katra, two methods are applied. In the firstmethod, a calculation is made on the basis of average monthly earning and averageworking days of a Pithoo in a year. As per the information collected from the NAC that controls and register them, there are 6291 registered Pithoos operating in Katra.With average earnings Rs. 3863 per month and the estimated average number ofworking days of a Pithoo of 236.6 days i.e. 7.8867 months.

Thus, the total monthly income generated by the registered Pithoos is estimated tobe Rs. 2.4302 crores. The total annual income of all Pithoos with an averageestimated 7.8867 months of working and average monthly income of Rs. 2.4302 crores is estimated to be Rs. 19.16 crores.

The second method takes Into Consideration the number of Pilgrims seeking assistance of Pithoos in a year. It is found from the research that the averagepercentage of tourists requiring assistance from

Pithoos and Porters is 16 %. As perthe information from Shrine Board, the number of pilgrims visiting the shrine in theyear 2006 is 69.5 lakh. This shows that in a year, about 11.12 lakh pilgrims needassistance of the equal number of Pithoos / porters. Thus annual income of Pithoos and porters is calculated by multiplying daily average income of Pithoos and Porterswith the number of Pithoos required catering to the needs of the pilgrims in a year.The average daily income is found to be Rs. 128.766 as per the research conducted.Thus by the second method of calculation, the annual income generation of all Pithoosis estimated to be Rs. 14.31 crores (Total revenue generated = Average number ofpilgrims x daily average revenue).

Ponywallas: Ponywallas provide the most convenient and quick transport to the Shrine from the base camp of Katra. Pilgrims who are old or physically not in aposition to climb up / down the hilly track or those who have less time at theirdisposal tend to prefer pony for going to the Shrine. Secondary data obtained from theKatra NACs office confirms that there are 4747 registered Ponywallas operating fromKatra to the Shrine and back.

From our survey it has been found that on an average a Pony makes as many as 7.5 round trips per week (Katra-Bhawan-Katra) or about 30 trips a month. Our findingsalso shows that out of the 30 trips made in a month, on an average 22 trips are madecarrying pilgrims per month .i.e. 264 trips per year. It was also estimated that averagedaily income of a Ponywalla is Rs. 264.00 i.e. Rs. 69,854.40 per year. Thus the totalannual income generated by al the 4747 Ponywallas was estimated to be Rs. 33.16crores.

The study shows that as many as 4747 Ponywallas are engaged in ferrying the pilgrims from Katra-Bhawan-Katra terrain that covers 13 Kms one way. OperatingPonies to the Shrine and back to Katra does not only ensure income and employmentto so many Ponywallas but also it has tremendous forward and backward linkages thathave very high economic impact on the economy of Katra. Considerable incomeearned by the Ponywallas is spent on food, fodder, insurance, medicines (vaccination)needed by the Ponies and taxes to be paid to NAC before making a shuttle. This indicates a strong and positive multiplier effect on income, expenditure and employment through this sector.

Commercial establishments that have grown considerably with the increase in demand by ever increasing inflow of pilgrims in Katra, contribute a lot to thedevelopment of the economy of Katra. These establishments create employmentopportunities, absorb surplus labour in the locality, promote household industries,help in generating income, create and expand employment avenues. Theseestablishments operating in and across Katra range from individual service providersto factory owners, shop–keepers, barbers, washer men, tour operators & travel agents,restaurants and eateries (Dhabas)etc.

The study finds that the average annual growth rate of turnover of these establishments is 4.4%. It is also estimated that the average annual growth rate of investment made in these establishments is 3.5%. The research findings highlight thefact that these establishments have generated revenue to the tune of Rs. 226.22 croresin a year from pilgrims and Rs. 57.44 crores from local people. The total revenueearnings were Rs. 283.66 crores. The projection of the total estimated revenuegeneration of

these establishments with an annual turnover growth rate of 4.4% for the years 2006-2010 is shown below in the table 8-14:

Table 8-14: Estimated Annual Turnover of Commercial Establishments during 2006-2010

Year	Annual Turnover (Rs. [In Crores])
2006	296.14
2007	309.17
2008	322.77
2009	336.97
2010	351.79

Source: International Journal of Hospitality & Tourism Systems, Economic Impact of Vaishno Devi Pilgrimage: An Analytical Study

8.6.4 Employment Generation:

It is estimated from the research that total employmentgeneration by various commercial establishments in Katra is 7781 persons. A detailedoverview of revenue and employment generated and wages distributed are shown inthe table below:

Sr. No.	Nature of Commercial Establishment	Revenue From Pilgrims (In Rs.)	Revenue from Locals (In Rs.)	Total Revenue	Employment Generation
1	Paint Shop	0	37191600	37191600	18
2	Jewellery Shop	73752000	99888000	173.640000	24
3	Chemist Shop	37240000	2660000	39900000	140
4	Fruit/Vegetable Shop	4604250	11513250	16117500	225
5	Chaat Shop	7614675	5110465.2	12725140.2	34
6	Dairy & Ice-Cream	20132550	7850250	27982800	27
7	Photographer	68604550	3.8725925	107330475	455
8	Grocery Shop	518920350	47634600	566554950	1735
9	Pan Bhandar	3215275	3094525	6309800	32
10	Gift Shop	130108005	4240485	134348490	580
11	Sweets / Fast Food	36057100	10648350	46705450	250
12	Cassettes Shop	25062500	0	25062500	125
13.	Electrical Goods Shop	429900	3869100	4299000	48
14	Cinema Hall	890200	3900000	4790200	9
15	Cyber café	88200	88200	176400	2
16	Combined Shop	276592625	11887975	288480600	1042
17	Dry Fruits Shop	141870850	13154900	155025750	484
18	Restaurant	52852500	5872500	58725000	390
19	Tea Stall	4103288	7173892	11277180	179
20	Video Game	32280	393720	426000	2
21	Masala Shop	112500000	78750000	191250000	3
22	Doctors Clinic	4942350	10387962	15330312	50

Sr. No.	Nature of Commercial Establishment	Revenue From Pilgrims (In Rs.)	Revenue from Locals (In Rs.)	Total Revenue	Employment Generation
23.	Shoes Shop	1917000	36423000	3834000	60
24	Printing Press	0	378400	378400	8
25	Crockery Shop	1579200	814800	23.94000	28
26	Cloth House	98154180	67484340	165638520	413
27	Dhaba/ Eateries	113464940	58522473	171987413	685
28	Souvenir Shop	525148467	5714535	530863002	205
29	Barber Shop	2342400	1071200	3413600	80
All Establishments		**2262219635**	**574444447**	**2836664082**	**7333**

Source: International Journal of Hospitality & Tourism Systems, Economic Impact of Vaishno Devi Pilgrimage: An Analytical Study

The analysis of the survey has revealed that with the increased inflow of thepilgrims, the economic activities are growing manifold in Katra and the multifariousactivities have led to generate immense opportunities of generation of income andemployment for the local people. It is estimated that numerous types of economicactivities in Katra would generate and income nearly around Rs. 4750 million perannum and provide employment to as many as 26978 persons. The following tablehighlights the income and employment generation potential of such economicactivities:

Table 8-15: Income and employment generation potential of all category's of economic activities in Katra

Category of Industry	Income (In Crores)	Employment (Persons)
Hospitality (all kinds of accommodation facility)	72.16	4950
Pithoos	16.16	8000
Ponywallas	33.16	4747
Buses, Minibuses and Taxies	66.23	1100
Auto	3.01	400
Commercial Establishments	283.66	7333
Total	**474.3699**	**26530**

Source: International Journal of Hospitality & Tourism Systems, Economic Impact of Vaishno Devi Pilgrimage: An Analytical Study

As is evident from the above table, the commercial establishment has the maximumamount of revenue generation potential. This sector provides employment to as manyas 7333 persons. Maximum number of persons i.e. 8000 persons are employed asPithoos, which states that tourism in Katra, has provided a large opportunity to thelocal unskilled people to support the livelihood by rendering their personal labourservices to the pilgrims. The hospitality industry has a revenue generation potential ofRs. 72.15 crores. Moreover, this sector gives employment to 4950 persons. Thesefigures show that employment and income generation on account of PilgrimageTourism industry in Katra is very high. It is therefore expected that the rise in thepilgrims' inflow in the future will bring tremendous opportunities for generation ofadditional income and gainful employment in

the local area for which the economicand social status of the local people will be enhanced manifolds.

8.7 Observation and Issues

- 81 percent of surveyed tourists have come from other states.
- 40 percent of surveyed tourists have come to visit Mata Vaishno Devi for the 1st time.
- Rest, who has come for the 2nd time, visits Katra once in a year. Local tourists come twice/thrice in a year.
- Railway is the major mode of transport for tourists who come to visit Katra. This is followed by personal four-wheeler.
- 58 percent of surveyed tourists prefer summer season for their yatra. While 28 percent tourist does not have any choice regarding season.
- 37 percent of surveyed tourists come to Katra for religious and social purpose.
- It is observed that 54 percent tourists come in a group of 3-5 people.
- It revealed that 58 percent tourist only comes for Yatra and return back.
- 81 percent tourists prefer to stay in Katra during their visit to shrine.
- 69 percent tourist prefers to stay in various categories of hotels.
- 2 days is the maximum duration of stay.
- Four wheeler and Auto rickshaw is the local mode of transport in Katra for tourists.
- 57 percent tourists prefer to do yatra on foot followed by Ponywalas.
- During survey tourists mentioned, the inconvenience caused due to same paths of ponywalas, pithoowalas and palkhiwalas and people on foot.
- 33 percent tourists mentioned improvement in road infrastructure is a must requirement for the town followed by water supply, sanitation, parking and electricity.
- 98 percent of surveyed tourists think that Katra has a potential to become a major pilgrimage town however it would require lot of efforts to carry out its development.
- Pilgrim's has lot of impact on economic activities in various fields such as accommodation facilities, transport sectors and service providers and generates
- Increase in number of pilgrims have impact on economic activities

9 FINDINGS OF EXISTING SITUATION ANALYSIS: OBSERVATIONS AND ISSUES

Chapter Contents

- *Existing Land Use Assessment*
- *Assessment of Physical and Social facilities*
- *Demographic and Socio-Economic impacts*
- *Effects of pligrom tourism on Katra*

This section of report reveals existing land use of Katra. It will also discuss impacts of new developments on land use, accessibility, physical and social infrastructures.

Urban growth and development patterns are largely affected by the availability of developable land.Existing land use analysis through interpretation of satellite images and ground verification of the same has enabled the identification major changes in land uses that have taken place in the Notified Area in the recent past.

The cumulative result of the understanding acquired from Land Use Analysis conducted for the Notified Area, further aided by a keen insight of the existing morphology, is the creation of a master plan that is both, visionary and implementable.

This chapter attempts a comprehensive analysis of information and data concerning the Notified Area and identifies potential areas for future developments. The issues of concern, on the basis of which the analysis is carried out, are identified under various development sectors like Land use, Transport, Infrastructure etc, and are elaborated below.

A thorough understanding of these issues will further help in articulating the Vision and Development Objectives for a coherent and strategic Master Plan of the Notified Area.

9.1 Summary and Findings of Existing Land Use Analysis

The existing Master Plan for Katra 2021 Area has total area of 1092.49 Ha and comprises 1 Katra town and 31villages of Katratehsil of Reasi district.

Of this total area, only 180.8 Ha is developed (16.55 % of the total Notified Area), while 911.7 Ha (83.45% of the total area) is non developable land. The maximum land area is non developable because these areas comprises ofhills, slopes, forest, water bodies, Nallas and defense land. Out of total developed area 8.82 % is the residential area followed by 3.14% of circulation area. The commercial and pilgrim accommodation are 1.73% and 1.03% of total developed area respectively.

There is an absence of any spatial information related to existing land use of Katra town and its vicinity. The details mentioned above is extracted from existing master plan document, which was based on data and information collected few years earlier. Hence, it does not hold much relevance at present. Therefore, an extensive physical survey in the study area was carried out in order to get the current land use details.

Developed Area

Areas which are already developed, comprising settlements, other allied developmental activities (Commercial, Public, Semi Public, Institutional, and Industrial) and transportation (Roads, Railway land, Bridges) are included in this category.

Not Developable Area

Areas regulated by special authorities (Defense & JKIDC), ecologically sensitive areas, and Natural Features (Water Bodies / ponds, Nallas, Rivers) constitute not developable land in the Notified Area.

Land available For Development

Land occupied by open areas (waste land, open / vacant land), Brick kilns, wet lands (used for recreational development), tree covers, etc are included in this category. Generally these areas can

be identified on the basis of their development potential, feasibility, suitability and consultation with stakeholders.

Existing Land Use

Table 9-1: Existing Land use, Katra

Details	Total Area (sq.km.)	Total Area (Ha)	% of total	% of total developed
A. Developed Area				
Commercial	0.36	36	3.25	9.58
Residential	0.78	78	7.05	20.73
Mix use	0.15	15	1.38	4.05
Public & Semi-public	0.14	14	1.23	3.63
Roads & Transportation	1.20	120	10.86	31.96
Defense	0.04	4	0.40	1.17
Industrial	0.00	0	0.01	0.02
Open spaces/Vacant land	1.02	102	9.27	27.28
Recreation	0.05	5	0.43	1.25
Under construction	0.01	1	0.11	0.33
TOTAL	**3.75**	**375**	**33.98**	**100**
B. Non-Developable area/ Land Cover				
Dense vegetation	1.12	112	10.16	15.38
Forest	0.03	3	0.25	0.37
Hill	0.20	20	1.83	2.77
Shrub	0.69	69	6.25	9.46
Steep slope	1.58	158	14.31	21.67
Agriculture	3.60	360	32.57	49.34
Water body	0.07	7	0.66	1.00
TOTAL	**7.29**	**729**	**66.02**	**100**
TOTAL (A+B)	**11.04**	**1104.26**		

Note: Existing land use table is prepared based on primary survey

34 percent of total surveyed land is developed while rest 66 percent is non-developable area in Katra. Of developed area, roads and transportation sector shares higher percentage of land use followed by open spaces/vacant land. Of total non-developable land area, 49 percent is under agriculture followed by steep slope. Detailed land use breakup of the above-mentioned categories is mentioned as below.

Commercial land use is distributed in different categories such as 1) Purely commercial which includes shops/commercial complex/Godown/workshop and warehouses 2) Hotel/Guest house. Hotels and Guest houses forms the larger percentage of commercial land use. Detailed category of residential land use includes 1) Pure residential 2) Squatter settlement, of which squatter settlement constitutes very less percentage. Mix use has two categories such as 1) Residential + Commercial/Public & Semi-public 2) Commercial + Public & Semi-public. Mix land use is majorly

concentrated in the old town areas and along major commercial roads. Public & Semi-public land use categories include 1) Public Utilities/Facilities & Services 2) Institutional 3) Religious & Socio-cultural. Religious & Socio-cultural category share higher percentage among other categories of Public & Semi-public land use. Roads and Transportation category include 1) Roads 2) Parking 3) Bus stand/Helipad 4) Railway. Railway shares the highest percentage of roads and transportation land use, due to upcoming railway line to Katra and other associated activities related to it.

9.2 Major Land Use Changes

A key finding of the land use survey is the alarming rate at which new developments are taking place in the Notified Area. Most of the new built fabric being organized in the form of hotels& commercial complexes alongside the major roads. People converting their residential units to guest house or small restaurants. Amount of Industrial area is reducing at a faster rate.

9.3 Need For Improved Access & Connectivity

Poor quality of Road Surface

Roads in Katra require surface maintenance. There are several problems in respect of the surface quality of these roads. Relatively high rainfall and overload of vehicles also cause severe damage to road surfaces.

Problems due to Road Excavations

Ongoing road excavations for utilities and repair work at various road junctions further worsen the problems of congestion and traffic overload. There is a problem of untimely backfilling and closing of these excavations.

Inadequacy of Road Width & Absence of Footpaths

Roads in Katra don't have a foot walk space. It has side drains and at some locations these drains are not properly covered with concrete slabs as a result of which safety of the pedestrians is at stake. The road side is often encroached by wayside traders, hawkers and other businesses for private use, thus denying a safe walking space for pedestrians. The absence of proper road shoulders makes the pedestrians enter the carriageway, which in turn creates another safety hazard and results in slowing down vehicular traffic.

Roadside Drains

Drains run parallely along roads in Katra. It is partially covered up while on some major roads its open. Those create unhealthy conditions for people and are usually overloaded and also choked due to wastes and trash in it.

Use of Road Space for Unauthorized Activities

The utilization of road space for various activities – space for sundry vendors, vehicle repairers, unauthorized parking of vehicle (buses, cars and lories in particular), storage space for construction material, dumping of rubble that hamper the smooth flow of vehicular and pedestrian traffic is a major problem in Katra.

Lack of Parking Facility

Town doesn't have organized parking places except bus stand area, taxi-stand and auto-rickshaw stand which seems insufficient and gets overloaded during peak hours/season. There are number of paid parking facilities available at different locations in the four wheelers and mini-buses. Charges for the same vary from Rs.50-100/ vehicle per day/night. These places are also overloaded with parked vehicles. Due to which most of the times vehicles are parked on main roads, along sub-lanes and inner pockets of the town, narrowing of the area available for movement, which results into bottle-necks, creating traffic block, congestion and other problems.

9.4 Growth of Villages

Physical growth of Katra is developing towards three major urban centers Jammu, Reasi and Udhampur districts. The villages surrounding (villages in the old KDA boundary) the Katra town is also facing the impact of increasing pilgrim activities. Hotel and commercial activities are developing in these areas at a larger scale. It is expected that the village's population would increase at a higher growth rate. These villages are expected to witness the highest concentrations of populations due to migration from surrounding areas.

9.5 Inadequate Physical Infrastructure

Since the past few decades, Katra town have experienced extensive growth. The rural areas however, suffering from inadequate infrastructure facilities, have been unable to cope with this swelling growth of the urban areas.

A major physical infrastructure issue that needs to be addressed in the Notified Area is the inappropriate and unhygienic disposal of waste water & sewerage through open drains that follow the natural slope of land and its discharge, without any treatment. Household who doesn't have septic tank disposes their wastewater directly into drains which finds its ultimate way into Banganga or natural streams located in the east and south east direction of the town. The sewerage is being handled manually by sweepers in a conventional way and being thrown in open rain- water drains and natural nallahs there by creating lot of pollution in town.

PHE department at Jammu is responsible for the distribution of water to the town and all the villages within the Notified Area, extracts water from the BangangaRivers, chlorinates it and then distributes it to all the town and villages. The quality of this water is often inferior due to the contamination of ground and surface water that results from the absence of a STP (Sewage Treatment Plant) in the Notified Area. The two water treatment plants have inadequate capacity to handle the growing demand for water for the horizon year.

There is an absence of door-to-door waste collection practices in the town. Only street sweeping is being practiced in the town as a primary collection of waste.There is an absence of scientific waste disposal practices in the town. Solid wastes generated from households and hotels get disposed off along Katra - Reasi road without proper treatment. This has created nuisance in surrounding areas and makes difficult to pass from this road.It is observed that villages located in proximity to Katraareas have considerably better solid waste management systems as compared to the ones further away.

Power networks are supplied and operated by Jammu Kashmir State Electricity Board (MSEB) which provides a poor supply in the Notified Area. Presently 10 to 11 mw of electricity supply to Katra (including Bhawan areas) from 132 KV grids at Jhajjar Kotli.Katra Town suffers from electric voltages. It appears that short falls in the electric supply is due to the breakdowns in the overall electric grid with which the town is linked. Suitable measures may have to be taken to mitigate these fluctuations. The per capita power demand is likely to increase, during the plan period. Hence thenecessary requirements of the augmentation of power will have to be made by keeping in view the existing and the proposed town development and the circulation pattern envisaged for the city.

9.6 Lower Level of Social Facilities

The provision of inadequate opportunities to rural areas is perhaps the greatest challenge facing the so called urbanizing rural areas and poses a major threat to the growth and development ofthe regions. In an age where the best jobs require higher levels of skills and knowledge than ever before in history, some children do not even have access to the most basic kind of education facilities. Inadequate social infrastructure provision in terms of education and health-care facilities is a critical issue in the Notified Area that needs to be addressed.

The town and villages lack adequate public utilities and social amenities.

Out of all the villages of the Notified Area are observed to have no primary schools (private and / or public) except Kun Darorian village provided by private institution. Public schools alone do not meet the minimum requirements of primary education within the Notified Area and a few private schools can also be seen in some villages. These schools however lack basic infrastructure like safe drinking water facilities & sanitation for the school children. As per the UDPFI guidelines each primary school should have an open area of 0.2 ha.

With middle schools existing in 6 villages and a total of 9secondary schools (2 in Katra town), the Notified Area, it can be said that a moderate level of secondary education exists in the Notified Area. Arli Hansali villages have the maximum number of secondary schools. There is an adequate provision of secondary education in the Notified Area out of which 7 are government schools and 2 are private schools. With the envisaged development and future growth of the area, the population is expected to increase, which would further increase the demand of educational facilities in the Notified Area to the level of the urban areas.

The situation is further compounded by the poor medical facilities in the Notified Area, which make it impossible for people to get specialized medical assistance.

There is only one Community Health Centre *(CHC)* in Katra having total 30 beds capacity. Other than CHC, there is one dispensary, which runs by a charitable trust. Facilities in the existing hospital are not sufficient and it is not capable for treating critical cases. Most of the time patients are referred to Jammu Medical Hospital, which is 40 km away from Katra.

Although the most important social facilities required are education & health, other social facilities like post offices, commercial banks, community halls, cremation grounds and graveyards, playgrounds etc also play a very important role in providing a good quality of life to the residents.

The area having been declared as a Notified Area, attempting to bring it at par with the urban areas in the region would require up-gradation of the existing social facilities and addition of new facilities for the projected threshold population.

9.7 Demographic and Socio Economic

The decadal growth rate in 1981 was 38% while it increased to 81.56% in year of 2001, which may be because of increase in migrated population.

Gross population density is very high in town as compared to the district *(i.e.2021 persons/sq.km).* This shows the level of densification in the town. In contrast to town, density distribution in KDA villages is very low.

Literacy rate is 70% in Katra town 53% in KDA villages, out of which 60% is the male literacy rate which is higher than female. This shows prevailing low level of awareness about education among female. Presence of good education infrastructure has also an impact on literacy rate.

WFPR in katra town is 35.22% and KDA villages are 41.99% which shows major portion of the population is still un-employed/non-workers in the planning area. This population mainly depends upon the pilgrim related activities for employment, which affects on their stable revenue. The share of industrial activities is very less in the town, as maximum population is engaged in labour and other services.

9.8 Inadequate facilities for Pilgrim Population

Pilgrim population is increasing at a CAGR of 6.82% and decadal growth rate of 95.56% in 2010 which is very high. Due to the increase in pilgrim population, the demand for activities related to pilgrim also increases. This may also lead to unregulated development in various pilgrim related activities such as commercial, amenities etc.

The existing accommodation facilities are not sufficient to cater the growing demand of pilgrims. Other than accommodation facilities like 3 star hotels, luxury cottages, budget class hotels, resorts and dharmashalas, pilgrims will need other amenities like camping sites, open spaces and recreational areas. This will help to cater the flow of pilgrims at peak time.

10 DEVELOPMENT ISSUES, VISION AND OBJECTIVES

Chapter Contents

- *Development Issues and Emerging Concern*
- *Vision and Development Objectives*
- *Delineation of KDA Region*

The chapter describes development issues and emerging concerns in context of development in Katra region. This section of the report describesdevelopment vision for Katra region. This section will provide alternatives for delineation of proposed jurisdiction area of Katra Development Authority (KDA) and provide details of towns and villages which will be part of newer KDA Boundery.

10.1 Development Issues / Emerging Concerns

The following have been identified as critical issues that need to be addressed immediately for strategic and comprehensive development of the town to take place in the future.

- Expansion of the development area: The inner part of the town has exceeded its capacity to accommodate further development. Hence, it becomes necessary to expand the town to carry out future proposed development.
- Transport Network: Relatively high rainfall and overload of vehicles also cause severe damage to road surfaces. Major state and districts roads passes from the town, which connect Katra with other districts and states, are not in good condition. There are several problems in respect of the surface quality of these roads, less width and lack of infrastructure.
- Lack of Parking Facilities: Town does not have organized parking places except bus stand area; taxi stand and auto-rickshaw stand, which seems insufficient and overloaded during peak season.
- Hotel / Restaurant Industry: the industry faces basic problems like water shortage and power cut or unscheduled power cut everyday, which adds to the cost of hotel. Unavailability of skilled labour in the town, cleanliness and other proper facilities are other problems face by the people.
- Pilgrim Facilities: As it is expected that near about 25000 yatris would stay at katra, the existing facilities does not cater to this growing demand.

10.2 Vision Statement

Based on the studies of the existing conditions and considering the future tourism potential of the site, the following vision statement was arrived at:

"To create an environmentally responsive, vibrant and imaginable city modeled as a temple town of the future with world class infrastructure and social amenities in harmony with its ecological resources."

10.2.1 Objectives

The primary objective of this Master Plan is to develop comprehensive spatial decision framework, which can support urban and economic growth with adequate infrastructure development, in conformity with existing natural resources, land utilization and ecological aspects. It would cover

- Revision of notified KDA Master Plan, redefining its limits in the view of future growth
- Preparation of landuse, zoning plan indicating various permissible development activities such as residential, commercial, institutional industrial, heritage conservation, housing, traffic and transportation, etc
- Formulation of development promotion rules and regulations & façade development and control measures
- Preparation of infrastructure plan *(for various sectors such as traffic & transportation, water supply, sewerage & sanitation, housing, heritage & conservation)* for comprehensive development

- Project implementation strategies along with phasing of development, institutional arrangements, and resource generation model

10.3 Delineation of KDA Region

Presently, KDA area is around 2623 ha. which includes six villages and Katra town. Considering the growth trends and future requirements of the region, three alternatives were considered before finalizing the new jurisdiction of KDA.

Alternative A

This alternative covers an area of 4298 ha with additional 13 villages in KDA jurisdiction. The growth is directed towards Katra – Reasi road and Katra – Domel road. This facilitates development on either side of Ban Ganga river valley. *(Please Refer Map 10-1)*

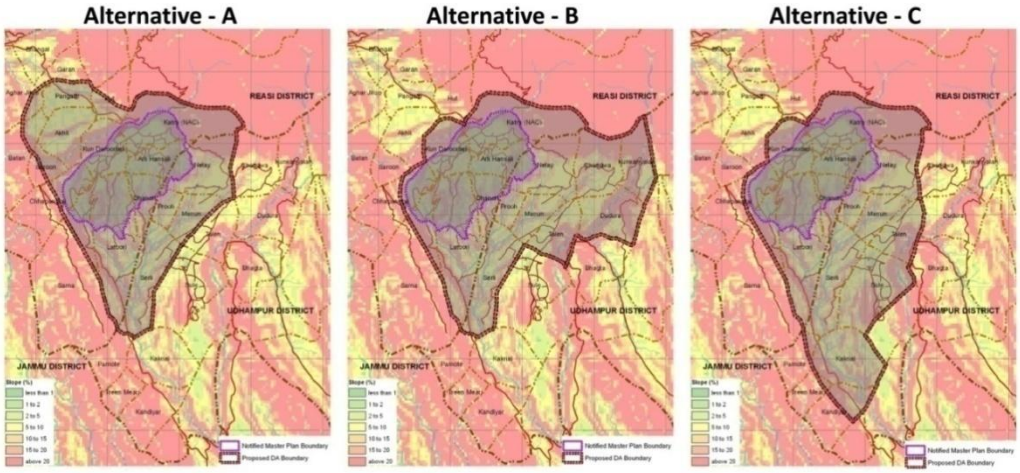
Alternative B

Additional area is included in Katra – Domel and Katra Udhampur corridors and development is restricted the southern side of Ban Ganga river valley. It covers an area of 4613 ha with additional 11 villages included in KDA jurisdiction. *(Please Refer Map 10-1)*

Alternative C

All requirements for future developments could be accommodated in Katra – Domel corridor and SMVD University is taken up as part of KDA area. It covers an area of 5109 ha with additional 13 villages included in KDA jurisdiction. *(Please Refer Map 10-1)*

Map 10-1 : Map showing various alternatives



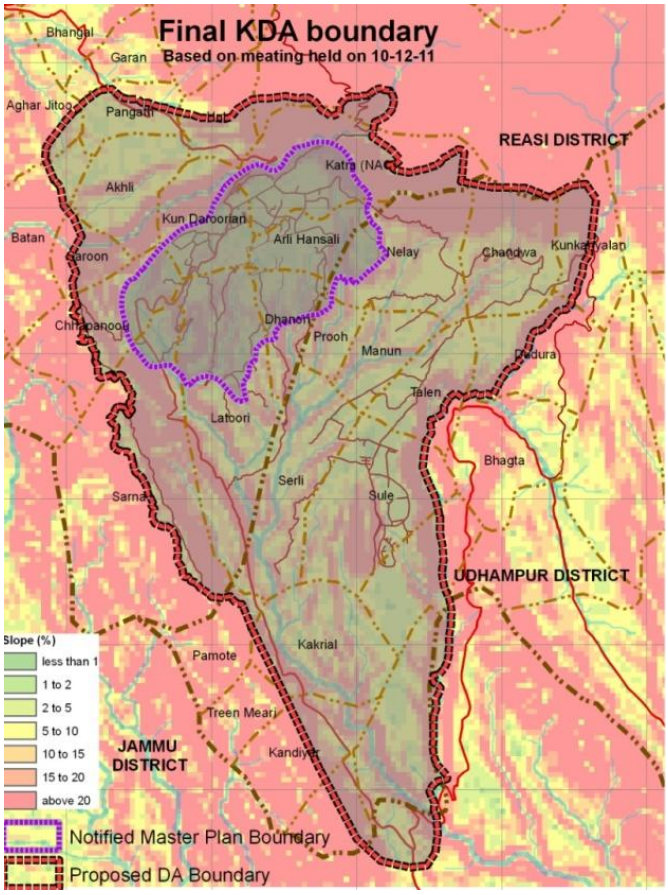
10.3.1 Delineated Region of New KDA jurisdiction.

Considering the growth expected to take place along all three corridors of Jammu, Reasi and Udhampur, new KDA jurisdiction area was delineated based on geographical and topographic features rather than village boundaries. This includes most of potential urbanizable areas which would otherwise be left outside KDA area and would have eventually resulted in haphazard development. Hut, Pharthal, Latoori, Dhanori, Sarna, Pamote, Chandwa, Prooh, Sule, Akhli, Sira kotla, Treen meari and Batan are the villages fall under KDA jurisdiction either partly or fully. The area of new KDA jurisdiction based on the project base map is 7838 ha (78.38 sq.km). *(Please Refer Map 10-02)*

This was based on the expected future growth of village and also thefact that Jammu-Kashmir National Highway is very near to southern boundary of the site.

As discussed in the meetingchaired by the Honorable CM on 10th Dec. 2011, the proposed final boundary of KDA includes 31 administrative units (1 urban & 30 villages).

Map 10-2 : Final KDA Boundary



New KDA boundary includes:

Town: Katra Town

From Old KDA Boundary: Kun Darorian, Kotli Bajalan, Nelay, Purana Darooh, Arli Hansali and Serli

New Villages: Dhirti, Bhagta, Sira Kotla, Sule, Kakrial, Prooh, Dhanori, Manun, Chak Bhagta and Latoori, Kandiyar, Dudura, Dhror, Batan, Treen Meari, Sarna, Hut, Akhli, Talen, Pandhal, Pharthal, Pamote and Chandwa

The below mention villages are either partly or fully added. Therefore the total area for proposed KDA is 7838 ha. (78.38 sq.km)

Table 10-1: Existing Land Use, New KDA Area

LANDUSE	Area in Hectare	Percentage (%)
RESIDENTIAL	**183.56**	**2.34**
COMMERCIAL	**52.25**	**0.67**
MANUFACTURING	**20.25**	**0.26**
Industrial		
PUBLIC AND SEMI PUBLIC	**162.02**	**2.07**
Public/Semi-Public /Govt. Offices /Social-Cultural / Youth Hostel/Public Utilities /Religious (Spiritual and Pilgrim facilities)		
OPEN SPACE AND RECREATION	**4.89**	**0.06**
Recreational /Sports/Play areas		
TRAFIC AND TRANSPORTATION	**186.80**	**2.38**
Roads	85.17	1.09
Railway Property and Railway Station	95.49	1.22
Traffic and Transportation/ parking	3.46	0.04
Helipad	2.16	0.03
Bus stand	0.51	0.01
LANDCOVER	**6982.36**	**89.08**
Agriculture	2182.39	27.84
Vacant alnd/ Open space	120.60	1.54
Forest	2224.03	28.37
Hill / Steep Slope	1454.00	18.55
Dense Vegetation	1001.34	12.78
River/Stream/Waterbody	**221.36**	**2.82**
SPATIAL AREA	**24.62**	**0.31**
Defense		
TOTAL	**7838.09**	**100.00**

Table 10-2: List of town and villages for New KDA boundary

Sr. No.	Name	Population		Existing Area (ha)	Village area in the new KDA boundary	
		1981	2001		Ha	Sq. km
TOWN						
1	Katra Town	4573	8083	400.00	92.8	0.92
OLD KDA VILLAGES						
1	Kun Daroorian	1359	2867	404.3	402.9	4.02
2	Kotli Bajialan	953	1610	789.1	882.0	8.82
3	Purana Droorh	557	636	559.7	169.0	1.69
4	Arli Hansali	414	629	237.1	216.9	2.16
5	Serli	260	438	69.2	68.8	0.68
6	Nelay	181	395	28.7	27.7	0.27
NEW KDA VILLAGES						
7	Barola*	-	1931	152.8	22.9	0.22
8	Pharthal	926	1353	639	196.0	1.96
9	Pamote	583	1031	494.1	544.67	5.44
10	Dhirti	630	1009	311.6	316.16	3.17
11	Bhagta	597	1001	168	141.5	1.4
12	Kandiyar	620	974	592.1	560.2	5.61
13	Sira Kotla	648	973	311.2	319.0	3.19
14	Chandwa	491	870	351.7	239.8	2.40
15	Dudura	435	772	381.6	99.3	0.99
16	Dhror	589	768	484.4	513.6	5.14
17	Sule	510	716	263.9	274.8	2.74
18	Batan	376	617	419.7	420.03	4.20
19	Kakrial	373	593	223.4	237.9	2.37
20	Treen Meari	457	589	291	274.7	2.74
21	Prooh	382	577	172	177.53	1.77
22	Dhanori	374	507	172	190.10	1.90
23	Sarna	323	502	847.4	496.7	4.96
24	Manun	284	429	103.6	99.6	0.99
25	Chak Bhagta	216	383	80.5	78.9	0.78
26	Hut	191	326	89.8	58.3	0.58
27	Akhli	205	308	57.5	83.09	0.83
28	Latoori	215	288	142.9	108.7	1.08
29	Pandhal	115	208	145.7	296.4	2.96
30	Talen	74	139	96.7	97.5	0.97
31	Pungatha				105.5	1.05
32	Dharhor*				5.3	0.53
33	Gamhir *				20.0	0.20
TOTAL		**19892**	**31522**	**7838.09**	**7838**	**78.38**

Source: Census 2001 (only a part area of the districts are included)*

11 NEW KDA AREA PROFILE

Chapter Contents

- *Location and Administration*
- *Demographic Profile*
- *Socio-economic Profile*

The chapter describes the new villages that are added under new KDA boundary. This section of the report deals with describing population characteristics and growth pattern. Existing census information from various sources is used to carry out demographic study and analysis. This section will analyze the demographic profile at the levels of district, tehsils and villages in order.

The inner part of the town has exceeded its capacity to accommodate further development. Hence, it becomes necessary to expand the town to carry out future proposed development. Numerous factors/drivers, which would influence the expansion/urban sprawl and future development of the town include;

- The proposed rail link from Udhampur to Katra on the eastern side of the town.
- Location of Mata Vaishno Devi University, located to the south of the town and at a distance of 16 km (approx.) (in village Karkial).

As seen from the existing situation, development is already happening *(mainly commercial)* along Jammu road. Based on slope and site suitability analysis, Katra town is envisaged to grow towards the university and Reasi road *(refer map).* This means increase in KDA boundary and notifying villages falling under future boundary. It is expected that the total area will need to be increased up to 9-10 sq.km[25].

The details about Katra town and Old KDA villages are already discussed in chapter 2 and 3.

New KDA Area Profile

11.1 Physical Aspects

11.1.1 Location

The villages added in new KDA area mainly located around the old KDA boundary. Considering the growth pattern of the town, it is expected that the villages on katra-jammu highway will have major impact of the future development. Hence, villages'mentions in table 10-1 are considered.

Katra town lies at 32 degree 59' Latitude and 74 degree 55' Longitude. It is located at an altitude of 3000' above MSL at the foothills of sub Himalayan ranges, known as Shivalik Hills.

Map 11-1, shows the regional connectivity of Katra town and surrounding villages with the regional areas such as Jammu.

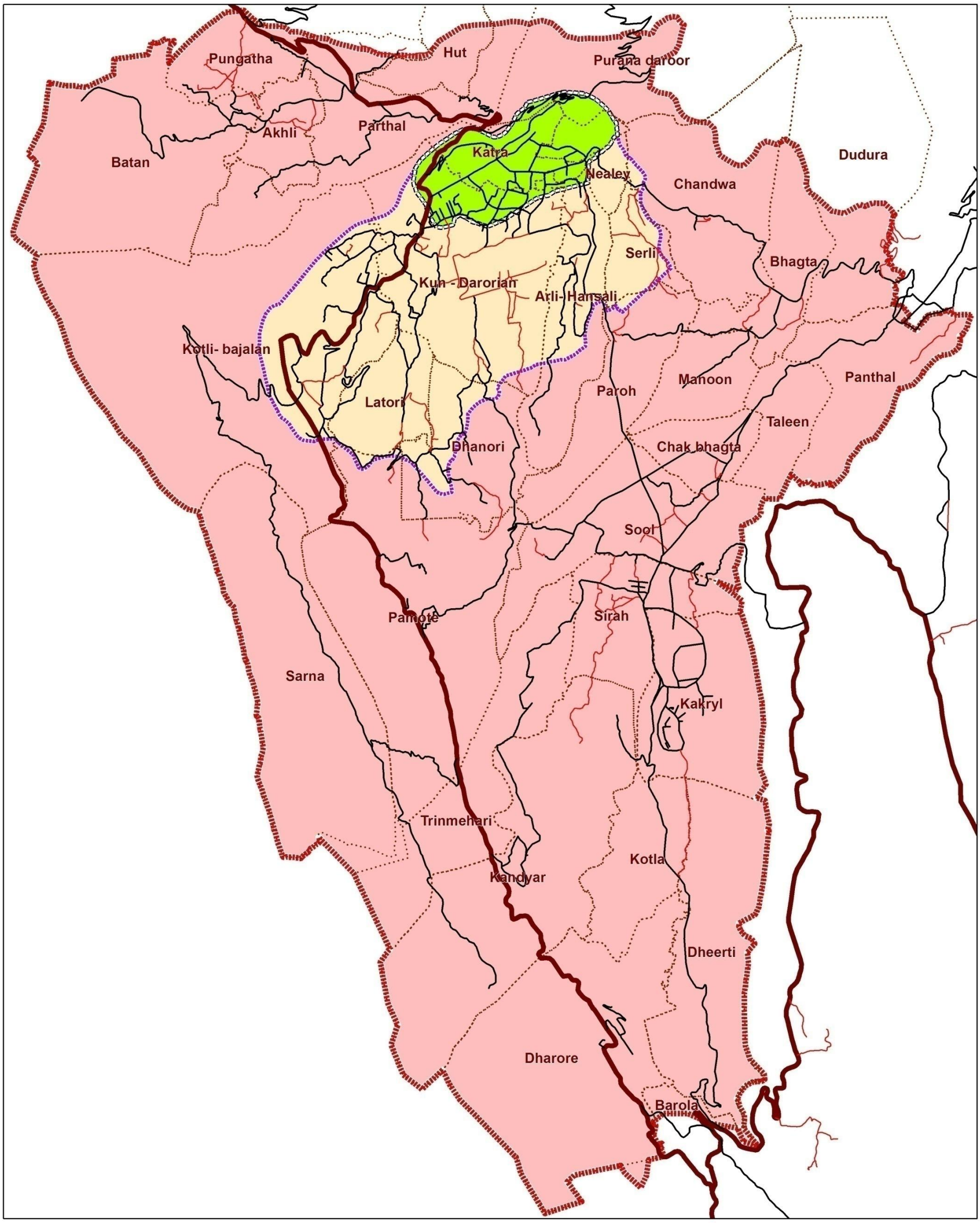
11.1.2 Administrative Boundaries & Area

Out of all the villages listed in table 10-1, the village area either partly or fully used in the new KDA boundary. 24 new villages are added in the revised KDA boundary. Therefore, total 30 villages are there in new KDA boundary.

The total area of new KDA boundary is 78.38 sq.km. out of which, old KDA villages shares an area of 20.86 sq.km. As shown in below figure 11-1, Kandiyar village has the largest area of 5.61 sq.km. under the KDA boundary, while, Talen is the village with minimum area of 0.11 sq.km.

[25] *It may subject to variation based on further analysis.*

MAP 11-1 Administrative Boundary of New KDA Area



Project: **REVISION OF MASTERPLAN FOR KATRA TOWN**

Prepared for, TOWN PLANNING ORGANIZATION, J&K STATE

Prepared by, CENTRE FOR ENVIRONMENTAL PLANNING & TECHNOLOGY (CEPT), AHMEDABAD

Legend

- New KDA Boundary
- Existing KDA Boundary
- KMC Boundary
- Village Boundary

Existing Road

- NH-1A/ ODR
- Metalled road/Proposed/Upgadation
- Kutcha

Drawing Title: **ADMINISTRATIVE - NEW KDA**

Map no. **11-01**

Scale: 0 500 1,000 2,000 Meters

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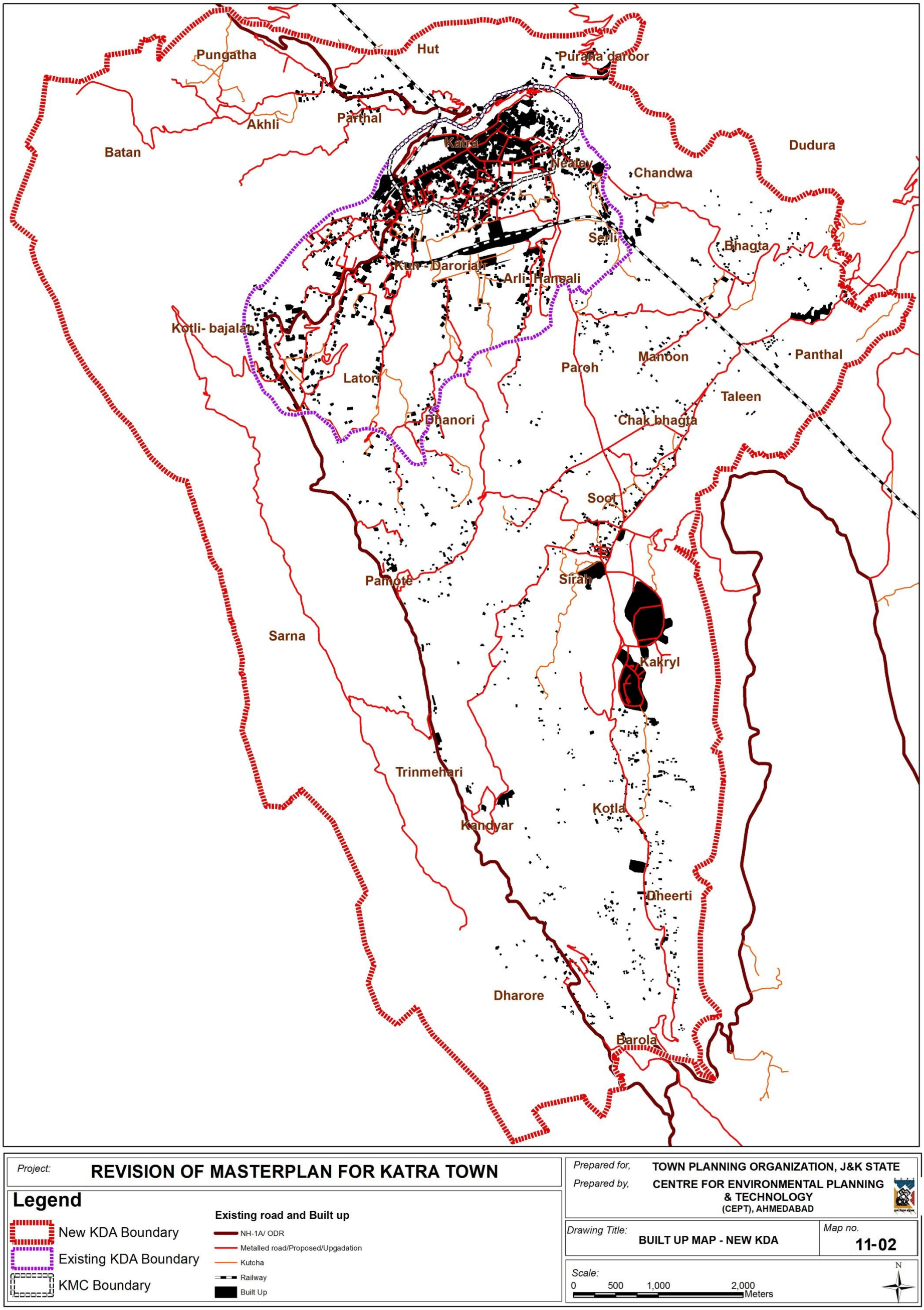
MAP 11-2 Built Up Vs Open in New KDA



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Legend

- New KDA Boundary
- Existing KDA Boundary
- KMC Boundary

Existing road and Built up

- NH-1A/ ODR
- Metalled road/Proposed/Upgadation
- Kutcha
- Railway
- Built Up

Drawing Title: **BUILT UP MAP - NEW KDA**

Map no. **11-02**

Scale: 0 500 1,000 2,000 Meters

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MAP 11-3 Countor Map for new KDA

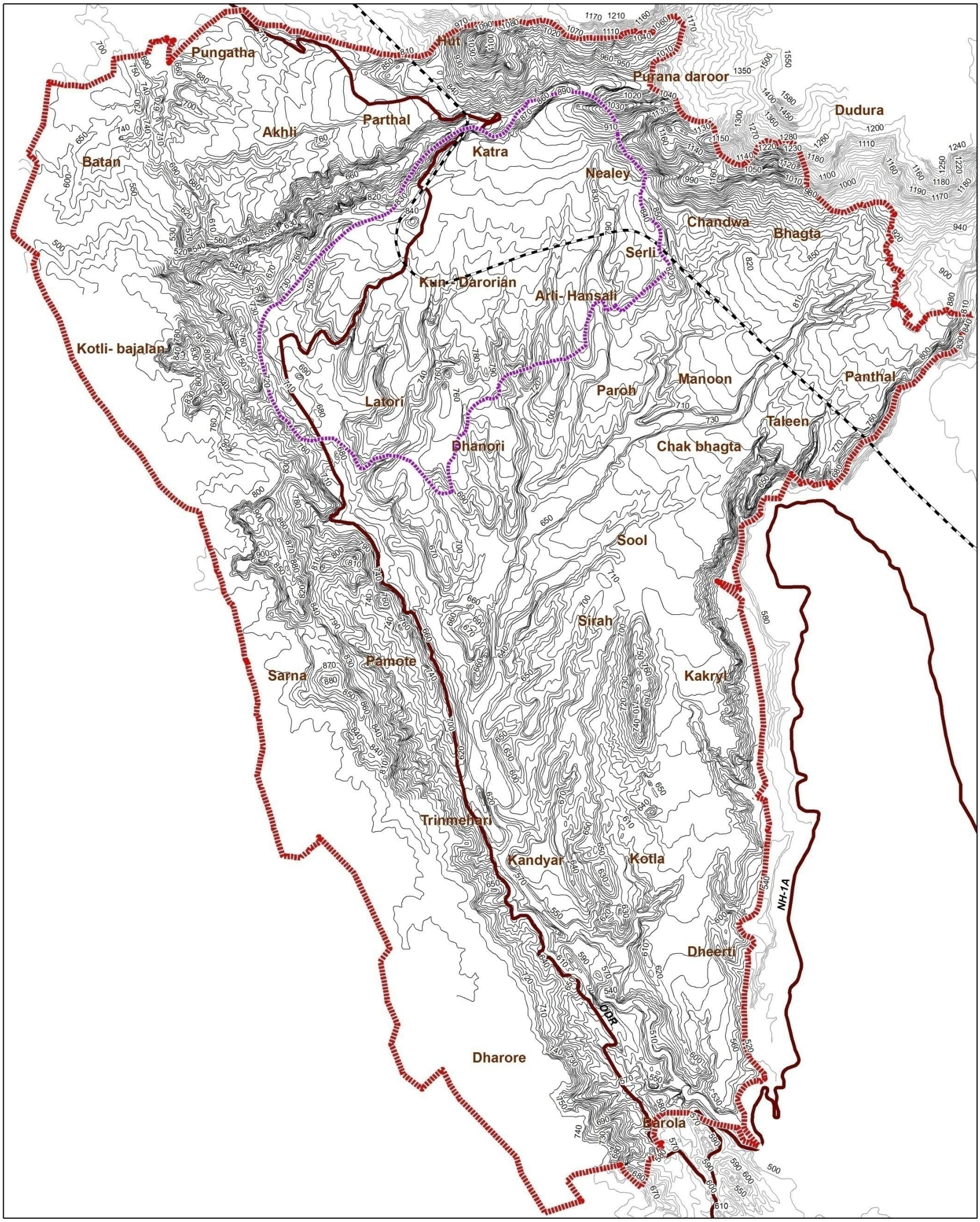
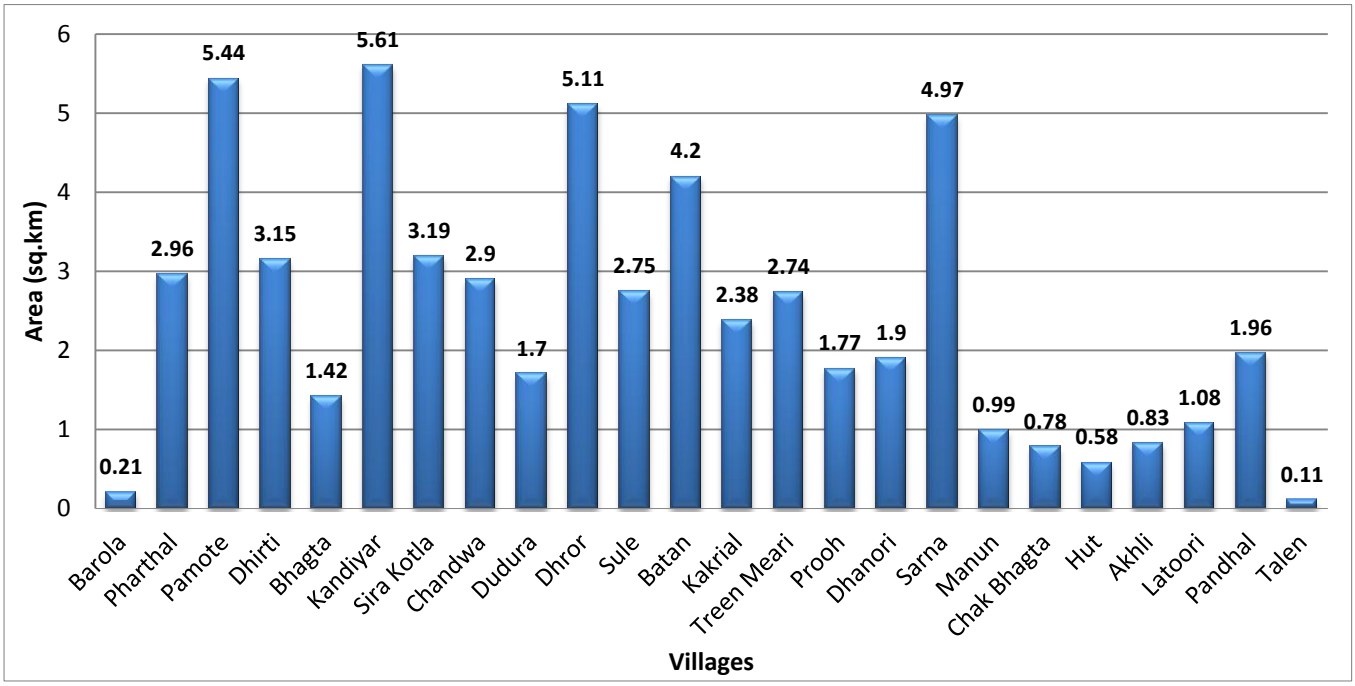


Figure 11-1: Area Distribution of the Villages in the Notified Area (in Sq.km)



11.2 Topography

To understand the geography of the new KDA area, Google Earth image is used. This method is usedwhen topography survey maps are not available. Katra has an average elevation of 754 meters *(2,474 feet)*.The town slopes from northeast corner to the south-west corner with an approximate drop of 400 m.

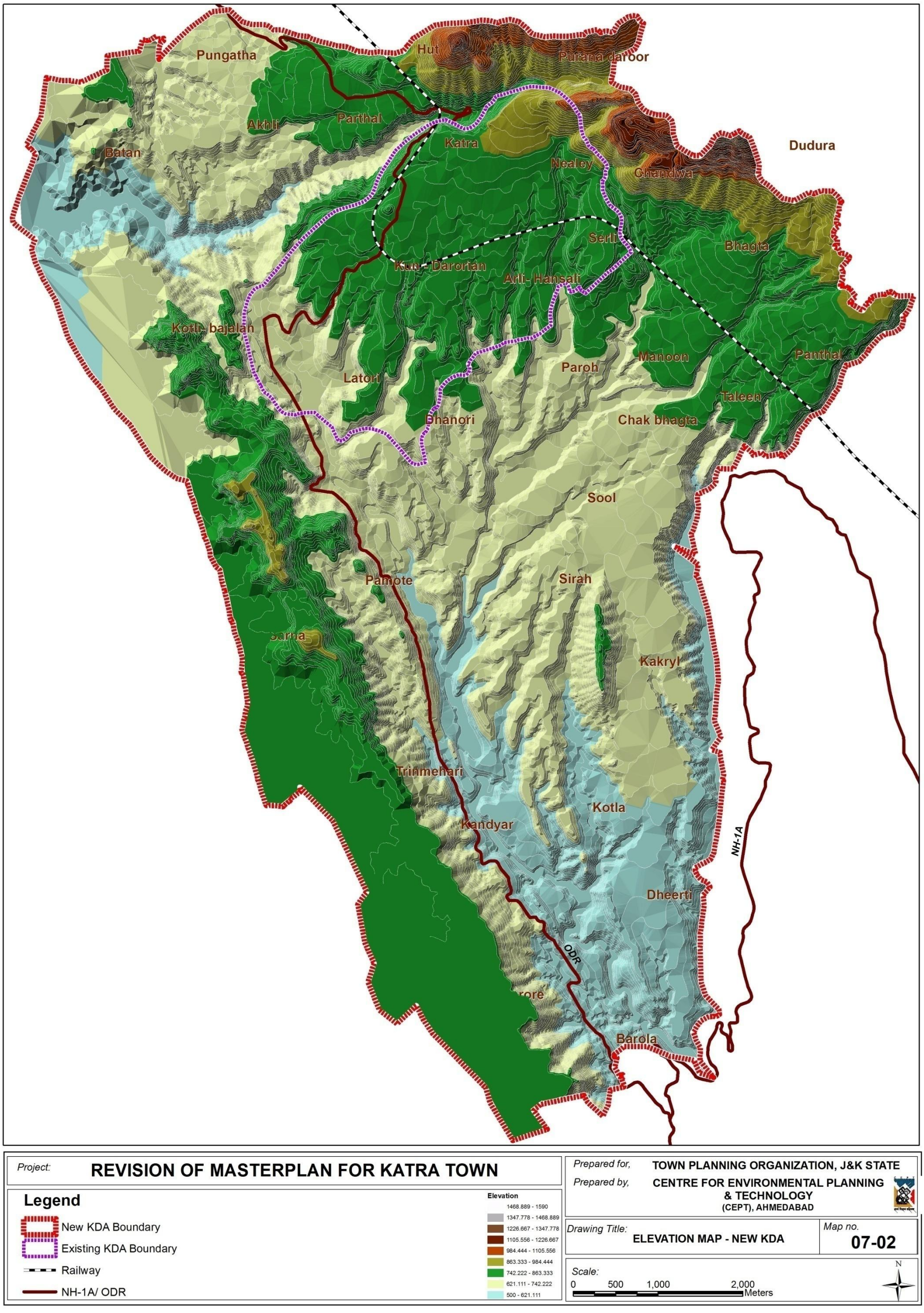
The site is characterized with undulating terrain, vegetation cover, water drains and steep slopes.

The contour map presented below is 10 feet *(3.048 m)* major interval with minor interval of 2 feet *(0.6096 m)*. It is same as the old KDA boundary.The north-east part of the KDA area is a hilly terrain towards Vaishno Devi temple. The central region around Shree Mata Vaishnio Devi relatively flat land. Steep slopes are observed around the water drains.

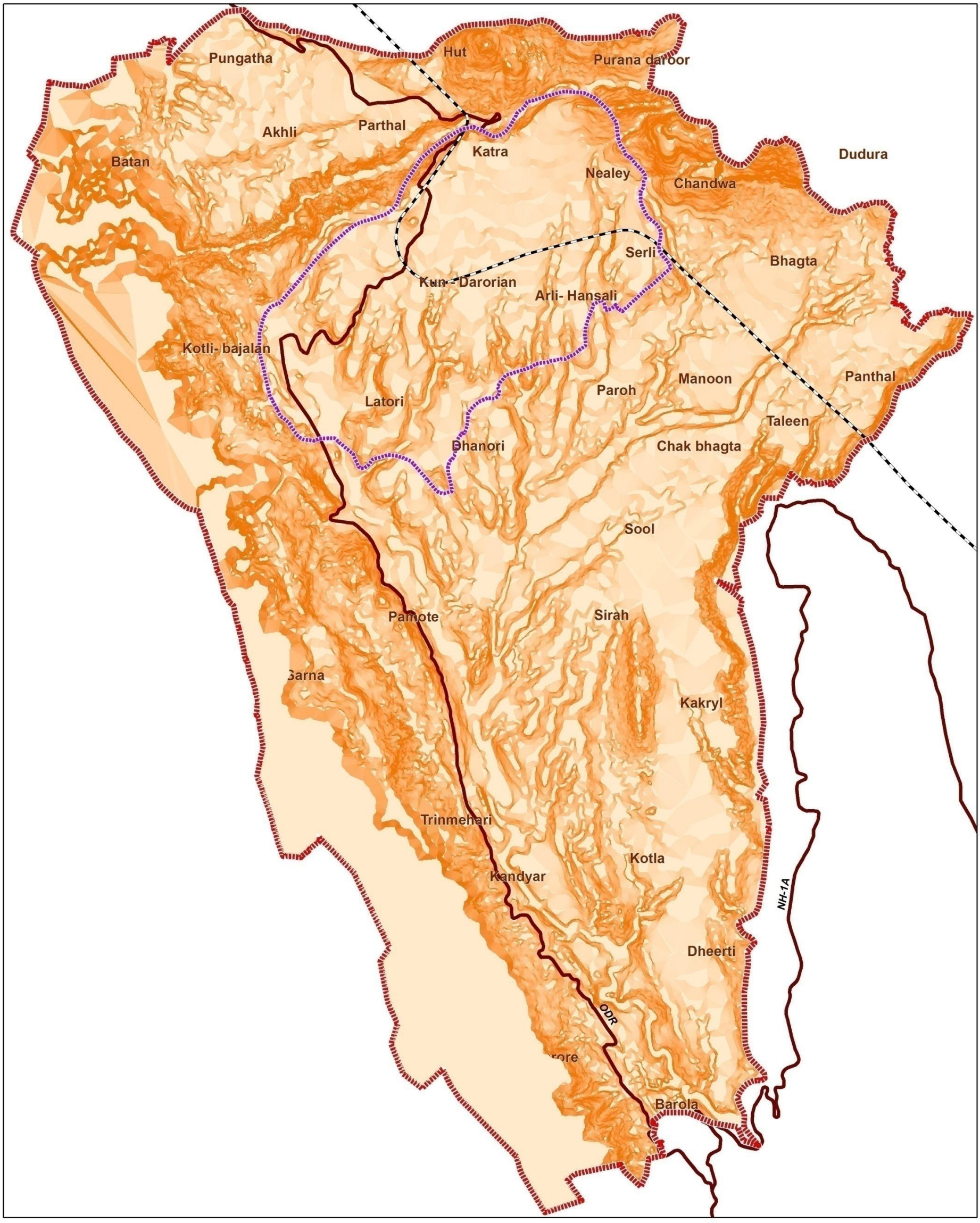
In contour map it is seen that, the contour are dense towards north-east and south-west part of the area.

The slope analysis map shows that, the slope is from north-east area towards the central part of KDA area.

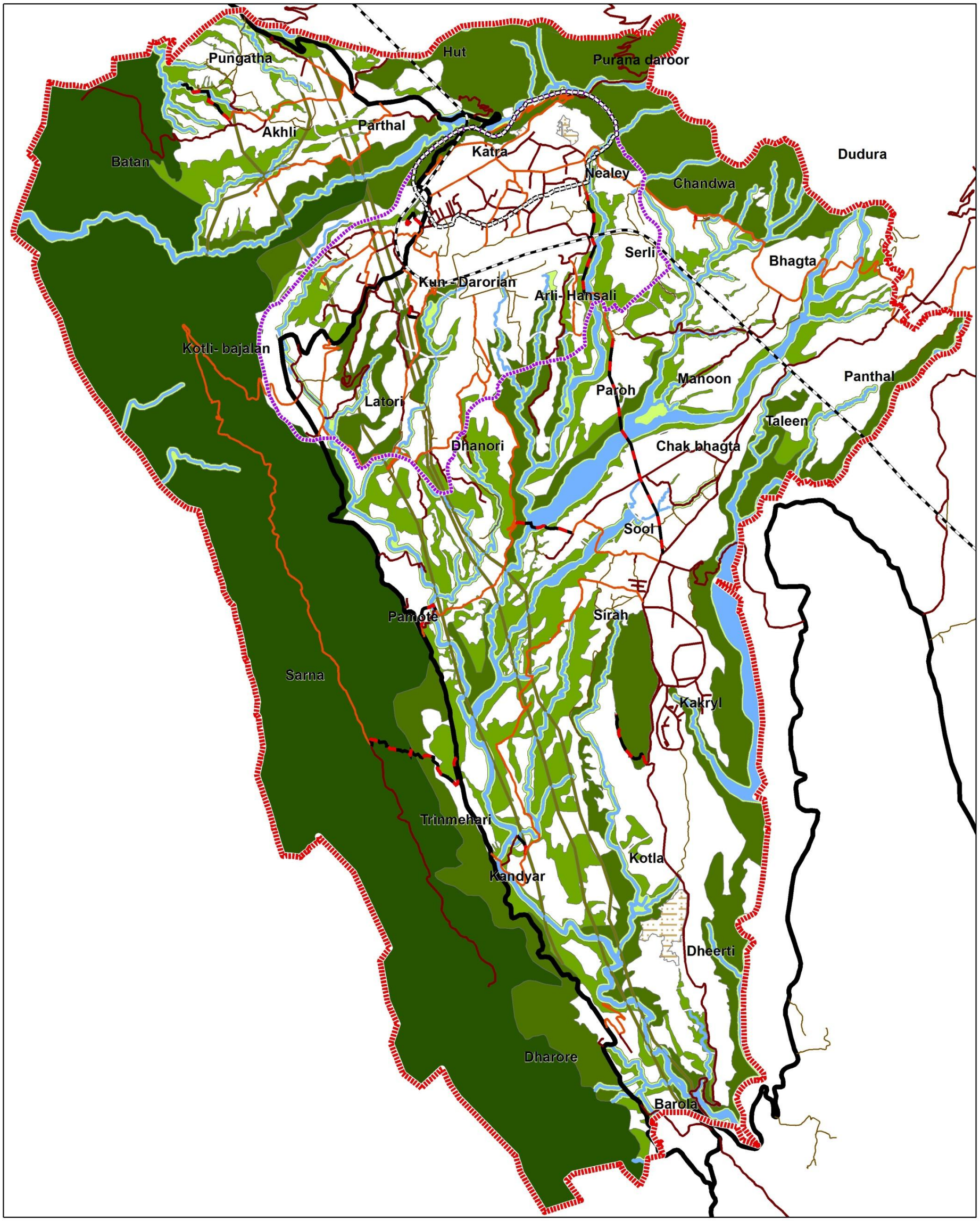
Map 11-4: Elevation Map for New KDA Boundary



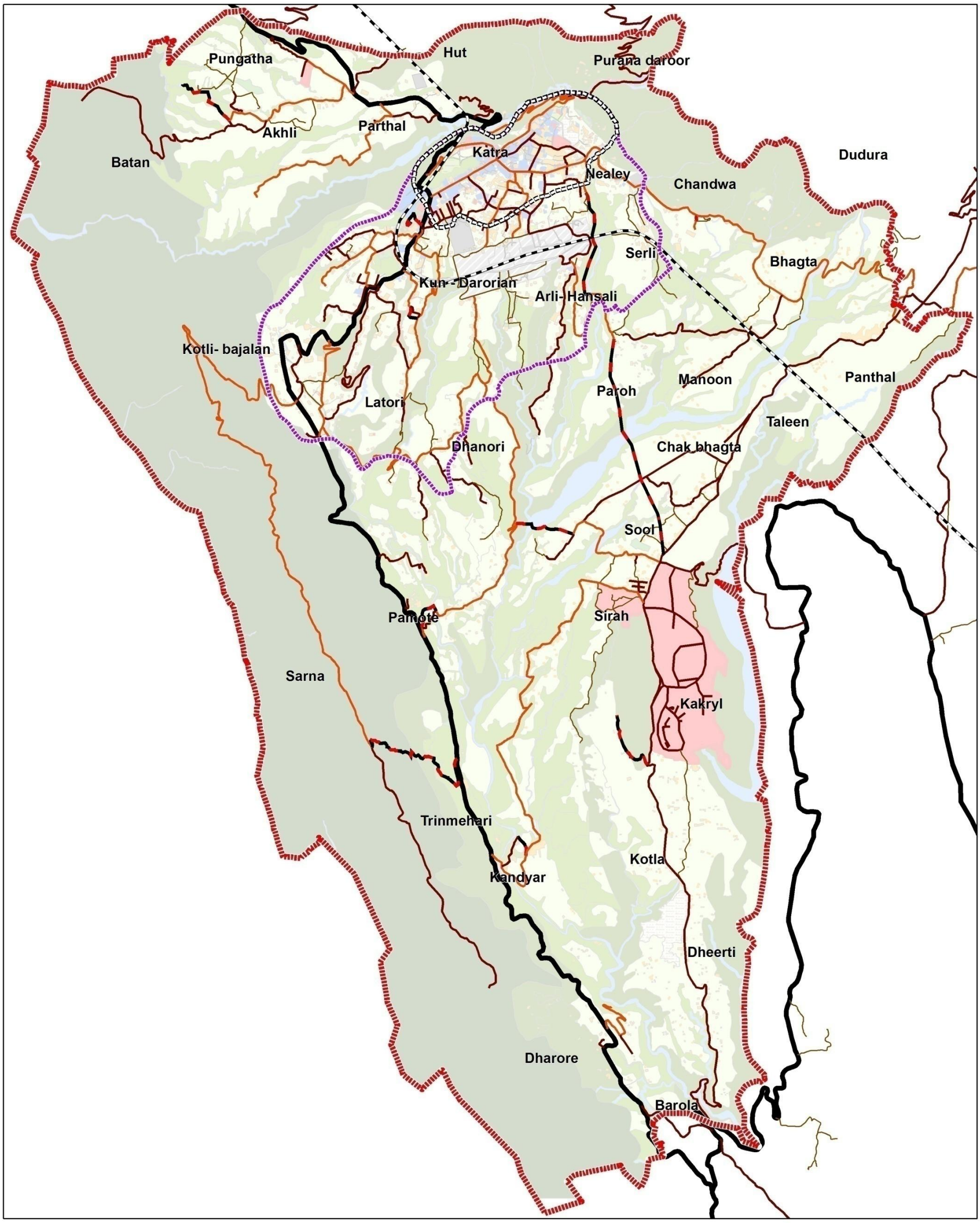
MAP 11-5 Slope map for New KDA



Map 11-6: Non-developable areas for New KDA Boundary



MAP 11-7 Existing Road and Railway



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Legend

- New KDA Boundary
- Existing KDA Boundary
- KMC Boundary

Existing road

- Railway
- NH-1A; ODR
- Metalled Roads
- Metalled Roads - Proposed Upgradation
- Metalled Roads - Proposed New
- Kutcha Roads

Drawing Title: EXISTING ROADS - NEW KDA

Map no. 11-07

Scale: 0 500 1,000 2,000 Meters

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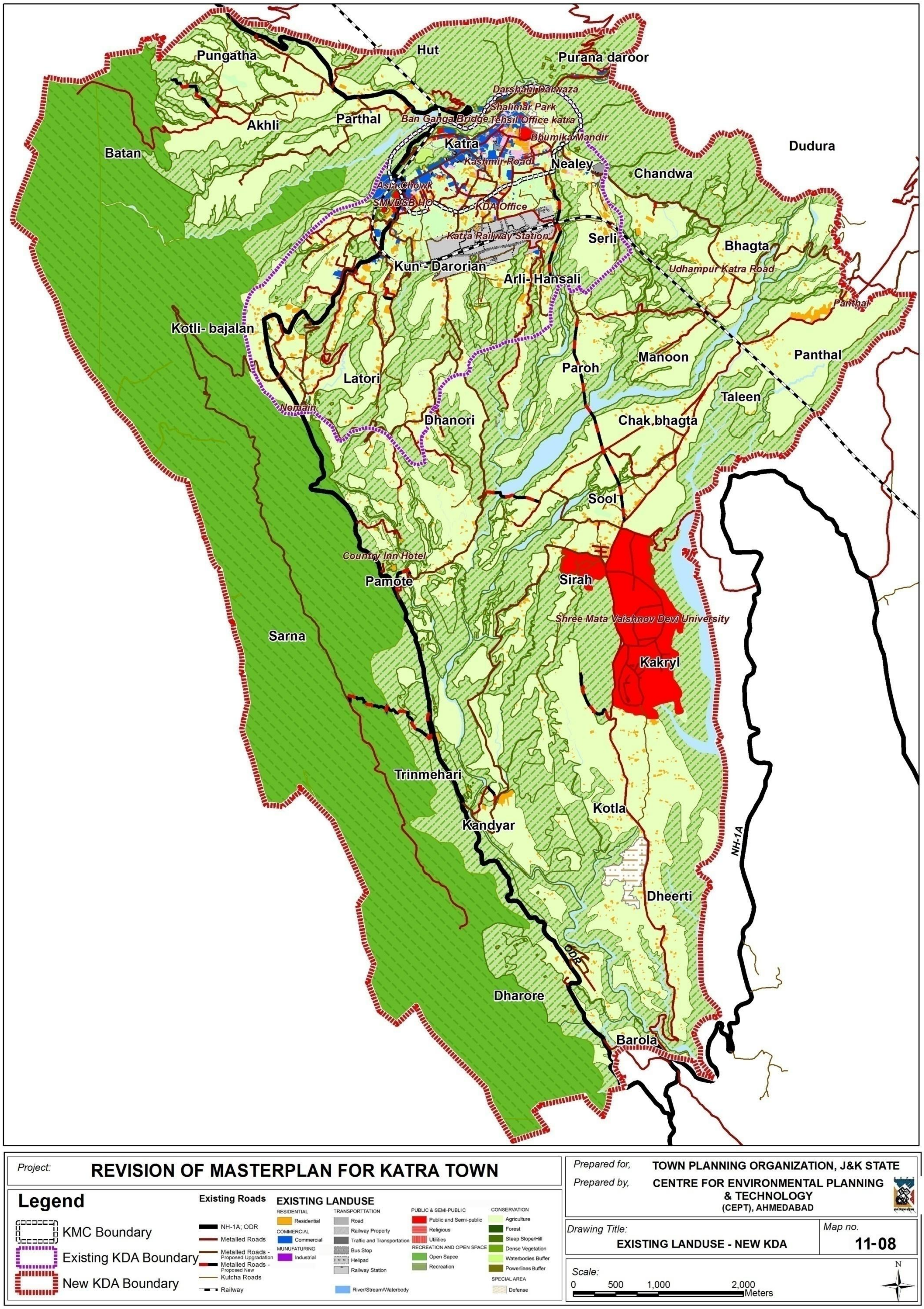
MAP 11-8 Existing landuse



11.3 Population and Demography

In order to understand the characteristics and growth dynamics of the Notified Area as well as for predicting future development trends within the region, having a clear picture of the demographic profile of the region is important.

11.3.1 Population Distribution

As the areas shown in table 10-1, very little portion of Barola fall under KDA area. Therefore, this village is not considering for further calculation. Therefore the analysis will be done for only 23 villages.

As per census 1981 and 2001, the total population of 23 villages is 9614 and 14993 respectively. Parthal village has maximum population of 1353 in 2001. Talen village has minimum population of 139 persons in 2001.

Table 11-1: Population Distribution of New KDA villages

Sr. No.	Name	Population	
		1981	2001
1	Pharthal	926	1353
2	Pamote	583	1031
3	Dhirti	630	1009
4	Bhagta	597	1001
5	Kandiyar	620	974
6	Sira Kotla	648	973
7	Chandwa	491	870
8	Dudura	435	772
9	Dhror	589	768
10	Sule	510	716
11	Batan	376	617
12	Kakrial	373	593
13	Treen Meari	457	589
14	Prooh	382	577
15	Dhanori	374	507
16	Sarna	323	502
17	Manun	284	429
18	Chak Bhagta	216	383
19	Hut	191	326
20	Akhli	205	308
21	Latoori	215	288
22	Pandhal	115	208
23	Talen	74	139
TOTAL		**9614**	**14933**

Source: Census 1981, 2001

Therefore, the following table shows the total population distribution in new KDA area.

Table 11-2: Total Population in New KDA area

Categories	Population		Decadal Growth Rate
	1981	2001	Percentage (%)
Katra Town	4573	8083	76.75
Old KDA Villages	3724	6575	76.75
New KDA Villages	9614	14933	55.33
TOTAL KDA RAEA	**17911**	**29591**	**65.21**

Source: Census 1981, 2001

The decadal growth rate of Katra town and old KDA villages is same. In 2001, the total population of KDA boundary was 29591 which showthe decadal growth rate of 65.21 %.

11.4 Population Density

The total area of villages in new KDA area is 5947.29 ha (58.52 sq.km). The density in these villages is 3 person per hector (255 persons/sq.km).

Total area of Katratown is approximately 93 ha (0.93 sq.km)[26], while total area of villages under old KDA is 2088.1 ha (20.88 sq.km). Therefore the total area of new KDA area is 7838 ha (78.38 sq.km) and the density is 4 pph (368 persons/sq.km) as per 2001 census.

Table 11-3 : Population Density

Categories	Population	Area		Density	
	2001	ha	sq.km.	pph	(Persons / sq.km.)
Katra Town	8083	93	0.93	87	8691
Old KDA Villages	6575	2088.1	20.86	3	315
New KDA Villages	14933	5947.29	58.52	3	255
TOTAL KDA RAEA	**29591**	**7838**	**78.38**	**4**	**368**

Source: Census 2001 & Existing Master Plan for Katra 2021

The person per hector density is same in old and new KDA area villages.

11.5 Sex Ratio

The sex ratio in new KDA villages is 933, which is highest than the Katra town's 2011 sex ratio and old KDA villages.

Sex ratio *(female/1000 male)* in Katra town is 923 as per 2011 information, census 2001. It is higher than state's sex ratio. This may be due to increase in female birth rate. Sex ratio in KDA villages is nearer to the state average and is near about to Katra town's sex ratio.

[26] *Sourced from Existing Master Plan, Katra 2021 document (i.e. 2 to 2.7 kn in length & 1.25 km in width)*

Table 11-4: Sex Ratio, new KDA Villages

Details	Sex Ratio
Katra town	770
Old KDA villages	813
New KDA villages	933
Total New KDA area	**866**

Source: Census 2001

The sex ration in new KDA area is 866, which is less than Katra town sex ratio.

11.6 Literacy Rate in villages of new KDA area

The census record for the year 1991 is not available, as no census operation was conducted in J&K during the year. The total literacy rate in new KDA villages is 51.11 percent. Out of this total, Dhanori is the village with highest literacy rate of 63.91 %, followed by Manun with 63.87 %. Kandiyar is the village with least literacy rate of 42.20 %.

Table 11-5: Census Literate Populations of new KDA villages

Sr. No.	Name	Population	Literate	Male	Female	Literacy rate %
1	Pharthal	1353	672	413	259	49.67
2	Pamote	1031	556	339	217	53.93
3	Dhirti	1009	486	300	186	48.17
4	Bhagta	1001	608	348	260	60.74
5	Kandiyar	974	411	251	160	42.20
6	Sira Kotla	973	484	296	188	49.74
7	Chandwa	870	403	233	170	46.32
8	Dudura	772	349	211	138	45.21
9	Dhror	768	455	266	189	59.24
10	Sule	716	349	228	139	48.74
11	Batan	617	274	173	101	44.41
12	Kakrial	593	293	170	123	49.41
13	Treen Meari	589	350	207	143	59.42
14	Prooh	577	300	162	115	51.99
15	Dhanori	507	324	199	125	63.91
16	Sarna	502	194	132	62	38.65
17	Manun	429	274	159	115	63.87
18	Chak Bhagta	383	178	111	67	46.48
19	Hut	326	183	101	82	56.13
20	Akhli	308	176	101	75	57.14
21	Latoori	288	142	96	46	49.31
22	Pandhal	208	101	53	48	48.56
23	Talen	139	71	48	23	51.08
TOTAL		**14933**	**7633**	**4597**	**3031**	**51.11**

Source: Census 2001

Table 11-6: Literacy rate in new KDA area

Details	Literacy Rate (%)
J&K State	47.39
Katra town	70.38
Old KDA villages	64.77
New KDA villages	51.11

Source: Census 2001

Literacy rate in the new KDA study area is 70.38 % *(Katra town)*, 64.77 % *(old KDA villages) and 51.11 % (in new KDA villages)* which is higher than tehsil, district and state's literacy rate for the year 2001. Whereas, it is less than Katra town and old KDA villages.

In new villages of KDA also, Literacy rate among male (60.23 %) is quite high than their female (39.6 %) counterparts. The reason for this is same same described in chapter 3.

11.7 Work Force Participation Rate (WFPR) and Non- Workers in villages of new KDA area

Work force participation rate in villages of new KDA area is 40.14 % refers to percentage of total number of workers to total population. The WFPR of villages in new KDA area is more than villages in old KDA and Katra town.

Table 11-7: Workforce Participation Rate (WFPR) in new KDA area

Details	Total population	Total number of workers	WFPR (%)
Katra town	8083	2847	35.22
Old KDA villages	6575	2420	36.81
New KDA villages	14933	6612	44.28
TOTAL NEW KDA	**29591**	**11879**	**40.14**

Source: Census 2001

In new KDA area, the total Work force participation rate is 40.14 %. The total WFPR of new KDA area is greater than the state's (37.01%). However, major portion of the population is still un-employed/non-workers in the planning area.

Table 11-8: Details about Non-workers in new KDA area

Details	Total population	Total number of non-workers	% of Non-workers (to total population)
J &K State	10143700	6389885	62.99
Katra town	8083	5236	64.78
Old KDA villages	6575	4155	63.19
New KDA villages	14933	8321	55.72
TOTAL KDA	**14658**	**9391**	**59.86**

Source: Census 2001

The percentage of total non-workers in new KDA area is lesser as compared to state. The percentage of non workers in new KDA villages is 55.72 %.

11.8 Employment Structure

The share of main and marginal workers of NEW KDA villages is 59.89 and 40.11 percent respectively.

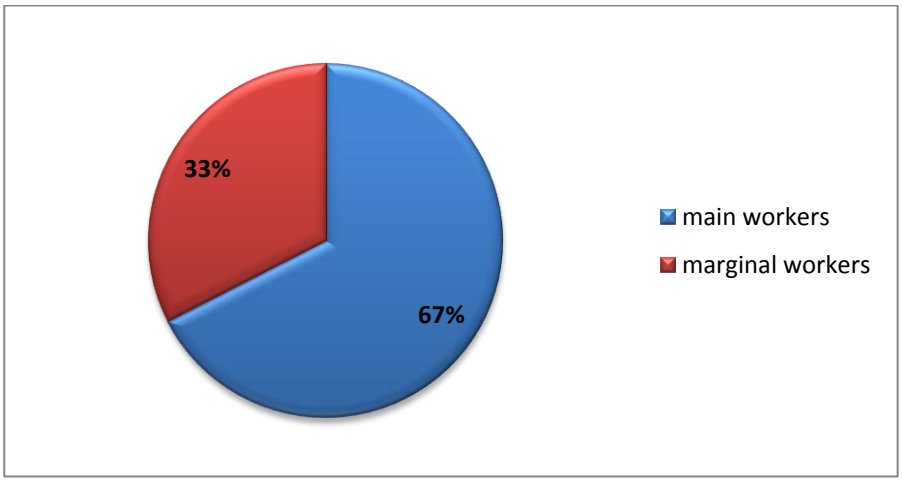
Table 11-9: Employment structure

Details	Total number of workers	Total No. of Main Workers	% of Main workers	Total No. of Marginal Workers	% of Marginal workers
Katra town	2847	2723	95.64	124	4.36
Old KDA villages	2420	1830	75.62	590	24.38
New KDA villages	6612	3960	59.89	2652	40.11
TOTAL KDA AREA	**18491**	**12473**	**67.45**	**6018**	**32.55**

Source: Census 2001

Employment structure indicates high percentage of main workers in the new KDA villages as compared to marginal workers. In Katra town also share of main workers is high than marginal, this indicates availability of enough work opportunities in the town. The percentage of main workers and marginal workers in new KDA area is 67.45 % and 32.55 % respectively.

Figure 11-2: Employment Structure in new KDA area



12 PROJECTIONS AND POTENTIAL DEMAND ANALYSIS

Chapter Contents

- *Population & Employment projection*
- *Demand estimation of Physical and Social Infrastructure.*

The chapter contains projected population and an estimation of employment generation. It also contains demand estimation of physical and social infrastructure to cater projected population for the master plan period.

12.1 Population Projection

Population projection is a stastical method to derive the future population of the planning area. It helps to develop the policy and strategies for development. This section will cover the estimation and projections for the followings.

- Katra Urban & KDA villages (rural Population)
- Migrated Population
- Pilgrims population
- Service providers' population

The reason behind projecting population for other categories is their larger stake in economic development of the town. This necessitates provision /inclusion of infrastructural facilities and services to these section of the population in future plans/proposals.

12.1.1 Katra Town (Urban) and KDA Villages (Rural)

The resident population of Katra Urban area has grown from 1529 residents in the year of 1961 to 8083 in the year of 2001 at an average annual compound growth rate of 3.02 %. 1991 population is estimated based on past trends, considering the fact that census was not conducted in the State of J&K.

Table 12-1: Resident Population Katra Town (Urban Area)

Sr. no.	Year	Population	Increase/ decrease	Incremental increase	Decadal Growth Rate	Annual Growth Rate	CAGR
1	1961	1529					
2	1971	3315	1,786		116.81%	11.68%	8.05%
3	1981	4573	1,258	-528	37.95%	3.79%	3.27%
4	1991*	6,080	1,507	249	32.95%	3.29%	2.89%
5	2001	8083	2003	496	32.95%	3.29%	2.89%
Average of Past Populations			**1589**	**373**	**34.62%**	**3.46%**	**3.02%**

Source: Report on Master Plan for Katra 2021 A.D., Census 2001

**1991: The population for the year 1991 is estimated based on the decadal growth rate of previous years.*

In 1971, the Decadal Growth Rate in urban area was 116.81 %; this may be because of the migration of people from surrounding areas. The Decadal growth is much higher, hence it is not considered in projection of future population. Compound Annual Growth Rate (CAGR) of the town decreased after 1981 due to the outmigration of people residing in the town, due to commercialization, as the residential units are being converted into shops, guesthouses. The average CAGR used for calculation is 3.02 % as shown in above table.

Table 12-2: Resident Population for Rural Area (Katra Villages)

Sr. no.	Year	Population	Increase/ decrease	Incremental increase	Decadal Growth Rate	Annual Growth Rate	CAGR
1	1981	13338	-	-	-	-	-
2	1991*	16,937	3599	-	26.99%	2.70%	2.42%
3	2001	21508	4571	971	26.99%	2.70%	2.42%
Average			**4085**	**971**	**26.99%**	**2.70%**	**2.42%**

Source: Report on Master Plan for Katra 2021 A.D., Census 2001

**1991: The population for the year 1991 is estimated based on the decadal growth rate of previous years.*

There total 31 villages in KDA area.Two villages Barola and Pungatha located in north western and south eastern part of new KDA area respectively are not considered in the calculation as very less part of the village's falls under KDA and not the complete village. The total population of rural area is 21508 in the year 2001. The average CAGR for rural area is 2.42 % and the decadal growth rate is 26.99% as observed from the above table.

In 2001, the share of urban population and rural population in total KDA area population was 27.32% and 72.68% respectively. The total KDA area population is 29591, as per 2001 census.

State's total CAGR is less than Katra, as observed in the year of 1991-2001 (*i.e. 2.61 percent)*. While CAGR of state's urban population is 3.52 percent, which is almost, comparable to Katra town's average CAGR. This indicates that urban growth is happening at a much faster rate as compared to rural growth in the state and Katra town is urbanizing rapidly. By looking at Udhampur district, urban growth in the district is much higher i.e. 5.09 percent than in comparison to the state *(which is 3.52 percent).* This is because Udhampur is one of the largest districts after Jammu district in the Jammu Province of the State.

The Population projections for the notified area have been carried out for the years 2011, 2021, 2031 and 2035 by the following methods:

1. Arithmetic method
2. Incremental Increase Method
3. Geometric Method

1. Arithmetic method:

This method is based upon the assumption that the population is increasing at a constant rate i.e. the rate of change of population with time is constant. Using the past trend of population of an area future population is projected. The average increase in population in previous years is 1663. Assuming the constant rate, the 2011, 2021, 2031 and 2035 year population is 9966, 11628, 13291 and 13933 respectively.

2. *Incremental Increase Method:*

In Incremental increase method, it is assumed that a progressively decreasing or increasing rather than a constant rate is adopted. The average increase or decrease in the difference of the population is assumed for future population projection. The projected population with this method is for the year 2011, 2021, 2031 and 2035 is 10407, 12953, 15940 and 17074 respectively.

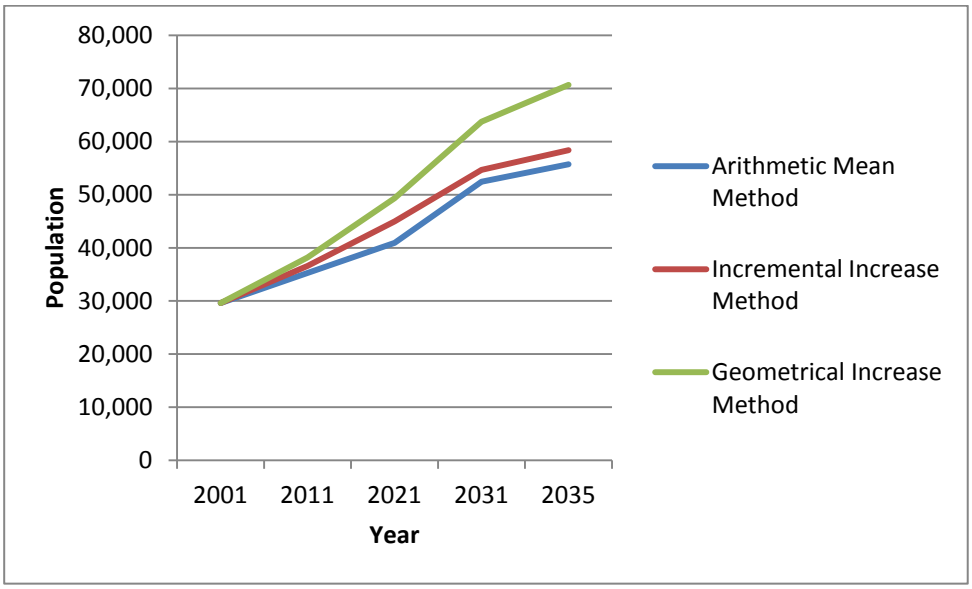
3. *Geometric Method:*

In this method, it is assumed that the percentage increase in population from decade to decade remains constant. Therefore, the average value of the percentage increase is calculated and the future populations are calculated at this rate. The population projected with this method for the year 2011, 2021, 2031 and 2035 is 11277, 15315, 20800 and 23510 respectively with the CAGR of 3.02 %.

Table 12-3: Projected KDA Urban + Rural Population

Scenario	Method	Year	2001	2011	2021	2031	2035
Scenario 1	Arithmetic Mean Method	Urban	8,083	9,672	11,262	12,851	13,465
		Rural	21508	25,593	29,678	39,591	42,255
		Total	**29,591**	**35,265**	**40,940**	**52,442**	**55,720**
Scenario 2	Incremental Increase Method	Urban	8083	10,045	12,380	15,087	16,116
		Rural	21508	26564	32592	39591	42255
		Total	**29,591**	**36,609**	**44,972**	**54,678**	**58,371**
Scenario 3	Geometrical Increase Method	Urban	8083	10,881	14,648	19,718	22,207
		Rural	21508	27312	34682	44042	48458
		Total	**29,591**	**38,193**	**49,330**	**63,760**	**70,665**

Figure 12-1: Projected KDA Population by each method



12.1.2 Village Wise Population Projection

Earlier, the total rural population is calculated. The decadal growth rate was 26.99% and CAGR was 2.42%. The same CAGR is assumed for calculating Village wise population projection. The following table shows village wise projected population.

Table 12-4: Village wise Population Projection

Sr. no.	Villages	Year			
		2011	2021	2031	2035
OLD KDA VILLAGES					
1	Kun Darorian	3641	4625	5874	6464
2	Kotli Bajalan	2045	2597	3299	3630
3	Purana Darooh	808	1026	1303	1434
4	Arli Hansali	799	1015	1289	1418
5	Serli	556	707	897	988
6	Nelay	502	637	809	891
NEW KDA VILLAGES					
7	Pharthal	1718	2183	2772	3051
8	Pamote	1310	1663	2113	2325
9	Dhirti	1282	1628	2067	2275
10	Bhagta	1271	1615	2051	2257
11	Kandiyar	1237	1571	1996	2196
12	Sira Kotla	1236	1570	1994	2194
13	Chandwa	1105	1404	1783	1962
14	Dudura	981	1245	1582	1741
15	Dhror	975	1239	1574	1732
16	Sule	909	1155	1467	1614
17	Batan	784	995	1264	1391
18	Kakrial	753	957	1215	1337
19	Treen Meari	748	950	1207	1328
20	Prooh	733	931	1182	1301
21	Dhanori	644	818	1039	1143
22	Sarna	638	810	1029	1132
23	Manun	545	692	879	967
24	Chak Bhagta	486	618	785	864
25	Hut	414	526	668	735
26	Akhli	391	497	631	694
27	Latoori	366	465	590	649
28	Talen	177	224	285	313
29	Pandhal	264	336	426	469
TOTAL KDA VILLAGES		**27318**	**34697**	**44070**	**48493**

As per population projection, in 2031 only Kun Darorian's population reaches more than 5000. In 2031 and 2035, Kun Darorian's population will be 5874 and 6464 respectively.

12.1.3 Migrated (Other) Population

Due to the high pilgrim flow during past few decades, population from the surrounding areas comes to town for employment and other services. This population is known as migrated population. This migrated population is engaged in employment in various sectors such as hotel industry, railway staff and others.

There is no data available on migrated population. Hence, few assumptions are considered based upon earlier master plan for calculating migrated population. It is expected that, with the proposed master plan, there will be migration of population in rural areas also. Migration in urban areas will be higher than the rural areas. Therefore, for urban areas, 30% migration of total urban area population is considered and for rural area 15% migration is considered for rural population.

Table 12-5: Migrated Population in Urban Area

Year	Total Urban Population	Urban Migrated Population	Total Urban Population
2011	10881	3264	14145
2021	14648	4394	19042
2031	19718	5915	25633
2035	**22207**	**6662**	**28870**

Considering, 30% as the migrated population of the total projected population for urban areas, the total migrated population in 2035 will be 6662 in urban areas. Hence the total urban population for the year 2011, 2021, 2031 and 2035 would be 14145, 19042, 25633 and 28870 respectively.

The rural area villages are divided into three divisions. These villages are divided according to its geographical locations from main Katra town and impact of development. First are the six villages falling in old KDA boundary, second are the villages which will have direct impact of the development and third are the villages which will have indirect impact. The division of the villages is as described below:

1st Division: Kun Darorian, Kotli Bajalan, Nelay, Purana Darooh, Arli Hansali and Serli

2nd Division: Dhirti, Bhagta, Sira Kotla, Sule, Kakrial, Prooh, Dhanori, Manun, Chak Bhagta and Latoori

3rd Division: Kandiyar, Dudura, Dhror, Batan, Treen Meari, Sarna, Hut, Akhli, Talen, Pandhal, Pharthal, Pamote and Chandwa

Table 12-6: In 2035, Total Rural Population

	Division 1			Division 2			Division 3		
Year	Rural Pop.	Floating Pop.	Total Pop.	Rural Pop.	Floating Pop.	Total Pop.	Rural Pop.	Floating Pop.	Total Pop.
2011	8351	1253	9604	8225	1234	9459	10741	1611	12353
2021	10607	1591	12198	10447	1567	12014	13643	2046	15690
2031	13472	2021	15493	13269	1990	15260	17328	2599	19928
2035	14824	2224	17048	14601	2190	16791	19068	2860	21928

After few years, Katra will get saturated due the increasing flow of pilgrims, pilgrim related activities and commercialization. Therefore, these activities would move towards surrounding villages. Considering the development in the KDA area, it is assumed that the villages falling directly under this development will require the same level of infrastructure as of urban area.

The villages which are falling under old KDA boundary are Kun Darorian, Kotli Bajalan, Nelay, Purana Darooh, Arli Hansali and Serli. These villages already have some impact of pilgrim's related activities, as they are near to the Katra town. Hence, it's important that these villages need to be provided with similar kind of facilities as of urban area. Therefore, these villages are already considered as developing urban centers.

As per the new KDA boundary, Dhirti, Bhagta, Sira Kotla, Sule, Kakrial, Prooh, Dhanori, Manun, Chak Bhagta and Latoori village's settlement will have direct impact of the development. Though these villages have direct impact, they will develop gradually as urban centers. Hence, only 60% of its population is considered as urban, and rest 40 % will be considered as rural.

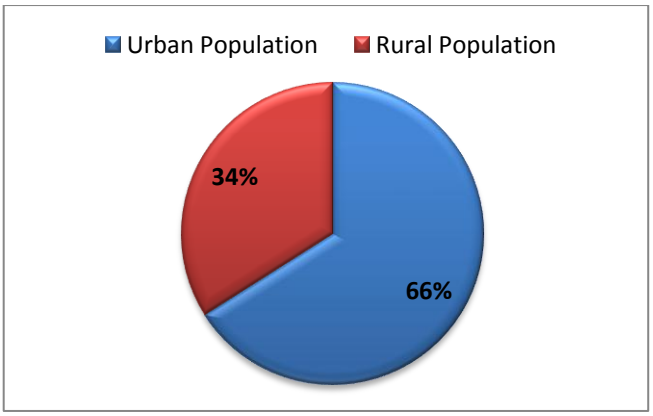
Hence the urban population of KDA area will include Katra town population, Division 1 and 60% of division 2 population. The following table 12-7 shows that total projected urban and rural populationin KDA area.

Table 12-7: Total Residential Population in KDA Area

Year	Total Urban Population	Total Rural Population	Total KDA Area Population
2011	29425	16136	45561
2021	38448	20495	58943
2031	50282	26032	76314
2035	**55993**	**28644**	**84637**

As shown in above table, the total KDA area population in the year of 2035 is 84637. Out of which the urban and rural area population is 66% and 34% respectively.

Figure 12-2: Percentage Share of Urban & Rural Population in KDA area



12.1.4 Pilgrim Population

Since town serves as the base camp for the holy Yatra, pilgrims' population has increased over the years in the town. It has increased at an average decadal growth rate of 96 percent from 1980-2010 *(refer table no.12-8).* CAGR during last 4 decades *(i.e. from 1980-2010)* is 6.82 percent. From 1990 onwards, there is almost an increase in number of pilgrims visiting shrine every day. Drastic variation is observed in the decadal growth rate of 1990-2000 *(i.e. 138.55 percent)*. This may be due to less security concerns, improvement in pilgrim's facilities, track and creation of another cave.

Projections for pilgrims population is arrived by assuming three various methods such as Arithmetic method, Incremental Increase method, Geometrical Increase method and Decreasing rate of growth.

Table 12-8: Pilgrim Population Analysis

Sr. no.	Year	Population	Increase/ decrease	Incremental increase	Decadal Growth Rate	Annual Growth Rate	CAGR
1	1980	1212000	-	-	-	-	-
2	1990	2187000	975000	-	80.45%	8.04%	6.08%
3	2000	5217000	3030000	2,055,000	138.55%	13.85%	9.08%
4	2010	8749000	3532000	502,000	67.70%	6.77%	5.31%
Average of Past Populations			**2512333**	**1278500**	**95.56%**	**9.56%**	**6.82%**

Source: Census 2001, Primary Analysis

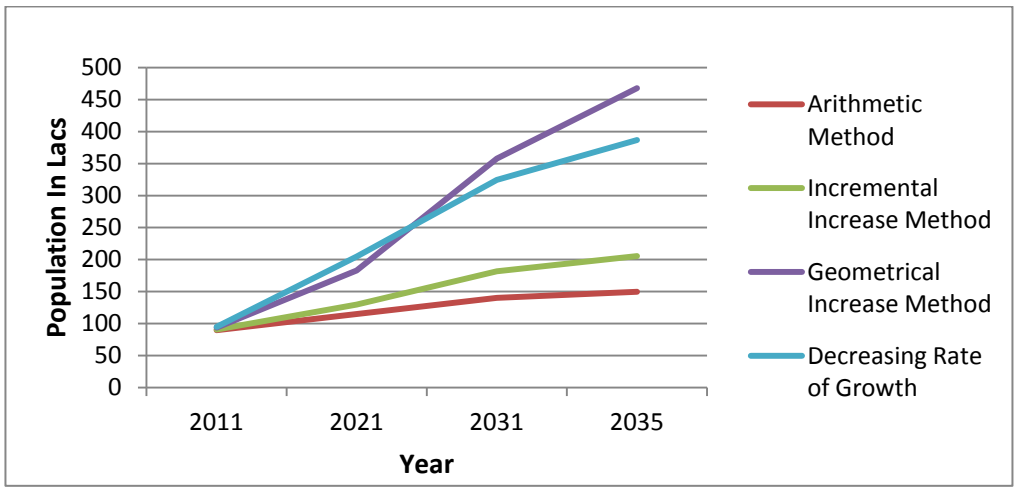
The average decadal growth rate considered is 95.56 % and CAGR is 6.82%. In near future, the upcoming railway line has a major influence on number of pilgrim's arrival to Katra.The methods used for pilgrim population projection is arithmetic method, incremental increase method, geometrical increase method and decreasing rate of growth.

Table 12-9: Pilgrim Population with Various Methods

Scenario	Summary	Year	Projected Pilgrim Population
Scenario 1	Arithmetic Method	2011	8,972,667
		2021	11,490,417
		2031	14,006,385
		2035	**14,977,247**
Scenario 2	Incremental Increase Method	2011	9,069,676
		2021	12,972,882
		2031	18,159,679
		2035	**20,539,299**
Scenario 3	Geometrical Increase Method	2011	9,355,939
		2021	18,296,888
		2031	35,782,202
		2035	**46,793,227**
Scenario 4	Decreasing Rate of Growth	2011	9,480,761
		2021	20,461,565
		2031	32,447,301
		2035	**38,668,617**

Source: Projections

Figure 12-3: Projected Pilgrim Population



The above figure shows that, with Arithmetic method and Incremental Increase method there is not much growth in pilgrim population. The pilgrim population growth with Arithmetic method and Incremental Increase method for the year 2035 is 150 lacs and 205 lacs respectively. With Geometrical Increase method and Decreasing Rate of growth the pilgrim population reaches upto 468 lacs and 387 lacs respectively.

Considering, the development opportunities in the area such as construction of new railway line and pilgrim development activities, there will be more pilgrim population. Hence the pilgrim population projected with Geometrical Increase method is considered. The pilgrim population for the year 2011, 2021, 2031 and 2035 is 94 lacs, 183 lacs, 358 lacs and 468 lacs respectively.

Table 12-10: Projected Pilgrim Population

Year	Projected Pilgrim Population	Annual Projected Pilgrim Population (in lac)
2011	9,355,939	94
2021	18,296,888	183
2031	35,782,202	358
2035	**46,793,227**	**468**

Source: Projections

Monthly Pilgrim Population Arrival

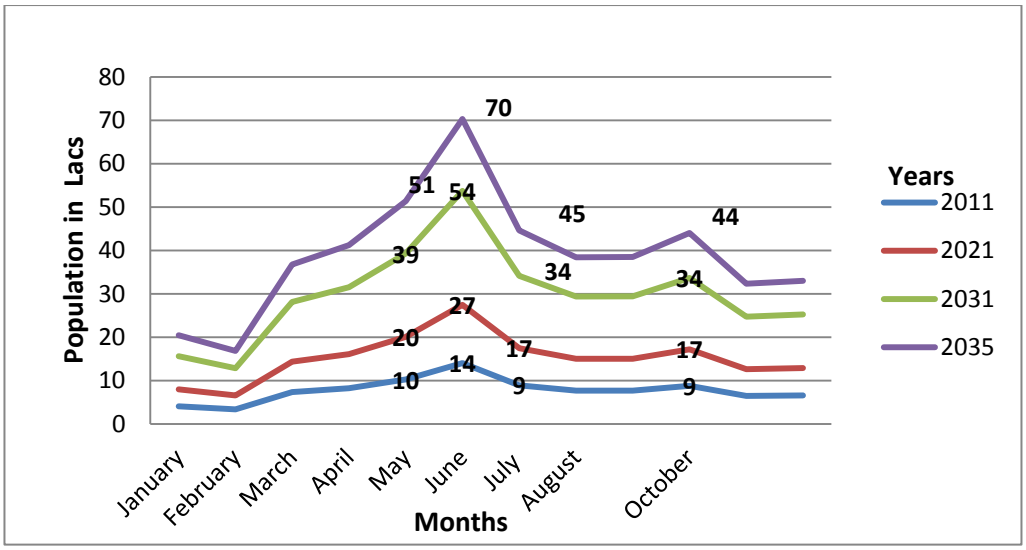
Average monthly pilgrims' arrival considered due to fluctuations happening in different months. On and average approximately 38.99 lacs pilgrims will visit the holy shrine per month in 2035.

Table 12-11: Projected Month Wise Pilgrim population (in lacs)

Projected Month Wise Pilgrim population (in lacs)				
Months	**Year**			
	2011	**2021**	**2031**	**2035**
January	4	8	16	20
February	3	7	13	17
March	7	14	28	37
April	8	16	32	41
May	10	20	39	51
June	14	27	54	70
July	9	17	34	45
August	8	15	29	38
September	8	15	29	38
October	9	17	34	44
November	6	13	25	32
December	7	13	25	33
TOTAL	**94**	**183**	**358**	**468**
Average	**7.80**	**15.25**	**29.82**	**38.99**

Source: Estimated

Figure 12-4: Projected Month wise Pilgrim Population



Average percentage share of the pilgrim population is considered in total pilgrim population of earlier years. With this percentage of average pilgrim population of earlier years the monthly population is calculated for future years. Maximum number of pilgrims visits in the month of May, June, July and October in a year. Hence it's considered as the peak season. From the month of November to April it's the lean season in a year.

Per DayPilgrim Population Arrival in KDA

Pilgrims' arrival per day is projected based on clearing capacity of the cave, which is on a per day basis.

Table 12-12: Projected Per Day Pilgrim Population

Projected per day Pilgrim population (in no.)				
Months	**Year**			
	2011	**2021**	**2031**	**2035**
January	13193	25800	50456	65983
February	12022	23511	45978	60127
March	23724	46396	90735	118656
April	27468	53718	105054	137382
May	33146	64822	126768	165777
June	46845	91612	179161	234293
July	28793	56309	110120	144007
August	24793	48487	94823	124003
September	25653	50167	98110	128300
October	28399	55538	108612	142034
November	21565	42174	82478	107858
December	21287	41630	81413	106466
Average	**25574**	**50014**	**97809**	**127907**

Source: Estimated

In 2035, 127907 is the per day pilgrim population that will visit holy shrine of Shri Mata Vaishno Devi. As per primary survey, 81% population stays back on 2nd day to visit surrounding places near Katra. It is assumed that out of the 81%, 50% population stays in Katra on 3rd day. Therefore, the duration of stay of pilgrim in Katra is maximum 2 days. Hence, total pilgrim population in a day will be more than 127907.

In 2001, the clearing capacity of the cave is 20000. The rest of the Pilgrim's stay back at Katra town till they get Yatri Pass from Yatra Registration Center. Hence, the total population will be staying at Katra will be more than the average per day population.

Table 12-13: Number of Pilgrims present at a time in Katra

No. of Days	Assumptions	2011	2021	2031	2035
Day 1	Average Per day Pilgrim population	0.26	0.50	0.98	1.28
Day 2	81% pilgrim stay back	0.21	0.41	0.79	1.04
Day 3	50% pilgrim of 1st stay back on 3rd day	0.10	0.20	0.40	0.52
Total Pilgrim in a day (lacs)		**0.57**	**1.11**	**2.17**	**2.83**

Average number of pilgrims going to stay back in Katra town daily will be 283314 by 2035.It is taken further ahead for calculation, as it is projected as most appropriate based on existing situation. It would require different levels of facilities and services in order to cater the demand of pilgrims' population.

12.1.5 Service Provider

This includes Ponywalas, Pithoowalas and Palkhiwalas population. As per 2011 information, there are presently 18867 registered service providers in Katra. In addition to this, there would be approximately 30 percent un-registered service providers *(assumed[27])* in the town. Hence, total population of service providers is 24527 *(existing)*in 2011. As per primary survey,only 28 percent pilgrim's use service provider's facility as their mode of travel to shrine. It is assumed that this is going to increase in future, due to increasing pilgrim population.

Table 12-14: Projected Service Provider Populationfor 2035

Year	Projected tourist Population (in lac)	tourist population/service provider	Yearly Projection of Service Provider
2011	94	383	24527
2021	183		47741
2031	358		93365
2035	**468**		**122096**

In 2035, for 468 lac pilgrim population, 122096 service providers are required. As shown in above table 12-15, total pilgrim population present at a time in Katra in a day is 127907in 2035. As per

[27] *Based on discussion with service providers*

primary survey, not all the pilgrims would use the service provider service. Hence, assumed percentage of pilgrims going to utilize service provider will be 50 percent of the total per day pilgrims. As per primary survey, it is observed that, 1 service provider provide service to two pilgrims.

Table 12-15: Total Number of Per Day Service Providers in Katra

Year	Total projected Per day Tourist population (Lac)	Tourist Population going to use Service Provider's Service (50%)	Projected Per Day Service Providers
2011	25574	12787	6394
2021	50014	25007	12503
2031	97809	48904	24452
2035	**127907**	**63954**	**31977**

Total projected population of service provider by 2035 would be31977, but not all the service providers are present in Katra at the same time (as per primary survey).Most of the service providers are migrants from other districts of the state and comes to Katra for work for 4-6 months.Those who come to the town for work, stay in a rented accommodation in a group of 2-4 people. Some of them come only comes in morning for work and leaves in evening.

TOTAL POPULATION IN KDA AREA

Table 12-16: Population Projection for the Horizon year 2035

Population	Year 2035
Urban Population	55,993
Rural Population	28,644
Service Providers Population	31977 (per day service providers)
Pilgrim Population	4,67,93,227 (127907 per day pilgrim population)

The total urban and rural population at KDA for the year 2035 would be 55,993 and 28,644 respectively. Therefore, the total residential population in 2035 in KDA would be 84637.

12.2 Employment Projections

While employment generation and balanced development will continue to be amongst the major objectives of the Master Plan for the notified area, the present context makes it necessary to have a more comprehensive strategy while determining the objectives in view of the expressed concerns.

A comprehensive understanding of the future growth of the local economy is imperative for formulating an appropriate development strategy for the notified area. More specifically, such an understanding would help identify probable locations for employment centers and propose corresponding improvements to the transport network and other infrastructure services to meet future requirements.

In the year 1991, no census was conducted in J&K state due to disturbed conditions. As such, it is not possible to find current trend precisely. For Katra town, the census record of previous three decades is available. But for KDA villages that data is no available. Hence it is difficult of find the trend in employment.

Being a pilgrimage centre substantial increase has been noticed in the tertiary sector i.e. laborer category and other services. It is revealed that, economic base of the town has considerably strengthened in Secondary and Tertiary sector, but it has dwindled in Primary sector because of increased urbanization.

As per 2001 census break up of workers under primary, secondary and tertiary sectors has been not given clearly given.

Other workers occupy larger percentage of occupational pattern in Katra town and KDA village. Town's economy is completely driven by secondary, tertiary and service sectors. While at village level, still primary sector economic activity is happening.

In 2001, the WFPR is already high. Hence, for employment projections in Katra town and KDA villages, the WFPR of 2001 is considered. The following table shown employment projections in KDA notified area.

Table 12-17: Total Workers in KDA area

Year	KDA area	
	Urban	Rural
2011	11117	5908
2021	14411	7504
2031	18696	9531
2035	20752	10488

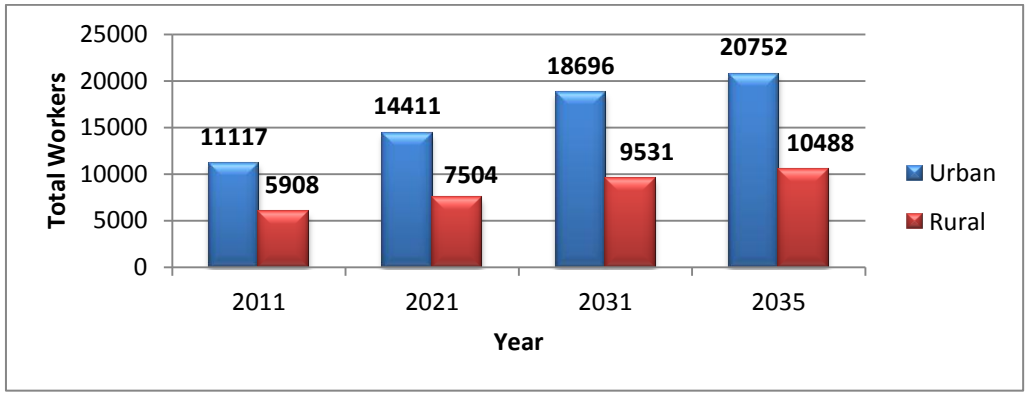
As shown in above table 11-18, in 2035 urban and rural total workers will be 20752 and 10488 respectively. Increase in pilgrim population will increase employment opportunities in tertiary and service sectors.

Table 12-18: Employment Projection for Katra Town and KDA villages

Sr. No.	Villages	Population 2001	Total Workers	WFPR %	Population 2011	Total workers 2011	Population 2021	Total workers 2021	Population 2031	Total workers 2031	Population 2035	Total workers 2035
0	**Katra Town**	8083	2847	35.22	10881	3833	14648	5159	19718	6945	22207	7822
1st Division												
1	Kun Darorian	2867	823	28.71	4187	1202	5319	1527	6755	1939	7434	2134
2	Kotli Bajalan	1610	758	47.08	2352	1107	2987	1406	3794	1786	4175	1966
3	Nelay	395	171	43.29	577	250	733	317	930	403	1025	444
4	Purana Darooh	636	288	45.28	929	421	1180	534	1498	678	1649	747
5	Arli Hansali	629	213	33.86	919	311	1167	395	1482	502	1631	552
6	Serli	438	167	38.13	639	244	813	310	1032	393	1136	433
TOTAL		**6575**	**2420**	**36.81**	**9604**	**3535**	**12198**	**4490**	**15493**	**5702**	**17048**	**6275**
2nd Division												
7	Dhirti	1009	568	56.29	1474	830	1872	1054	2377	1338	2616	1473
8	Bhagta	1001	270	26.97	1462	394	1857	501	2359	636	2596	700
9	Sira Kotla	973	436	44.81	1421	637	1805	809	2293	1027	2523	1131
10	Sule	716	339	47.35	1045	495	1328	629	1687	799	1856	879
11	Kakrial	593	285	48.06	866	416	1100	529	1397	671	1538	739
12	Prooh	577	163	28.25	843	238	1071	303	1359	384	1496	423
13	Dhanori	507	59	11.64	741	86	941	110	1195	139	1314	153
14	Manun	429	114	26.57	627	167	796	212	1011	269	1112	295
15	Chak Bhagta	383	178	46.48	559	260	711	330	903	420	994	462
16	Latoori	288	155	53.82	421	227	535	288	679	365	746	401
TOTAL		**6476**	**2567**	**39.64**	**9459**	**3749**	**12014**	**4762**	**15259**	**6048**	**16791**	**6656**
3rd Division												
17	Kandiyar	974	442	45.38	1423	646	1807	820	2295	1041	2525	1146

Sr. No.	Villages	Population 2001	Total Workers	WFPR %	Population 2011	Total workers 2011	Population 2021	Total workers 2021	Population 2031	Total workers 2031	Population 2035	Total workers 2035
18	Dudura	772	235	30.44	1128	343	1432	436	1819	554	2002	609
19	Dhror	768	498	64.84	1121	727	1425	924	1810	1174	1992	1292
20	Batan	617	336	54.46	902	491	1144	623	1454	792	1600	871
21	Treen Meari	589	290	49.24	860	423	1093	538	1388	683	1527	752
22	Sarna	502	231	46.02	734	338	931	428	1183	544	1302	599
23	Hut	326	148	45.40	476	216	605	275	768	349	845	384
24	Akhli	308	163	52.92	450	238	572	303	726	384	798	422
25	Talen	139	42	30.22	203	61	258	78	328	99	360	109
26	Pandhal	208	82	39.42	304	120	386	152	490	193	539	212
27	Pharthal	1353	448	33.11	1976	654	2510	831	3188	1056	3509	1162
28	Pamote	1031	521	50.53	1506	761	1912	966	2430	1228	2674	1351
29	Chandwa	870	609	70.00	1271	890	1615	1131	2050	1435	2256	1579
TOTAL		**8457**	**4045**	**47.83**	**12352**	**5908**	**15689**	**7504**	**19927**	**9531**	**21928**	**10488**

Figure 12-5: Total Workers in KDA Urban & Rural areas



The total urban and rural population of KDA area is 55993 and 28644 respectively. Maximum population in KDA area is involved in tertiary sector due to its pilgrimage importance.

12.3 Proposed Physical Infrastructure Services And Amenities

Infrastructure is the basic requirement of urban life and its adequacy and accessibility are two important ingredients and key contributors in the upgradation and enrichment of quality of life.Availability and adequacy of infrastructure services has a larger role in wealth and well- being of citizens. Infrastructure services act as a catalyst for development, which foster economic growth and enhance public well-being. Hence, provision of infrastructure is defined as a Basic Services, which any developed and developing town requires in order to sustain its growth and development. The infrastructure section divides into 2 categories; 1) Physical infrastructure *(water supply, sewerage, sanitation, storm water drains, solid waste management, and street light)*. 2) Social infrastructure *(health, education, parks, gardens, banks).* This chapter outlines the status of infrastructure facilities and services in the town. Based on primary and secondary data collected from various agencies like municipal committee, PHED, Health department, Education department analysis is carried out. Primary household survey conducted as a part of the study wherein households were asked about the level and quality of infrastructure services and facilities they are getting. It is summarized in the next section of the report.

12.3.1 Water Demand

Residential Water Demand 2035

Table 12-19: Total Residential Water Demand

RESIDENTIAL POPULATION WATER DEMAND (MLD)				
	Year			
Description	**2011**	**2021**	**2031**	**2035**
Proposed Population				
Urban Population	29425	38448	50282	55993
Rural Population	16136	20495	26032	28644
Projected Water Demand (MLD)				
for Urban @ 135 lpcd	3.97	5.19	6.79	7.56
for Rural @ 70 lpcd	1.1	1.4	1.8	2.0
Total Water Demand @ MLD`	**5.10**	**6.63**	**8.61**	**9.56**
15 % O & M loss	0.77	0.99	1.29	1.43
Sub Total 1	5.87	7.62	9.90	11.00
2 % Fire Fighting	0.12	0.15	0.20	0.22
Grand Total Water Demand (MLD)	**5.98**	**7.77**	**10.10**	**11.22**

As shown in above table, by 2035 the projected water demand for urban and rural area will be 7.56 and 2.0 MLD respectively.

As shown in above table no. 11-16, in 2035 the service provider will be 122096. As per primary survey, it is observed that not all the registered service providers work daily. There are many unregistered service providers also. Hence it is assumed that out of total projected service providers, only 60 % are present in a day.

Table 12-20: Total Service Providers Water Demand

SERVICE PROVIDER WATER DEMAND				
Year	**2011**	**2021**	**2031**	**2035**
Service Provider Population	14716	28645	56013	73258
Total Water Demand (LPCD)	1030120	2005150	3920910	5128060
Total Water Demand (MLD)	**1.03**	**2.01**	**3.92**	**5.13**

As service providers come to the town only for a day, it is assumed that 70 LPCD water supply. In the 2035, the total water demand required by the service providers will be 5.13 MLD.

Pilgrims Water Demand

For 2035, the projected pilgrim population is 468 lacs. In 2035, the total pilgrim population present in a day would be 2.83 lacs per day. As the pilgrim population use water mainly for domestic purpose, 45 LPCD of water quantity is assumed for calculation.

Table 12-21: Total Pilgrim Population Water Demand

PILGRIM POPULATION WATER DEMAND @ 45 lpcd				
Year	**2011**	**2021**	**2031**	**2035**
Projected per day Tourist Population	56646	110780	216647	283314
water demand (LPCD)	2549070	4985100	9749115	12749130
Total water demand (MLD)	**2.55**	**4.99**	**9.75**	**12.75**

This water demand includes the stay of pilgrim population in all type of accommodations such as hotels, dharamshalas and facilities. Hence, in 2035 the 12.75 MLD water is required by the pilgrim population.

TOTAL WATER DEMAND IN KDA AREA

As described above, all the population of different category are calculated. Following table shows the total water demand required in KDA area.

Table 12-22: Total Water Demand in KDA area

TOTAL WATER DEMAND IN KDA AREA (MLD)				
Description	**2011**	**2021**	**2031**	**2035**
Residential Population Water Demand	5.10	6.63	8.61	9.56
Service Provider Population Water Demand	0.45	0.88	1.71	2.24
Pilgrim population Water Demand	2.55	4.99	9.75	12.75
A. SUB-TOTAL WATER DEMAND (MLD)	**8.10**	**12.50**	**20.07**	**24.55**
Fire Fighting Requirement (1% of total water demand)	0.08	0.13	0.20	0.25
B.SUB TOTAL	**8.18**	**12.63**	**22.27**	**24.80**
Assuming 15% of transmission & distribution Losses	1.32	2.06	3.38	4.16
TOTAL WATER DEMAND (MLD)	**9.50**	**14.69**	**23.65**	**28.96**

The total residential water demand for the year 2011, 2021, 2031 and 2035 is 5.10, 6.63, 8.61 and 9.56 MLD respectively. As per UDPFI guidelines, the water required for firefighting purpose demand on total residential water demand is 1 – 2 % of total water demand. In 2035, water required for firefighting purpose will be 0.27 MLD. The transmission and distribution losses are assumed to be 15 % of the total water demand. Hence, the total water demand in KDA area for the year 2011, 2021, 2031 and 2035 is 10.08, 15.81, 25.88 and 31.87 respectively.

Existing water supply in KDA area is 3.62 MLD and the proposals in water supply master plan (PHE) is 10.2 MLD for the year 2025.

Storage: The total existing storage services having storage capacity of 3no. is 1.05 ML comprising of elevated reservoirs at Shanakracharya Jhill, existing treatment plant site and sub division office complex. Apart from the fire demand, it is proposed to provide a storage capacity for 24 hours continuous water supply. The storage capacity of proposed reservoirs in fringes are of Katra has been kept on the little higher side keeping in view of scattered and floating population.

Provision of Water Storage Facilities	Water Demand (in MLD)	Water Sotage Capacity (in MLD)	No. of Water Storage facilities Major
Total Water Demand for Master Plan Area (MLD)	29		
ESR - Elevated Service Reservoir Capacity (MLD)	1.5	10	6
GLSR - Ground Level Service Reservoir Capacity (MLD)	3	19	6
Water supply for Development Plan is inclusive of the losses i.e. 15%.			
For storage of water supply in ESR & GSR additional 1% of the total demand for fighting supply is calculated.			

The storage requirements have been calculated as per the water demand in the project area for the year 2035. The normal one day storage is proposed for the water supply scheme. Also for fire fighting requirement which is a provision and not a supply made on a day-to-day basis, therefore, provision for this quantity is kept in mind while planning the system. Thus, total storage capacity is the total water demand for one day, including the fire fighting and other demands.

Storage capacity for Master plan area – 2035 for rural and urban areas is shown in Table mentioned above. The total water supply demand for the year 2031 is proposed to be 29 MLD. Generally the required storage is divided in two parts – elevated service reservoir, and underground tanks. The underground storage accounts for two-thirds of the storage, while the elevated storage accounts for the balance one-third requirement. Above mentioned table gives details on required ESR and GSR for 2031.

Alternative water harvesting system

The term “Water harvesting” can be been explained as collection/storage of rainwater and other activities aimed at harvesting surface and groundwater, prevention of losses through evaporation/seepage and all other hydrological studies/ engineering interventions, aimed at conservation and efficient utilization of limited water endowment of physiographic unit such as watershed.

Need for rain water harvesting

- Short spells of high intensity/ heavy runoff/ low ground water recharging.
- Acute shortage of drinking water.
- Importance to tapping of rainwater by harvesting it for recharging or direct use.

Components of Rain Water Harvesting

- Catchment: surface (paved/ unpaved) contributing water to a system by directly receiving rainfall; eg. Terrace, courtyard, lawn or open ground.
- Conduits: pipelines or drains (PVC/ Asbestos/ GI etc) carrying rainwater from catchment to harvesting system.
- Filters: tank with different layers of stand/ pebbles for filtering water before reaching tank.
- Storage Facility: Commonly used storage containers (RCC/ Masonry/ plastic etc) maintenance measures (cleaning/ disinfection etc) required for ensuring quality of water.
- Recharge Facility: rainwater charged directly to aquifers through bore well, dug wells, recharge trenches and recharge pits.

Water recycling has the main benefit of preserving water supplies. Appropriate measures need to be adopted to maximize savings, optimal and economical use of water resources. Some of the measures are briefly mentioned below-

12.3.2 Estimated Sewerage Generated

Sewage generation for the notified area is estimated on the basis of the projected water demand of Notified Area, since 80% of total water-supply is usually discharged as a wastewater[28]. According to these figures, total sewage generation in the notified area would be about 28.62 MLD.

The following table below shows sewage generation for the year 2035 in notified KDA area.

Table 12-23: Total Sewerage Generated in KDA area

TOTAL SEWERAGE GENERATED (MLD)				
Description	**2011**	**2021**	**2031**	**2035**
Residential Population	4.08	5.30	6.89	7.65
Service Providers Population	0.36	0.70	1.37	1.79
Pilgrim population	2.04	3.99	7.80	10.20
TOTAL SEWERAGE GENERATED (MLD)	**6.48**	**9.99**	**16.06**	**19.64**

According to the SYCOM project consultants, New Delhi, it is proposed to construction sewerage & drainage system based on 10 MLD design capacity which will be able to match the demand up to 2021 only.. As per projection there is need for 21.95 MLD capacity sewerage & drainage system. There is also need for more number of public toilets for pilgrim population. For an effective system in hilly tarrain it is possible to consider decentralized sewerage system.

12.3.3 Solid Water Management

Solid waste management forms an obligatory function of Urban Local Bodies (ULBs) and hence, it calls for proper disposal of waste with appropriate strategy. At present there is no designated dumping site and garbage is dumped at all available places in the town leading to foil smell, unhygienic conditions and mosquito breeding.

With the kind of development envisaged for the New KDA, it is assumed that the per capita waste generated will increase for the projected population with the improvement in living standards. It is assumed that 500gm solid waste generation per capita for the project area for the planning period.

[28] *UDPFI Guidelines*

Solid Waste Generation - KATRA DEVELOPMENT AUTHORITY AREA										
	Projected Population				GM/DAY			MT/DAY		
Year	2011	2021	2031	2035	2021	2031	2035	2021	2031	2035
Urban Population	29425	38448	50282	55993	19224000	25141000	27996500	19.2	25.1	28.0
Rural Population	16136	20495	26032	28644	10247500	13016000	14322000	10.2	13.0	14.3
Service Provider Population	14716	28645	56013	73258	14322500	28006500	36629000	14.3	28.0	36.6
Projected per day Tourist Population	56646	110780	216647	283314	55390000	108323500	141657000	55.4	108.3	141.7
Total	116923	198368	348974	441209	99184000	174487000	220604500	99.2	174.5	220.6

The waste collected from sources can be segregated either at the source itself or can be segregated in the transfer station. Incentives to be given to the sweeper/ staff collecting the waste from the source. They can collect the waste and segregate the waste like recyclable waste and sell it.

All the waste collected through Primary Collection System, from the households, shops and establishments has to be taken to the processing or disposal site either directly necessitating a large fleet of vehicles and manpower or through cost effective systems which are designed to ensure that all the waste collected from the sources of waste generation is temporarily stored at a common place called "Waste Storage Depots" and then transported in bulk to the processing or disposal sites.

In large cities where disposal sites are more than 8-10 km. away from the city boundary smaller vehicles are used for transportation of waste, it may prove economical to set up transfer stations to save transportation time and fuel provided such cities have a good performance record of vehicle maintenance and adequate facilities to maintain large size vehicles and containers. Large size 15 to 20 cu. m. containers to be kept at transfer stations to receive waste from small vehicles. A ramp facility may be provided to facilitate unloading of vehicles or dumper places containers, directly into large containers at transfer station.

Proposed area required for Transfer station & composting site																			
Parameter		Year	Population	Solid Waste Generated 2035 (in gm)	Solid Waste Generated (in tonne)	Solid Waste Generated (in tonne)/ year	Non-Compostable Matter	Total Volume (in Cum)	A = 10 cm soil cover for lift ht. (in Cum)	B = 1.5mt thick liner and 1 mt thick cover system (in Cum)	C = Due to settlement after 10 yrs (in Cum)	Total landfill capacity(Total Volume + A + B - C) (in Cum)	Area required for land filling ht (in sq mt)	Total Area required for infrastructure facility @ 15 % of total area (in sq mt)	Total area required (in sq mt)	Total area required (in Ha)	Hect	Acre	(sq.kms)
Density tonnes/(cu.m)	0.8	2021	198368	99184000	99	36202	18101	14481	1448	3620	724	18825	1883	282	2165	0.22	0.70	1.72	0.007
height required for Landfill	10	2035	441209	220604500	221	80521	40260	32208	3221	8052	1610	41871	4187	628	4815	0.48			
Density tonnes/(cu.m)	0.8	2021	198368	99184000	99	36202	18101	14481	1448	3620	724	18825	1255	188	1443	0.14	0.47	1.15	0.005
height required for Landfill	15	2035	441209	220604500	221	80521	40260	32208	3221	8052	1610	41871	2791	419	3210	0.32			
Density tonnes/(cu.m)	0.5	2021	198368	99184000	99	36202	18101	9051	905	2263	453	11766	1177	176	1353	0.14	0.44	1.08	0.004
height required for Landfill	10	2035	441209	220604500	221	80521	40260	20130	2013	5033	1007	26169	2617	393	3009	0.30			
Density tonnes/(cu.m)	0.5	2021	198368	99184000	99	36202	18101	9051	905	2263	453	11766	784	118	902	0.09	0.29	0.72	0.003
height required for Landfill	15	2035	441209	220604500	221	80521	40260	20130	2013	5033	1007	26169	1745	262	2006	0.20			

Transfer stations and composting site are combined together and are proposed. Location of Transfer station & composting site are proposed as per manual on Municipal Solid Waste Management, CPHEEO, and Ministry of Urban Development. The purpose of having the transfer station and compositing site combined helps in decentralizing the waste to handle for such a huge area. In this station the waste is to be segregated and only the non compostable matter (50%) will go to the landfill site and the other compostable matter (50%) shall be processed/ treated.

The idea behind setting up this facility is to reduce the cost incurred in transporting the waste from site to dump site. Transfer stations are facilities at which municipal solid waste is dropped off by relatively small vehicles, loaded into larger containers or onto larger vehicles, and hauled to an off-site management facility for further processing or final disposal. A vegetated or landscaped buffer zone of at least 15 metres to be left around the perimeter of the active transfer area, in order to minimize any potential nuisance associated with noise, dust, or odours or any objections based on

visual aesthetics. The container/containers of at least twice the capacity may be placed at such locations to prevent over flow of bins and have freedom to lift the bin at the local body's convenience.

For calculating the area of the landfill site, compactable waste density is to be considered. Whole quantum of waste generated is 1/3rd of the organic waste and rejects like boulders, debris; stones will go to landfill site for disposal. Landfill heights are reported to vary from less than 5 m to well above 30 m. Landfill site is designed, constructed with the objective of minimum impact to the environment. Selection of a landfill site is dependent on locational criteria. Refer Anx: 19 Table 19 for Technical note on solid waste landfill site.

The density of waste varies on account of large variations in waste composition, degree of compaction and state of decomposition. Densities may range as low as 0.40 t/cu.m to 1.25 t/cu.m. For planning purposes, a density of 0.5 & 0.8 tones/cu.m may be adopted for biodegradable wastes. Similarly the height of the landfill is taken 10m and 15m and 4 options for the landfill area is calculated. Table mentioned above shows the landfill area required in KDA. The total area required for 2021 & 2035 for various parameters is calculated. The maximum landfill area calculated is 0.44 hectares for density of 0.5 tonees/cum height of 10 m and minimum area is 0.70 hectares for density of 0.8 tonnes/cum and height of 15m.

The proposed solid waste landfill site is located in Dun Korian village having an area of 100 kanals of land which was acquired by Muncipal Katra for a solid waste-processing complex at Dun Korian. The site is sufficient enough to cater future requirement. Considering the technological inputs available for SW Landfill, it is proposed to develop the identified site as a scientific/ engineered landfill, so that there is no hazard due to leaching, obnoxiuous fumes, and damage to surrounding environment. This will need to detail in an DPR for the SW landfill. Also the possibility of recycle/ reuse of solid waste need to be explored.

Technical note on solid waste landfill site

- Municipal solid waste is disposed on landfill with an objective of maintaining health and hygienic condition in the city. Landfill site is designed, constructed with the objective of minimum impact to the environment. Selection of a landfill site is dependent on locational criteria mentioned below.
- The landfill site shall be large enough to last for 20-25 years and preferably within 5 km from present city limits.
- The site shall be at least 500 mt. away from habitation clusters, forest areas, monuments, National Parks, Wetlands and places of important cultural, historical or religious interest.
- No landfill should be constructed within 200 mt of any lake or pond.
- No landfill should be constructed within 100mt. of a navigable river.
- No landfill should be constructed within 200mt. of the right of way of any state or national highway.
- A site should be at least 500mt. away from a notified habitated area. A buffer zone of 500mt. around a landfill boundary should be declared as a No development zone after the landfill location is finalized. No landfill site should be constructed within critical habitat areas.
- A landfill should not be constructed in areas where water table is less than 2 mt. below ground surface.
- No landfill should be constructed within 500 mt. of any water supply.
- Topographical and geographical features (contour, slope, soil type) of the site should be carefully analyzed in order to prevent soil contamination and disturbance of drainage pattern.
- Transportation and linkages will be clearly defined for waste movement from the city. The influence of increased heavy vehicle traffic due to land filling should be taken care in order to avoid nuisance.
- For HMR area required for landfill site is calculated as mentioned below. Number of options is worked out based on certain assumptions. It may subject to vary depending on the existing situation prevailing on the site. Assumptions are carried out after referring Manual on Municipal Solid Waste Management, CPHEEO, and Ministry of Urban Development.

Source: As derived from Guidelines on SWM Landfill from CPCB, URDPFI Guideline

12.4 Social Infrastructure

One of the important objectives of preparing a development plan is to develop various civic facilities to support the future population. The provision of the amenities shall be adequate in terms of number and area of amenities. In the proposed plan, these amenities are provided at various levels, depending on the nature of the particular amenity. The quantity and area of each amenity depends on the level at which the amenity is being provided, and the size of population it is envisaged to support.

A key objective in preparing the development plan for the notified area is the provision of an appropriate level of community facilities at various levels i.e. community, neighborhood, zone, sector & site/CBD level.

As per this proposal, the notified area will consist of 23 community level nodes, 8 neighborhoods, 5 sectors, 2 Nodes and 1Zones by the target year including residential, pilgrim and service provider's requirement. Table below shows the proposed number of facilities at different levels.

Table 12-24: Requirement of Amenities Distribution

Level	Threshold Population (Range)	Numbers of Facilities
Community	10000 - 15000	23
Neighborhood	25000 - 40000	8
Sector	60000 - 85000	5
Node	1-2.5 Lacs	2
Zone	3 -4 Lacs	1

- The numbers of facilities at various levels, as mentioned above, are determined by the population estimated for the notified area by the target year. This population includes residential, service providers and pilgrim's population.
- There will be one set of high-end facilities at zone level serving all inhabitants of the notified area and the surrounding region.

In KDA area, there are three different types of population i.e. residential, migrated population, pilgrim population and service provider's population. Out of this, residential and migrated people are those populations who are staying in KDA area for most of the time. Pilgrims population is the floating population who are in KDA area only for 2-3 days. As per projections,the average per day pilgrim population present in KDA area would be 2.83 lacs. Pilgrim population needs amenities like accommodation facilities, recreational facilities etc. Service providers are the population who provides services to the pilgrim's populations. The number of service providers depends on the amount of pilgrims using service provider's service in KDA area. As per projections, the total number of service providers present at a time in KDA area would be 31977. These service providers's stays at Katra for 4-6 months which is the peak period for pilgrims and rest of the service providers come to town on everyday basis.Hence it's important to provide basic amenities to them. Most of the service provider are living in tempory housing on the hill slopes, have no amenities.

The program for providing amenities exhibits that the amenities are envisaged to function at various different levels, based on the nature, scale and need of such facility. There are certain amenities that are provided at any one level, while certain amenities are proposed at several levels. The area of amenities is proposed according to the level at which it is being envisaged to function while keeping in view that the total area provided for any amenity is in line with the adopted planning standards. The following tables explain the amenities program for various populations such as residential, pilgrim and service providers.

Table 12-25: Distribution and Requirement of Amenities at Various Levels for Residential and Pilgrim Population

(A) FACILITIES REQUIRED FOR RESIDENTIAL AND PILGRIM POPULATION

PILGRIM POPULATION & RESIDENTIAL POPULATION = 3,39,307

Table 12-26: Amenities/Utilities requirement for Residential and Pilgrim Population

Population Threshold	No. of Facilities	Nature of Utility and Social facility	Land Area / Facility (sq. m)	Total Land Required (Sq. M)	Land Required (Ha.)	Land Required (sq.km.)
Community 10000 - 15000	23	Community Hall	275	6220.63	0.62	0.0062
		Milk Booth	28	633.37	0.06	0.0006
		ATM	11	248.83	0.02	0.0002
		Convenience shopping (3shops/1000 @ 10sqm/shop)	800	18096.37	1.81	0.0181
		Facilities shop (280 sq.m/3500 pop)	400	9048.19	0.90	0.0090
		Open Spaces (@ 1.5 sq.m / capita)	**7500**	**169653.50**	**16.97**	**0.1697**
		Amenities Sub Total	314	7102.83	0.71	0.01
		Commercial Sub Total	1200	27144.56	2.71	0.0271
		Open Spaces Sub Total	7500	169653.50	16.97	0.1697
		S u b - T o t a l	**9,014**	**203900.89**	**20.39**	**0.2039**
Neighborhood 25000 - 40000	8	Community Hall, Library and Gymnasium	770	6531.66	0.65	0.0065
		Religious building	220	1866.19	0.19	0.0019
		Retail Commercial (5shops / 1000 @ 15sqm / shop	3300	27992.83	2.80	0.0280
		Electric Sub-Station (415V)	385	3265.83	0.33	0.0033
		Dispensary	330	2799.28	0.28	0.0028
		Bank with ATM (2nos.)	1100	9330.94	0.93	0.0093
		Facilities shop (280 sq.m/3500 pop)	400	3393.07	0.34	0.0034
		Open Spaces (@ 1.5 sq.m / capita)	**16500**	**139964.14**	**14.00**	**0.1400**
		Amenities Sub Total	2805	23793.90	2.38	0.0238
		Commercial Sub Total	3700	31385.90	3.14	0.0314

Population Threshold	No. of Facilities	Nature of Utility and Social facility	Land Area / Facility (sq. m)	Total Land Required (Sq. M)	Land Required (Ha.)	Land Required (sq.km.)
		Open Spaces Sub Total	16500	139964.14	14.00	0.1400
		S u b - T o t a l	**23,005**	**195143.94**	**19.51**	**0.1951**
Sector 60000 - 85000	5	Sub Post-Office	165	772.22	0.08	0.0008
		Water reservoirs and distribution systems	6050	28314.58	2.83	0.0283
		Primary Health Centre	550	2574.05	0.26	0.0026
		Police Post	440	2059.24	0.21	0.0021
		Electric Sub-Station (11KV)	3850	18018.37	1.80	0.0180
		LPG Godown	660	3088.86	0.31	0.0031
		Petrol Pump	2200	10296.21	1.03	0.0103
		Communication Centre (with STD, ISD, Data transmission, ISDN)	1650	7722.16	0.77	0.0077
		Bus Terminal	2750	12870.27	1.29	0.0129
		Retail Commercial (4 shops / 1000 @ 15sqm / shop	22500	105302.17	10.53	0.1053
		Facilities shop (280 sq.m/3500 pop)	400	1872.04	0.19	0.0019
		Open Spaces (@ 2 sq.m / capita)	**80000**	**374407.72**	**37.44**	**0.3744**
		Amenities Sub Total	18315	85715.97	8.57	0.0857
		Commercial Sub Total	22900	107174	10.72	0.11
		Open Spaces Sub Total	80000	374407.72	37.44	0.3744
		S u b - T o t a l	**121,215**	**567297.90**	**56.73**	**0.5673**
Node 100000 - 250000	2	Hospital	11000	21327.87	2.13	0.0213
		Community Centre (with PHC, Library, Hall)	2750	5331.97	0.53	0.0053
		Polyclinic (20 beded)	2200	4265.57	0.43	0.0043
		Police Station	5500	10663.93	1.07	0.0107
		Post and Telegraph	3850	7464.75	0.75	0.0075
		33 KV Electric sub-station + Captive Power	8800	17062.29	1.71	0.0171

Population Threshold	No. of Facilities	Nature of Utility and Social facility	Land Area / Facility (sq. m)	Total Land Required (Sq. M)	Land Required (Ha.)	Land Required (sq.km.)
		Fire Station	5500	10663.93	1.07	0.0107
		Bus Terminal	16500	31991.80	3.20	0.0320
		Electric receiving sub-station (220 / 660 KV)	22000	42655.74	4.27	0.0427
		Over head reservoirs	11000	21327.87	2.13	0.0213
		Cineplex	16500	31991.80	3.20	0.0320
		Hotels	40000	77555.89	7.76	0.0776
		Water treatment plant	11000	21327.87	2.13	0.0213
		Electric Sub-Station (11KV)	3850	7464.75	0.75	0.0075
		Telephone Exchange	2750	5331.97	0.53	0.0053
		Retail Commercial	22500	43625.19	4.36	0.0436
		Super Market	6000	11633.38	1.16	0.0116
		Open Space (@ 2 Sqm / capita)	**300000**	**581669.14**	**58.17**	**0.5817**
		Amenities Sub Total	123200	316428.01	31.64	0.3164
		Commercial Sub Total	68500	55258.57	5.53	0.0553
		Open Spaces Sub Total	300000	581669.14	58.17	0.5817
		S u b - T o t a l	**491,700**	**953,356**	**95.34**	**0.9534**
Zone 300000 - 400000	1	Museum & Art Gallery	5500	5500.00	0.55	0.0055
		Hotel with Convention facilities	2000000	2000000.00	200.00	2.0000
		Music, Drama and Dance Centre.	7150	7150.00	0.72	0.0072
		Meditation and Spiritual centre	5500	5500.00	0.55	0.0055
		Regional Hospital	27500	27500.00	2.75	0.0275
		Health Resort	33000	33000.00	3.30	0.0330
		Transport Nagar	55000	55000.00	5.50	0.0550
		Telephone Exchange	11000	11000.00	1.10	0.0110
		Police Station with accommodation	11000	11000.00	1.10	0.0110
		Head Post Office	11000	11000.00	1.10	0.0110

Population Threshold	No. of Facilities	Nature of Utility and Social facility	Land Area / Facility (sq. m)	Total Land Required (Sq. M)	Land Required (Ha.)	Land Required (sq.km.)
		Bus Terminal with Depot	33000	33000.00	3.30	0.0330
		Electric Receiving Substation (220/660KV)	55000	55000.00	5.50	0.0550
		Fire Station	11000	11000.00	1.10	0.0110
		Central Sewage treatment plant + zonal treatment plants	770000	770000.00	77.00	0.7700
		Open Space (@ 2sqm/ cap) (Golf course, Exhibition, Trade fairs)	**1000000**	**1000000.00**	**100.00**	**1.0000**
		Water reservoirs and distribution systems	33000	33000.00	3.30	0.0330
		Communication centre(with STD, IDD, Data Transmission, ISDN)	11000	11000.00	1.10	0.0110
		Retail Commercial	1100000	1100000.00	110.00	1.1000
		Amenities Sub Total	1079650	1079650.00	107.97	1.08
		Commercial Sub Total	3100000	3100000	310.00	3.10
		Open Spaces Sub Total	1000000	1000000	100	1.0000
		S u b - T o t a l	**5,179,650**	**5,179,650**	**517.97**	**5.18**
		GRAND TOTAL - A	**5,824,584**	**7,099,348**	**709.93**	**7.10**

(B) FACILITIES REQUIRED ONLY FOR RESIDENTIAL POPULATION

RESIDENTIAL POPULATION = 55993

Table 12-27: Amenities/Utilities requirement for Residential Population only

Population Threshold	No. of Facilities	Nature of Utility and Social facility	Land Area / Facility (sq.m)	Total Land Required (Sq.M)	Land Required (Ha.)	Land Required (sq.km.)
Community 3000 -5000	14	Pre-primary Nursery School	960	13438.32	1.34	0.013
		Primary School (class I to V)	6000	83989.5	8.40	0.084
		Amenities Sub Total	6960	97427.820	9.743	0.097
		S u b - T o t a l	**6960**	**97427.82**	**9.74**	**0.097**
Neighborhood 8000 - 10000	6	Senior Secondary School (class VI to XII)	9600	59725.87	5.97	0.060
		Amenities Sub Total	9600	59725.867	5.973	0.060
		S u b - T o t a l	**9600**	**59725.86667**	**5.97**	**0.060**
Node 30000 - 40000	2	College	48000	76790.40	7.68	0.077
		Crematorium &burial ground	30600	48953.88	4.90	0.049
		Amenities Sub Total	78600	125744.280	12.574	0.126
		S u b - T o t a l	**78600**	**125744.28**	**12.57**	**0.126**
Zone 55000 - 70000	1	International school with hostel	96000	86005.25	8.60	0.086
		Library	24000	21501.31	2.15	0.022
		Crematorium &burial ground	54000	48377.95	4.84	0.048
		Amenities Sub Total	174000	155884.51	15.59	0.16
		S u b - T o t a l	**174,000**	**155,885**	**15.59**	**0.1559**
GRAND TOTAL - B			**269160**	**438782.48**	**43.88**	**0.44**

The amenities such as education, health are calculated separately, because they are only amenities used by residential population.

(C) FACILITIES REQUIRED ONLY FOR SERVICE PROVIDERS POPULATION

SERVICE PROVIDERS POPULATION = 31977

Table 12-28: Amenities/Utilities requirement for Service Providers Population

Population Threshold	No. of Facilities	Nature of Utility and Social facility	Land Area / Facility (sq.m)	Total Land Required (Sq.M)	Land Required (Ha.)	Land Required (sq.km.)
Community 3000 -5000	8	Milk Booth	25	199.86	0.02	0.00
		ATM	10	79.94	0.01	0.00
		Convenience shopping (3shops/1000 @ 10sqm/shop)	800	6395.40	0.64	0.01
		Facilities shop (280 sq.m/3500 pop)	400	3197.70	0.32	0.00
		Open Spaces (@ 1.5 sq.m / capita)	**7500**	**59956.88**	**6.00**	**0.06**
		Amenities Sub Total	35	279.80	0.03	0.00
		Commercial Sub Total	1200	9593.10	0.96	0.01
		Open Spaces Sub Total	7500	59956.88	6.00	0.06
		S u b - T o t a l	**8735**	**69829.77**	**6.98**	**0.07**
Neighborhood 8000 - 10000	4	Retail Commercial (5shops / 1000 @ 15sqm / shop	3300	11724.90	1.17	0.01
		Electric Sub-Station (415V)	350	1243.55	0.12	0.00
		Dispensary	300	1065.90	0.11	0.00
		Bank with ATM (2nos.)	1000	3553.00	0.36	0.00
		Facilities shop (280 sq.m/3500 pop)	400	1421.20	0.14	0.00
		Open Spaces (@ 1.5 sq.m / capita)	**16500**	**58624.50**	**5.86**	**0.06**
		Amenities Sub Total	1650	5862.45	0.59	0.01
		Commercial Sub Total	3700	13146.10	1.31	0.01
		Open Spaces Sub Total	16500	58624.50	5.86	0.06
		S u b - T o t a l	**21850**	**77633.05**	**7.76**	**0.08**
Sector 15000 - 25000	2	Sub Post-Office	150	239.83	0.02	0.00
		Water reservoirs and distribution systems	5500	8793.68	0.88	0.01

Population Threshold	No. of Facilities	Nature of Utility and Social facility	Land Area / Facility (sq.m)	Total Land Required (Sq.M)	Land Required (Ha.)	Land Required (sq.km.)
		Primary Health Centre	500	799.43	0.08	0.00
		Electric Sub-Station (11KV)	3500	5595.98	0.56	0.01
		Communication Centre (with STD, ISD, Data transmission, ISDN)	1500	2398.28	0.24	0.00
		Bus Terminal	2500	3997.13	0.40	0.00
		Facilities shop (280 sq.m/3500 pop)	400	639.54	0.06	0.00
		Open Spaces (@ 2 sq.m / capita)	**80000**	**127908.00**	**12.79**	**0.13**
		Amenities Sub Total	13650	21824.30	2.18	0.02
		Commercial Sub Total	400	639.54	0.06	0.00
		Open Spaces Sub Total	80000	127908.00	12.79	0.13
		S u b - T o t a l	**94050**	**150371.84**	**15.04**	**0.15**
Node 30000 - 40000	1	Hospital	10000	9136.29	0.91	0.01
		Community Centre (with PHC, Library, Hall)	2500	2284.07	0.23	0.00
		Police Station	5000	4568.14	0.46	0.00
		33 KV Electric sub-station + Captive Power	8000	7309.03	0.73	0.01
		Fire Station	5000	4568.14	0.46	0.00
		Bus Terminal	15000	13704.43	1.37	0.01
		Electric receiving sub-station (220 / 660 KV)	20000	18272.57	1.83	0.02
		Over head reservoirs	10000	9136.29	0.91	0.01
		Crematorium &burial ground	25500	23297.53	2.33	0.02
		Water treatment plant	10000	9136.29	0.91	0.01
		Electric Sub-Station (11KV)	3500	3197.70	0.32	0.00
		Telephone Exchange	2500	2284.07	0.23	0.00
		Retail Commercial	22500	20556.64	2.06	0.02
		Super Market	6000	5481.77	0.55	0.01
		Open Space (@ 2 Sqm / capita)	**300000**	**274088.57**	**27.41**	**0.27**

Population Threshold	No. of Facilities	Nature of Utility and Social facility	Land Area / Facility (sq.m)	Total Land Required (Sq.M)	Land Required (Ha.)	Land Required (sq.km.)
		Amenities Sub Total	117000	106894.54	10.69	0.11
		Commercial Sub Total	28500	26038.41	2.60	0.03
		Open Spaces Sub Total	300000	274088.57	27.41	0.27
		S u b - T o t a l	**445500**	**407021.53**	**40.70**	**0.41**
GRAND TOTAL - C			**570135**	**704856.19**	**70.49**	**0.70**

The amenities required for service providers are calculated separately as these are only used by them and that too only for 4-6 months.

GRAND TOTAL (A+B+C)	**6,663,879**	**8,242,987.13**	**824.30**	**8.24**

Table 12-29: Total Area/Utilities Required For Amenities, Commercial, Openspace In KDA Area

Level	Amenities	Commercial	Open Spaces
Community	0.10	0.04	0.23
Neighborhood	0.09	0.04	0.20
Sector	0.11	0.11	0.50
Node	0.55	0.08	0.86
Zone	1.24	3.10	1.00
TOTAL AREA SQ.KM	**2.09**	**3.37**	**2.79**

The total area require for social infrastructure would be 8.24 sq.km (824.30 ha). Out of the total area required in KDA, 2.09 sq.km is required for amenities, 3.37 sq.km is for commercial and 2.79 sq.km is required for open spaces.

The area of amenities used commonly by residential population and pilgrim population would be 7.10 sq.km. Out of the total area, amenities, commercial and open spaces area is 1.51 sq.km.,3.32 sq.km and 2.27 sq.km. respectively.

The amenities comprises of lower to higher order services of Education, Health and sanitation facilities, distribution systems and other public amenities/utilities to cater community level to city level requirement.

The area required for education facilities would be 32 ha. (0.32 sq.km). Considering the regional development, an international school with hostel facilities is proposed at Zone level for the population threshold of 55000 – 70000 and more.

Amenities provided at zone level are mainly provided considering the regional demand.

The following broad strategies for development and implementation of social infrastructure are adopted:g

- *The existing facilities should be continued irrespective of their meeting required planning standards.*
- *For the existing facilities which may need expansion, necessary land should be provided, wherever possible.*
- *Social amenities are generally provided to take care of the needs of the projected population of 20-25 years as per the guidelines of URDPFI. Here, efforts are given to provide the amenities up to the 2035 (25 years plan period), so land should be reserved for such future development.*
- *New provisions have been made in the DC Regulations to pool the areas for the public purpose from the lands which will be newly brought into development.*

13 PLANNING & DEVALOPMENT PROPOSAL

Chapter Contents

- *Planning Principles*
- *Zoning Proposal*
- *Road Network & Transportation*
- *Open & Recreational Spaces*
- *Proposed Land Use*

The chapter highlights the planning principles used for proposes master plan for the year 2035. The various zoning proposals such as residential, commercial etc are briefly described in this section. The proposed road network and transportation details and open and recreational spaces are also mention in the chapter. After these entire proposals the major land use proposal in comparison with the existing proposal is described.

13.1 Planning Principles

The Master Plan for KDA has evolved from a comprehensive understanding of area studies, land suitability analysis and population/ employment projections carried out for the area.

While the conceptual studies may differ in their design, the approach and underlying concerns, as briefly stated below, are the same.

Image of the town as modern pilgrimage tourism center would be the central concept in the process of its future development. With ecological sustainability being a major design criterion, the Master Plan will emphasizes the need for good education and health among the residents, and be in accordance with provision of adequate infrastructure and civic amenities.

The following guiding factors/principles taken into account while designing the Master Plan in order to achieve the above stated vision:

Balance between Resource Conservation & development

The topography and drainage system of this region presents a unique challenge towards attaining the perfect balance between resource conservation and utilization. Deep cut valleys and broad Non-perennial River beds would become a vital assert with proper planning initiatives. An appropriate balance between built and un-built areas is proposed to be established so as to provide a good quality of life to the people inhabiting the area.

Energy and Ecology

The incorporation of effective energy conservation and sustainability features will be an important aspect in the preparation of this Master Plan. Energy conservation is a major issue that needs to be tackled while planning the development of any new area. Efficient measures towards conserving the natural surroundings will be adopted, since the balance between natural and man-made surroundings significantly enhances the quality of life of residents.

Mobility, Accessibility and Connectivity

An efficient road network is a primary requirement of a Master Plan. Based on the envisaged development of the KDA area, the growth of the area would be greatly enhanced by the provision of private and public infrastructure that would afford easy accessibility and connectivity within the area, as well as facilitate connectivity between Katra and major settlements in the surrounding region.

World Class Infrastructure

Provision of first-rate infrastructure is a necessity for any area to grow and develop with the desired effectiveness. Rapid growth of tourism & service sectors in the area calls for the provision of world-class facilities and civic amenities for effective development and this plan would provide the means to achieve it.

Pedestrian friendly development

Wide footpaths proposed along the roads would be well-integrated with the green belts along the major movement arteries, forming an intricately woven network of routes that encourage efficient

pedestrian and vehicular movement throughout the Area. This would be further complemented with the proposed open space network system.

As per existing land use, the residential density is very high. Most of the residential and commercial area has converged toward old market area. Now the areas around SMVD University and hospital are emerging as the new hub for development. Considering the local topography, undulating terrain having nalas and steep slopes, a substantial area (about 84% as per present master plan – see the table 4.2 existing land use) is not buildable. Katra is also a town having high pilgrim/ floating populatin who need the amenities in the town. The town has to respond to the needs of residential population, service provider and pilgrim (about 20% stay for a day, 50% stay two days and 30% stay for more than two days). One needs to acknowledge the fact that Katra town is not like any other town. Due to uniqueness of the town (as per pilgrim population and the topography), it is proposed to develop the master plan for a gross density of 55 pph, the town would need to have an area of approximately 78- 82 sq.km. for comprehensive development, having sufficient open space, appropriate road network for better connectivity and accessibility and spaces for public services/ amenities/ and for utilities.

13.2 Zoning Proposal

Land use zoning proposals are based on the population and the employment projections of the year 2035 given above for individual planning sectors, and the accessibility and locational attributes of the planning sectors and the availability of lands for development

The evolution of the plan has been a simultaneous process of developing the road network and determining proposed land uses. The proposed transportation network has been developed so that it supports the spatial allocation of land uses. The allocation of land for various activities shall be in relevance to proposed transportation network and vice versa. Also, each land use shall be placed in accordance with the other land uses. All together, all land uses and transportation network, shall make the plan comprehensive.

Considering all the above aspects, in the Master Plan, the following major zones have been proposed as per the requirement.

- Residential Zone (R – Zone)
- Commercial Zone (C – Zone)
- Industrial Zone (I – Zone)
- No Development Zone (NDZ)
- Forest

13.2.1 Residential (R – Zone)

The Residential Zone (R-Zone) covers all the existing residential development areas within the Notified Area and areas newly being opened up for the development considering their potential.

Residential Zone is pure residential area in which major commercial and industrial activities are not allowed, however some shopping user for day-to-day needs has been allowed. Also, there is a provision of mixed use or little commercial defined through shop line. This is allowed to plots

situated along the major existing or proposed roads. On these plots commercial activities as mentioned in the Development Control Regulations are allowed along with residential users.

The residential development is planned to be comprised of several zones and neighborhoods, adjoined by 24 M wide arterial roads. While the 12 M roads passes through the residential areas. Around 610.27 Ha areas (7.79 % of total notified area) is to be developed as residential zone. Out of this, around 406 Ha areas shall be available for net residential development, while other area shall be for internal roads, amenities and open spaces.

13.2.2 Rental Housing

There is no separate provision for rental housing for migrated and service provider's population. The residential area for migrated population is expected to be with the residential population as they are in town for all the year.

In 2035 the total number of service providers present at katra is 31977. Most of the service providers are migrants from other districts of the state and comes to Katra for works for 4-6 months. Most of them stay in a rented accommodation in a group of 2-4 people. Out of the total residential area of 610.27 ha., 290 ha. area is provided for accommodation facilities of service providers. The service providers mainly prefer to stay near the way to Shri Mata Vaishno Devi ie near to Purana Daroor and Nelay village. Here, the lands presently under industrial use in Gharivali village are proposed to have residential zone.

13.2.3 Proposed Residential Use

Gross residential zone will include all existing residential development, internalized open spaces, retail, internalized public and semi public spaces, proposed internal roads and net plot areas (excluding internalized amenities, open spaces and roads). While this zone occupies a total land area of 610 ha (26.09% of the total developable area), the share of theexisting residential area within the proposed residential zone is 16 % (as per primary Landuse survey). Internalized open spaces, retail and internalized public and semi public activities are allowed with residential uses.These activities are proposed to be developed at the community level as well as neighborhood level (50%).

Residential Area (Ha)	*610 ha*

13.2.4 Commercial Zone (C – Zone)

The commercial activities shall be supported by higher order road network, public transportation in order to make it functionally efficient. Furthermore, the commercial activities may be of different hierarchical level and have its influence zone accordingly. Hence, these activities shall be distributed over the planning area, envisaging their level of operation and influence.

The proposed Master Plan has identified various Growth Centers on the proposed 30 m wide major road stretching from north to south in the eastern part of KDA boundary. As the existing town is overloaded with informal and formal commercial activities, it is proposed to shift its concentration from the town and distribute it evenly in KDA area. 5 major commercial nodes are indentified and will be developed all over the area. Commercial area is also provided around the proposed railway station. Considering the increased in residential population and huge influx of pilgrim population the proposed total area provided for commercial activities is 458.95 ha (including hotel area). Out of the

5 major commercial nodes, the 1st major node is in proximity of the proposed railway station near the villages of Kun Darorian and Katra.

Certain other pockets of commercial activities have been identified based on the road network, location of existing commercial activities, and overall land use plan. All the important commercial zones are linked through major road of 30 m wide, which further connects to 24 m and 12 m wide roads.

Hotels and Resorts have a major contribution in the commercial activities in the notified area. Hotels are distributed all over the KDA area spatially. The hotel area is provided mainly on the 30 m stretching from north to south on the western side of KDA area. Out of the total commercial area of 458.95 ha, 241.35ha area is dedicated to hotels and resorts. The villages Kotli Bajialan and Pamote will have major share of hotel areas.

The commercial area will accommodate city level amenities, public utility buildings, headquarters of commercial establishments, wholesale establishments, bus depots, exhibition grounds, etc. Necessary regulations governing these zones have been clearly spelt out in the draft development control regulations.

Commercial Area (Ha)	*217.6ha*
Hotel Area (ha)	*241.35ha*
Total Commercial Area in KDA	*458.95ha*

13.2.5 Industrial Zone (I – Zone)

As per the Master Plan for Karta 2021, 0.4 ha area is provided for industrial activities (0.22 % of the total developable area), whereas the primary land use survey shows, there are not much industrial activities in the area. The economies activities in Katra are mainly dependent upon secondary and tertiary sector.

At present, the industrial areas in town, are underutilized or are lying vacant deprived of activity due to lack of interest from industrialists. There is a need to upgrade / rejuvenate them with policy interventions supported by respective institutions. It leads to the direct enlistment of the Notified Area.

The industrial area is proposed on the southeast corner of the notified area. The location is determined based on the proximity to the regional transportation network. These shall provide the industrial areas with strong linkages to the surrounding areas of the region. The area is identified on the periphery, to restrict the heavy traffic, from entering the inner parts of the notified area.

Industrial Area (Ha) in KDA area	*39.37 ha*

13.2.6 No Development Zone (NDZ)

Most of the KDA area is under hills, steep slopes, dense vegetation and water bodies. These areas are identified as the no development zone. The uses usually permitted in this zone are mainly

agricultural and allied users, forestry etc. However considering the trends now seen in and around town a number of other uses are allowed in this zone. Their exhaustive list, extent and other regulations controlling the development are given in D. C. Regulations.

The high tension power lines passes from North West to South of new KDA boundary. A buffer of 15 m is marked on both sides of the power lines. No development is permitted in this buffer area. Hence the power lines area and its buffer is marked as no development zone.

13.2.7 Forest

The areas which are reserved forest, protected forest, classified and unclassified as defined under the Indian Forest Act, 1947, are designated as Forest Zone (F-Zone) in the Revised Development Plan. This is a highly restrictive zone where development is allowed according to D.C. Regulations subject to the clearance from the Forest Department. There are around 2160.24 Ha (27.56% of total area) of forest lands in the Notified Area. There are densely built structures existing on some of these lands, but the land is actually owned by Forest Department. Such lands are retained as Forest in the Draft Master Plan.

13.3 Road Network and Transportation

13.3.1 Introduction

Transportation planning is an integral part of any MasterPlan. The analysis of the existing transportation scenario of the Notified Area as explained in the Chapter-7 brings forth the persisting transportation problems of the region in terms of inadequate roads, lack of parking spaces, inefficient public transport etc. Proposals for transportation should evolve a mechanism to tackle these problems ensuring a minimum level of service for carrying out various transportation activities.

The proposed transportation network is primarily based on the way overall master plan has been conceptualized. The road network has been developed along with the overall spatial configuration of the plan. Several aspects of existing situation had a significant effect on the evolution of transportation network.

The important aspects of existing situation that were taken into consideration while preparing the proposed transportation network are as follows.

- Topography
- Existing Road Pattern
- Existing Development on the Site
- Existing Linkages to Surrounding Development
- Existing Social Facilities and Amenities
- Existing Railway Land
- Water bodies

Topography, existing built-up and existing roads played important role in development of proposed transportation network. This results in the creation of an organic pattern that grows out of its regional context. The hills and slopes, water bodies, forest and the existing development along the major road has been strong guiding factors for the evolution of the central spine along the eastern side of KDA area. Thecentral spine runs from north to south direction. There is another major road parallel to the central spine on the western side of the KDA area.

The major road network forms a loop of various sizes at distant location of the KDA area. The major road network is spaced such that they create sub-sectors within the loop. The grid size varies at different places within the notified area, mainly due to existing development, topography, water bodies etc. The attempt has been to respect the natural topography and cause minimum impact on the landscape and existing development. The grid, defining the sub-sectors for internal development, would form the basis for further detailed development of the area.

The major roads, running along the grid, have been connected to the existing major roads and highways within and bordering the notified area. The proposed road pattern strengthens the connectivity to the neighboring development. To the extent possible, the roads have been placed in synchronization with the existing roads, of the notified area and of the adjoining areas.

13.3.2 Proposed Hierarchy of Road Network

The proposed Master Plan for the Notified Area exhibits a definitive hierarchy in its structure (refer Map No 12-4 for Proposed Road Hierarchy). Apart from the regional roads, the other proposed road network consist hierarchy of 30m, 24m and 12 m wide roads. Other than these, the existing roads of the Gaothan are kept as it is as approach roads for the settlements. Based on the Plan, the road network can be seen as made up of the regional roads, a central spine, parallel road to central spine, the perpendicular arterial roads and the sub-sector roads.

Spine Roads- 30 Mts Wide

The proposed plan for the notified area has one major spine cutting across the area. This central spine is proposed to be 30 M wide, forming the commercial / recreational spine having high intensity development along it. These roads, along with part of regional road, are planned to integrate the other routes.

Another parallel road to the central spine is on the western side of the KDA area. This road is the existing NH-1A. It is also proposed to widen this road.

Arterial Roads- 24 Mts Wide

The perpendicular arterial roads connecting the Central Spine and Regional Roads are 24m wide. There are adequate numbers of arterial roads, cutting across the central spine at a regular distance. These 24 m wide roads form grid pattern of 350 m x 450 m. The size of the grid varies at different places due to existing development, topography, water bodies etc.

Secondary Roads – 12 Mts Wide

These roads run within the grid formed by arterial and spine roads, and are planned to be 12 m wide. These roads connect the residential areas to the arterial roads from where adjacent sub-sector

can be accessed. The 12 m road forms a grid of 200 m x 250 m at maximum places wherever possible.

Tertiary Roads

Other than the 12m wide road that cuts across the sub-sector and connects to 30 M or 24 M wide roads, the sub-sectors also have the existing roads which will act as a connector for the residential areas, commercial areas, within the sub- sector or on the periphery of the sub-sector.

13.3.3 Important Features of Proposed Transportation Network

Although above aspects are taken into account while preparing the proposed transportation network, the evolution of the master plan mainly aimed to achieve the salient features as described below.

Transportation Nodes

There are four transportation nodes in the KDA area which includes existing bus stand area, existing helipad area; proposed helipad area and proposed bus stand area. As the existing bus stand area is not able to cater the increasing population, new bus stand is proposed. The proposed bus stand area is located near Kun Darorian village behind the proposed railway station. As per the primary survey, the present helicopter serves to 15% of the total pilgrims visiting Shri Mata Vaishno Devi. With the increase in pilgrim population there is a need to provide such facilities. Hence, a second helipad is proposed near the village Pharthal for catering the future demand. One of the nodes is near the village Sule. This node is proposed for provision of Bas stand, Helipad and Parking area. Town doesn't have organized parking places except bus stand area, taxi-stand and auto-rickshaw stand which seems insufficient and gets overloaded during peak hours/season. Hence parking facilities are provided on the central spine and various other locations. The total area provided for these transportation activities is 23.69 ha.

Spatial pattern of road network

The main feature of the Master Plan is the overall structure of the road network. The road network is developed such that it forms a major central spine that runs from north to south in the east part of KDA area. While roads transverse to the main spine are in form of radial roads focusing towards the north-eastern part. These radial roads in turn connect the CBD and Growth Centre located on east and west part of the notified area respectively. This overall organization gives a unique identity to the plan.

The proposed transportation network is based on the central theme of a loose grid criss-crossing the site to form the main structural frame of the notified area. The grid size is approximately 350 m x 450 m with marginal variation as per the existing conditions. This structural grid is bordered by 24 M arterial roads, with one of the side adjoined by 12 M wide roads.

Characteristics of Development and Activities

The concept is to develop the main central spine as the commercial and residential spine, with high density development along the road edges. In contrast to this, the parallel road would be developed as hotel (maximum) and residential use. Most of the higher order public-semi public institutions and amenities are planned along the central spine or arterial roads. While the internal sub-sector roads

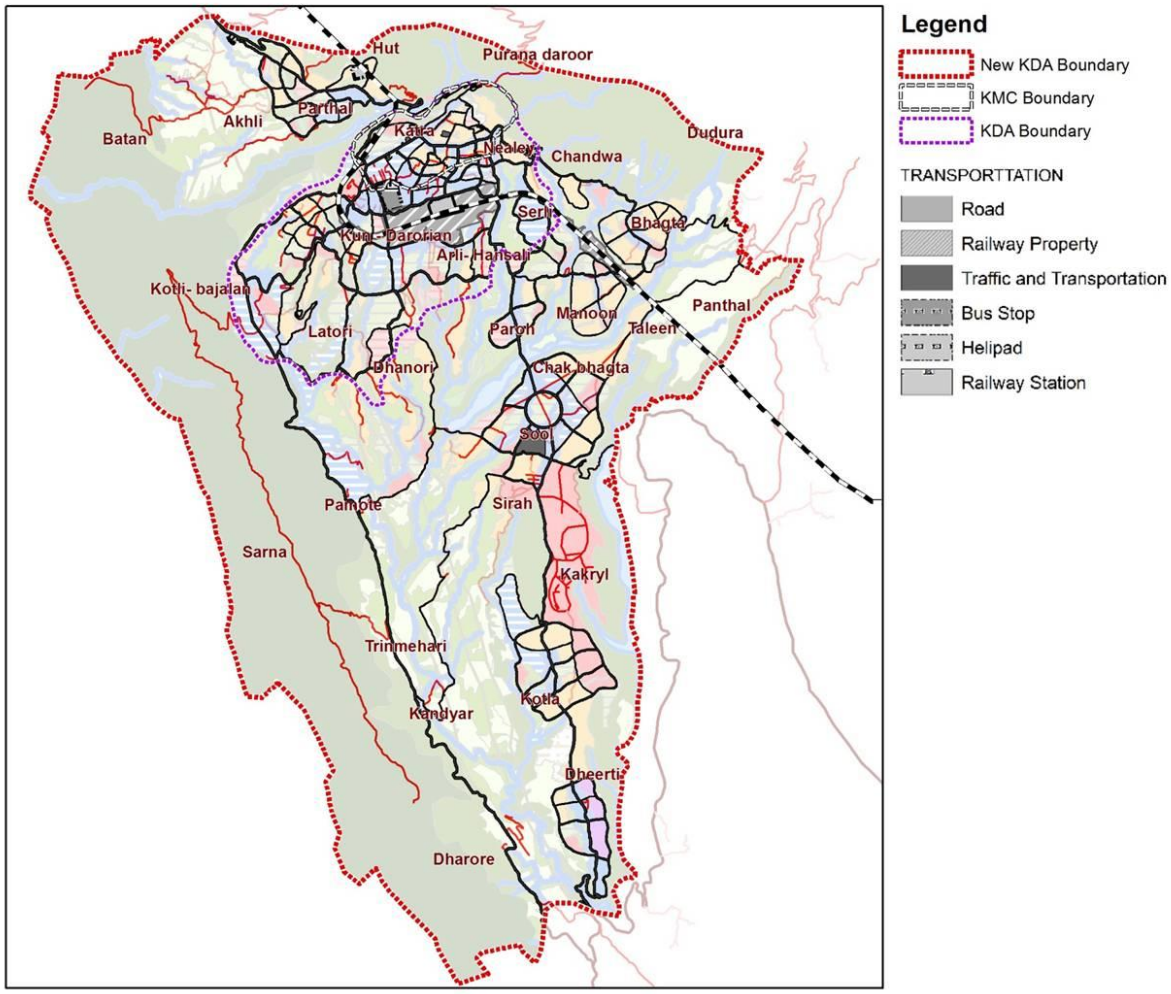
are planned to have residential development with neighborhood level amenities and open spaces along it. The wider open space and green areas, interconnected along and around the water bodies, drainage ways, are integrated along the arterial roads.

Traffic and Connectivity

The proposed road network would increase connectivity within the region, simultaneously helping alleviate traffic problems. The sub-sector roads passing through the residential areas are planned such that they discourages through traffic, as much as possible. These roads are planned to form a staggered pattern by providing T or Y junctions. Thus, the residential areas are planned to be safe and quiet with respect to traffic movement. There are 12 M wide roads provided, either by widening existing roads or providing new roads, to strengthen the connectivity to village gaothans / settlements.

The proposed pattern of road network also links with the roads leading to the railway stations located inside the notified area, because it will have a strong impact on the movement pattern. These link roads are proposed to be widened to carry the traffic that will be generated once the notified area is fully developed.

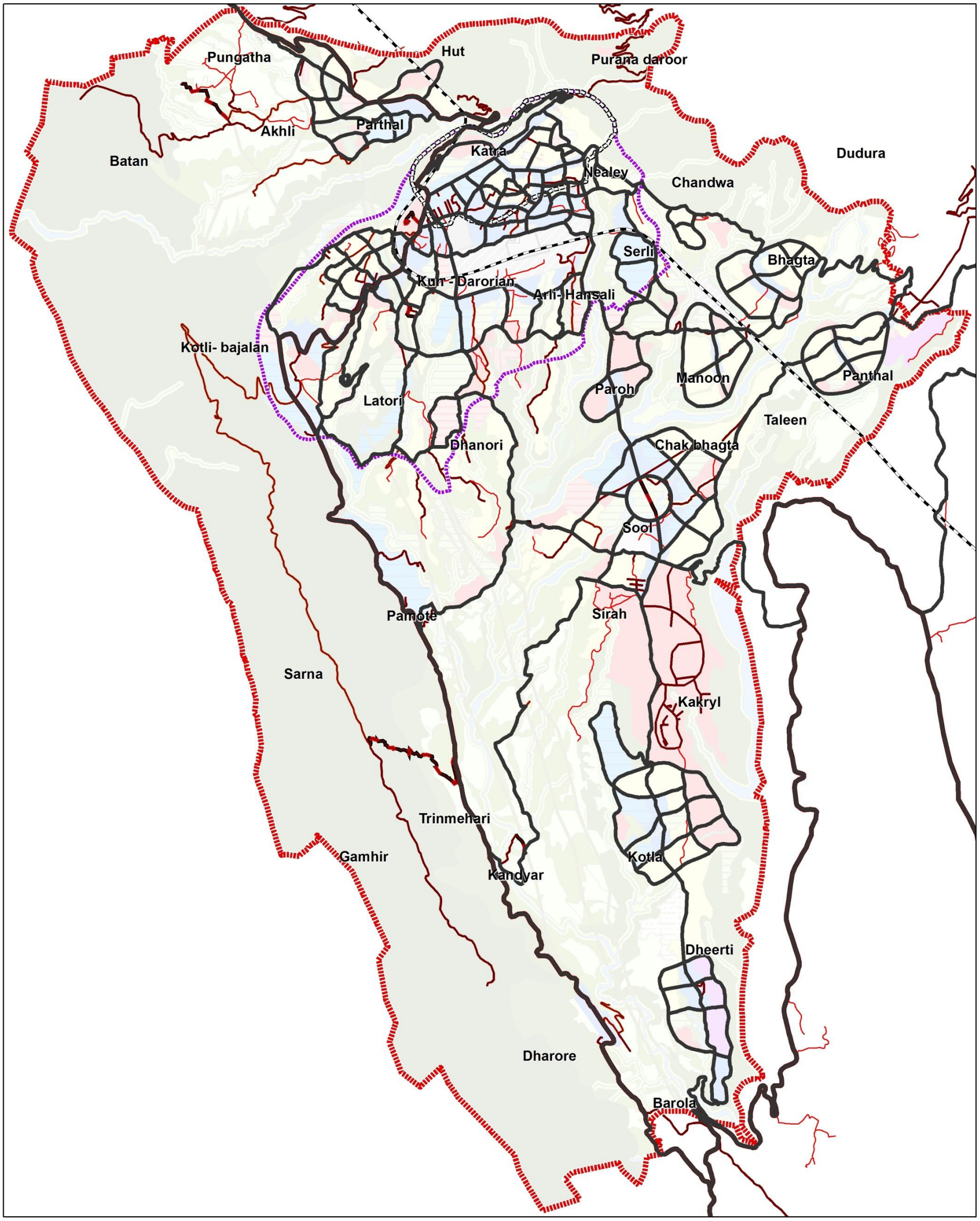
Map 13-1: Propose Transportation Nodes



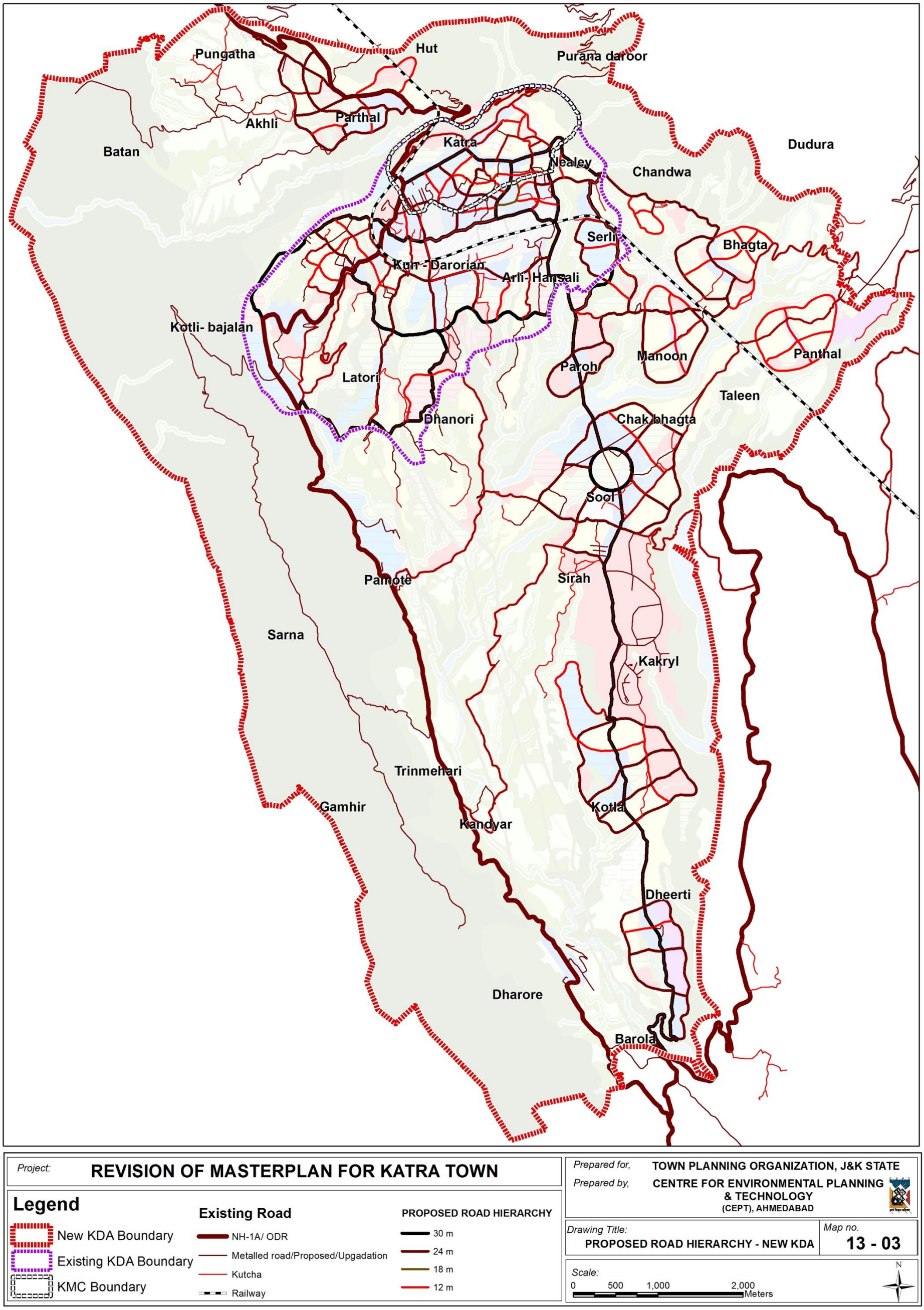
Transportation Network Details

Roads Area (Ha)	*340.07*
Railway Property and Railway Station Area (Ha)	*96.64*
Traffic and Transportation/ parking Area (Ha)	*11.09*
Helipad Area (Ha)	*2.47*
Bus stand Area (Ha)	*10.13*
TOTAL AREA FOR TRANSPORTATION (Ha)	***460.4***

Map 13-2: Proposed Road Network



Map 13-3: Proposed Road Network Hirarchy



13.4 Open & Recreational Space Network

13.4.1 Proposed Open Space Network

There are several natural water bodies in the Notified Area. These can be utilised as prominent local recreational space at village level. It is desirable to uplift the river edge and its surrounding precinct.

An integrated open space network formed by interconnected green buffer areas around natural drainage ways as well as waterbodies such as rivers and nallas scattered all over the area, is an important feature of the proposal for the notified area. This network will include the commercial green, the institutional belt and the green around the natural drainage ways.

As the KDA has its maximum are under hills& slopes, forests and natural water bodies. Katra town and surroundings have almost negligible recreational and open spaces. It is proposed to utilize this, across the river Banganga as public recreational spaces. The whole area has a number of streams, nallas, it is proposed to protect these natural features by developing a buffer zone. Similarly, dense vegetation cover would be protected. A recreational area is provided on the central spine towards north of the KDA area. Major portion of recreational areas are also provided near the hotels.

Social and civic amenities will form major nodes and points of interest along this green belt and offer connections to the arterial roads. The arterial roads are proposed to have a wide open green belt running through the middle, along the natural drainage paths. Water bodies and landscape elements are proposed be woven into the open space network to form focal points and design features.The proposed MP has also provided open and recreational spaces along with neighborhood level amenities.

As per UDPFI guidelines, open and recreational spaces at community and neighborhood level are provided at the rate of 1.5 sq.m./capita and for sector, node and zone level it is at 2 sq.m./capita. Therefore, the proposed open spaces in new KDA boundary is 14.86 % of total developable area, out of which 254.76 ha. is recreational spaces.

Open Space Area (Ha)	*73.97*
Recreation Area (Ha)	*256.09*
TOTAL OPEN & RECREATIONAL AREA (ha)	***320.06***

13.5 Proposed Land Use

13.5.1 Proposed Land Use Breakup of the Notified Area

The proposed land use distribution pattern is based on the population and employment projections for individual planning sectors, local accessibility and locational attributes of these sectors and the availability of land for development.

In response to the derived requirements of the notified area, the table below shows the proposed zones and land use composition here.

Table 13-1 Proposed Landuse break up of New KDA area

Proposed Landuse	Area in Hectare	Percentage (%)
RESIDENTIAL	**610.27**	**7.79**
Residential		
COMMERCIAL	**458.95**	**5.86**
Commercial	217.6	2.78
Hotel and Resort	241.35	3.08
MANUFACTURING	**39.37**	**0.50**
Industrial	39.37	0.50
PUBLIC AND SEMI PUBLIC	**449.95**	**5.74**
Public/Semi-Public /Govt. Offices /Social-Cultural / Youth Hostel	371.47	4.74
Public Utilities	9.35	0.12
Religious (Spiritual and Pilgrim facilities)	69.13	0.88
OPEN SPACE AND RECREATION	**320.06**	**4.08**
Open Space	73.97	0.94
Recreational /Sports/Play areas	246.09	3.14
TRAFIC AND TRANSPORTATION	**460.4**	**5.87**
Roads	340.07	4.34
Railway Property and Railway Station	96.64	1.23
Traffic and Transportation/ parking	11.09	0.14
Helipad	2.47	0.03
Bus stand	10.13	0.13
LANDCOVER	**5256.93**	**67.07**
Agriculture	570.44	7.28
Forest	2160.24	27.56
Hill / Steep Slope	1133.5	14.46
Dense Vegetation	651.81	8.32
Waterbodies Buffer	638.87	8.15
Powerlines Buffer	102.07	1.30
River/Stream/Waterbody	**217.57**	**2.78**
SPATIAL AREA	**24.64**	**0.31**
Defense		0.31
TOTAL	**7838**	**100**

Figure 13-1: Percentage of Land Use in Developable area in KDA

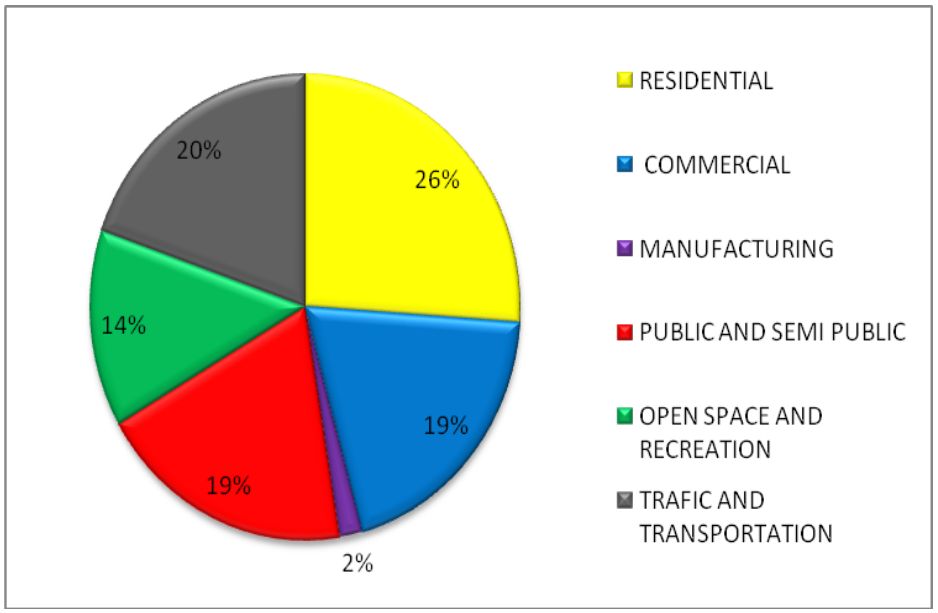
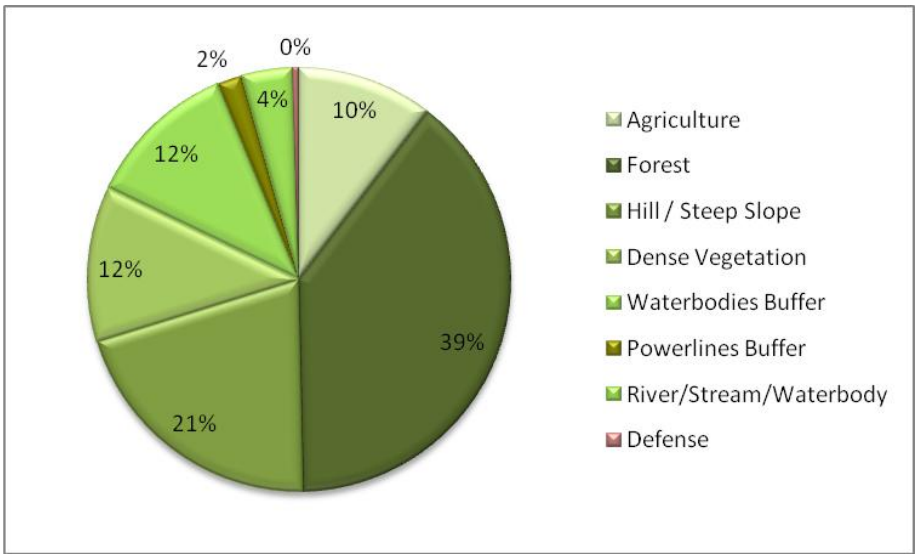


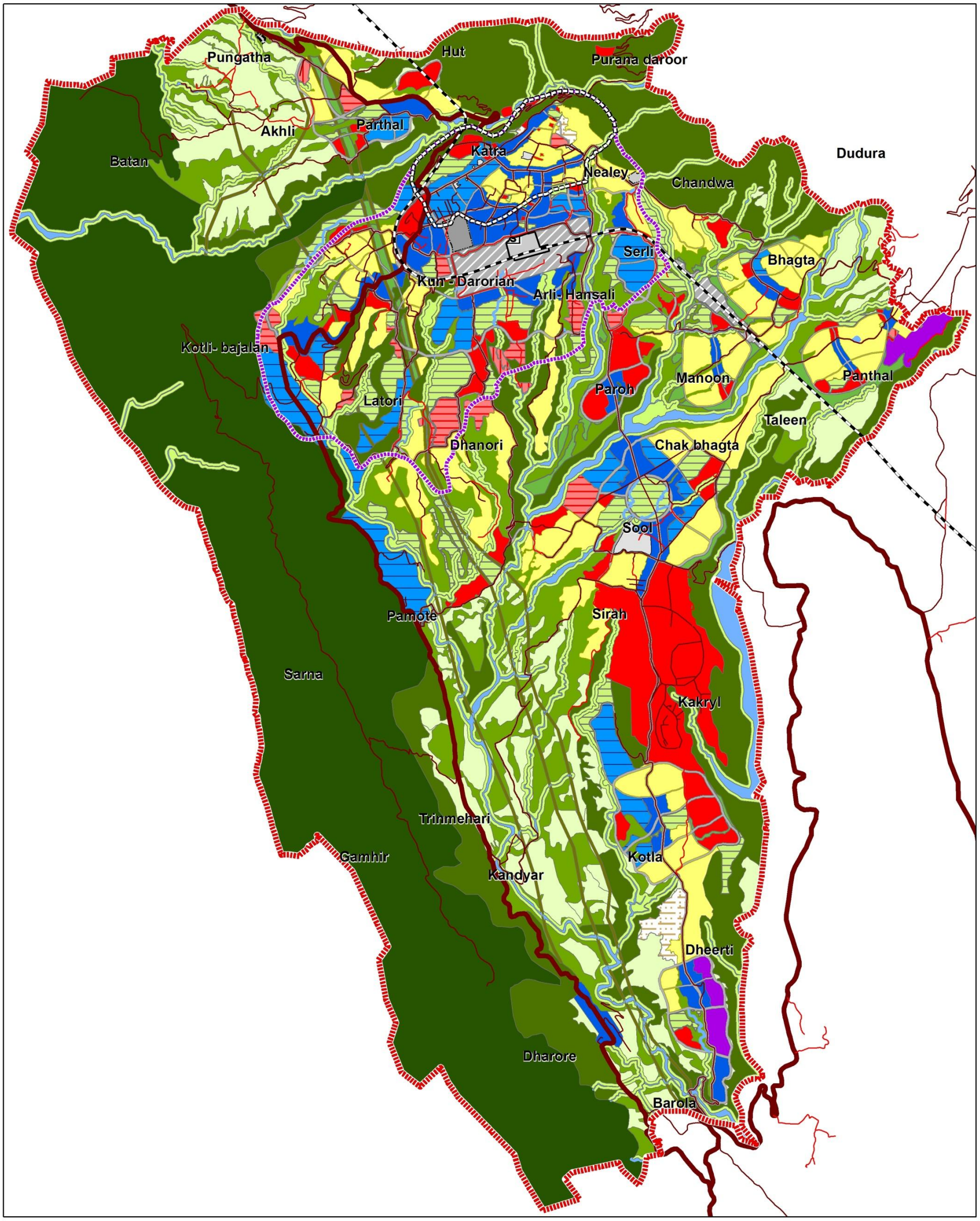
Figure 13-2: Percentage of Land Use in Non Developable area in KDA area



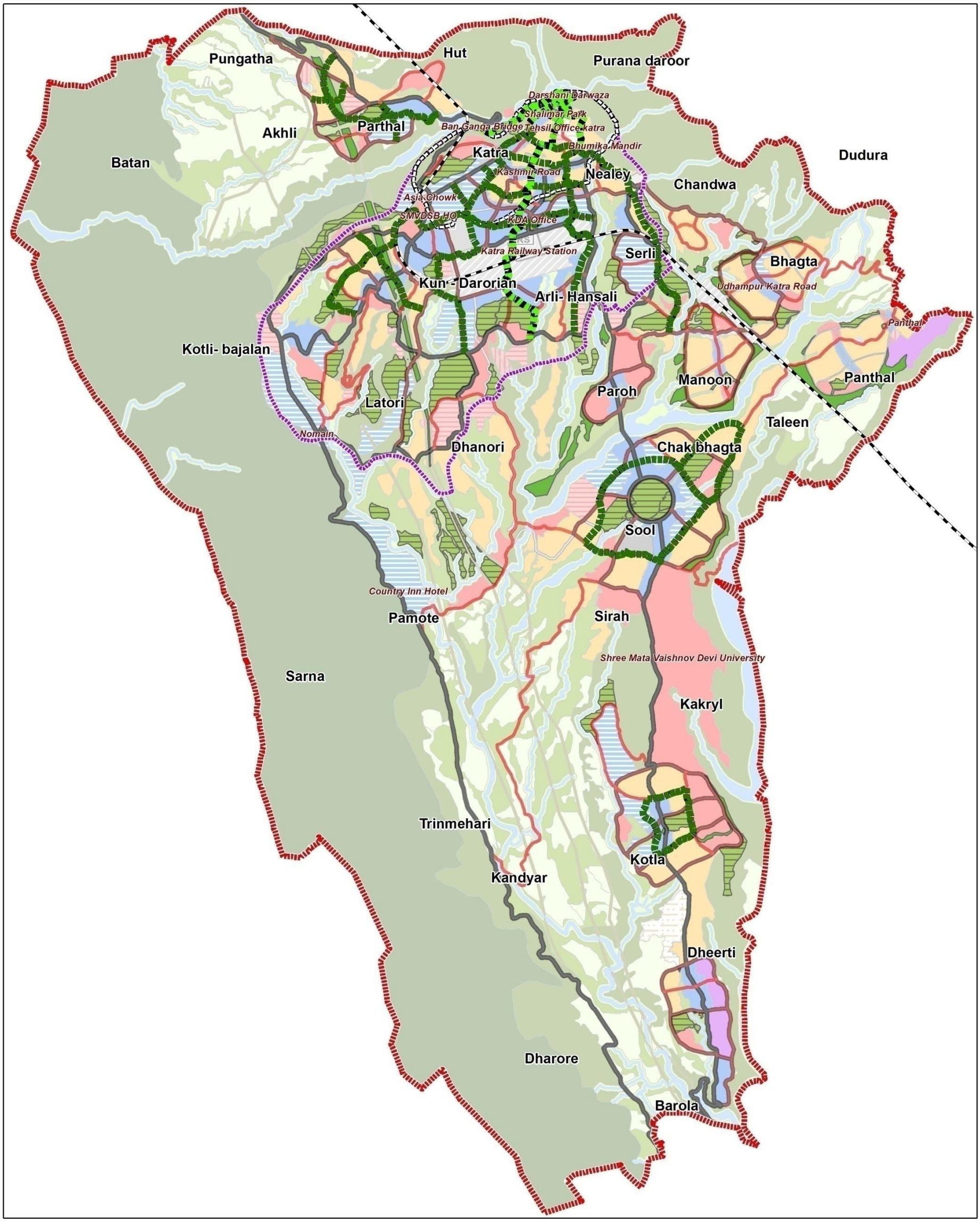
- According to the proposed land use pattern, residential activities will constitute 7.29 % of the total notified area, while commercial use & office and public and semi-public use will occupy 5.86 % and 5.74 % of the total area respectively.
- The share of Open/Recreation Spaces will be 4.08 %. The conservation zone share an area of 70.16 % of total notifies area, out of which the share of forest and hill/steep slope area constitute 27.56 % and 14.46 % of respectively.
- The spatial area includes the defense area, has a share of 0.31 % of the total area. This area falls in no development zone.

Land used for transportation will constitute 5.87 % of the total notified area.

MAP 13-4 Proposed landuse



MAP 13-5 Proposed Pedistrians



Project:	**REVISION OF MASTERPLAN FOR KATRA TOWN**
Prepared for,	TOWN PLANNING ORGANIZATION, J&K STATE
Prepared by,	CENTRE FOR ENVIRONMENTAL PLANNING & TECHNOLOGY (CEPT), AHMEDABAD

Legend

- KMC Boundary
- Existing KDA Boundary
- New KDA Boundary

Propsed Pedestrian and Cycle Tract

- Proposed Pedestrian
- Cycle Track And Pedestrian

Drawing Title: PROPOSED PEDESTRIAN AND CYCLE TRACK	Map no. 13-05

Scale: 0 500 1,000 2,000 Meters

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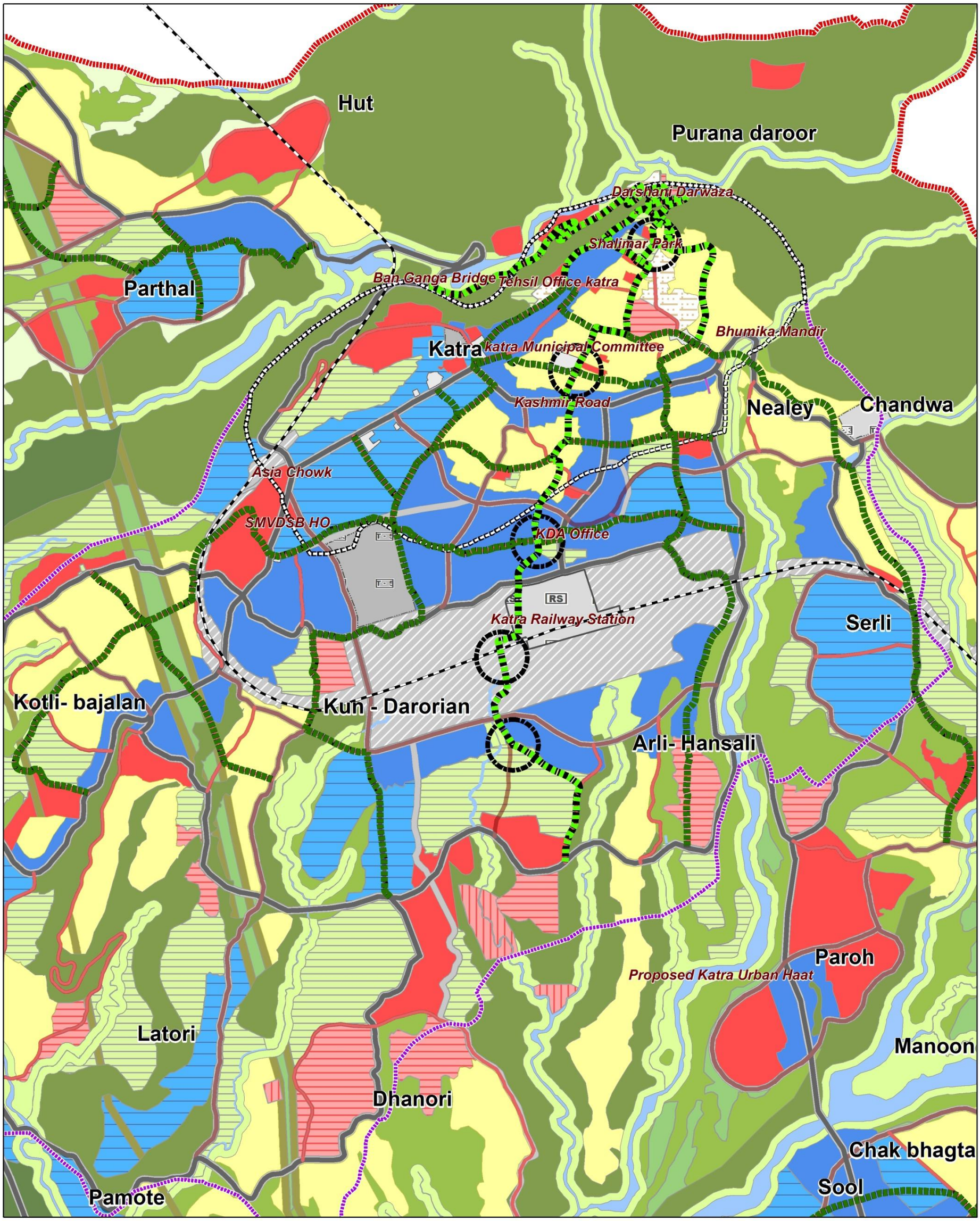
MAP 13-6 Pedistrian Nodes



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- KMC Boundary
- Existing KDA Boundary
- New KDA Boundary

Propsed Pedestrian and Cycle Tract

- Proposed Pedestrian
- Cycle Track And Pedestrian
- Proposed Nodes

Drawing Title: **PROPOSED PEDESTRIAN NODES**

Map no. **13-06**

Scale: 0 — 500 — 1,000 Meters

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13.5.2 Comparison of Existing and Proposed Land Use

The comparison of existing and proposed land use provision will gives the idea about thrust of policy interventions at zoning level as well as provision of social amenities distribution. It also acts as a guiding tool to analyze the adopted rationale approach for spatial standards. It also realize the importance of provided vision for the overall balanced development of the entire region – both at macro and micro level.

Table below presents the proposed land use for the Master Plan for Katra Local Area - 2021 and proposed for the year 2035 *(for Katra Urban + KDA Villages)*.

Table 13-2: Comparison of Existing and Proposed Land use Distribution

Land Use Category	Existing Master Plan for Katra 2021		Proposed Master Plan for KDA 2035	
	Existing Area (ha)	Percentage of Total	Proposed Area (ha)	Percentage of Total
Developable Land				
Residential	96.32	8.82	610.27	7.79
Commercial	30.17	2.76	458.95	5.86
Industrial	0.4	0.04	39.37	0.50
Public & Semi Public	8.34	0.76	449.95	5.74
Open Space & Recreational	4.05	0.37	320.06	4.08
Traffic and Transportation	34.31	3.14	460.4	5.87
Non Developable Land	**911.7**	**83.45**	**5499**	70.16
TOTAL	**1092.49**	**100**	**7838**	**100**

Figure 13-3: Comparison of Percentage of Existing and Proposed Land use

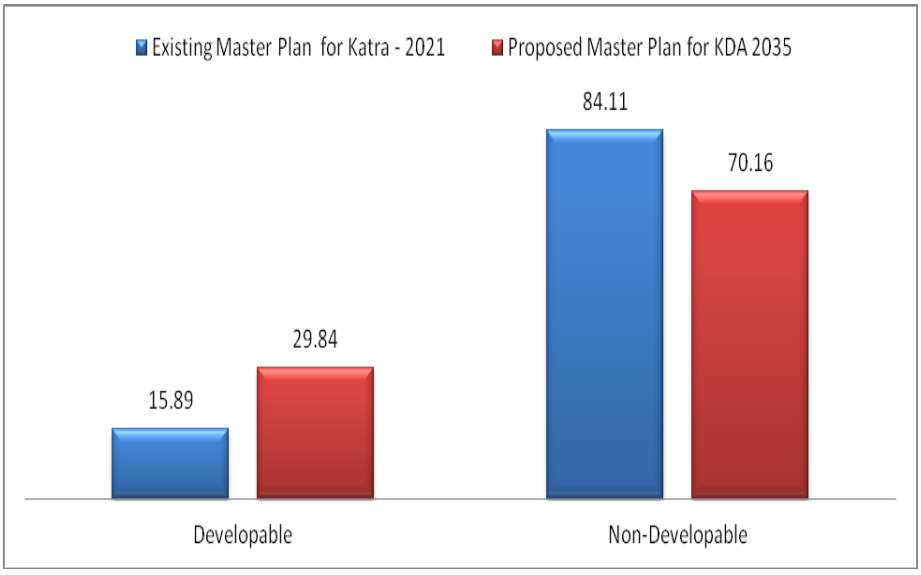
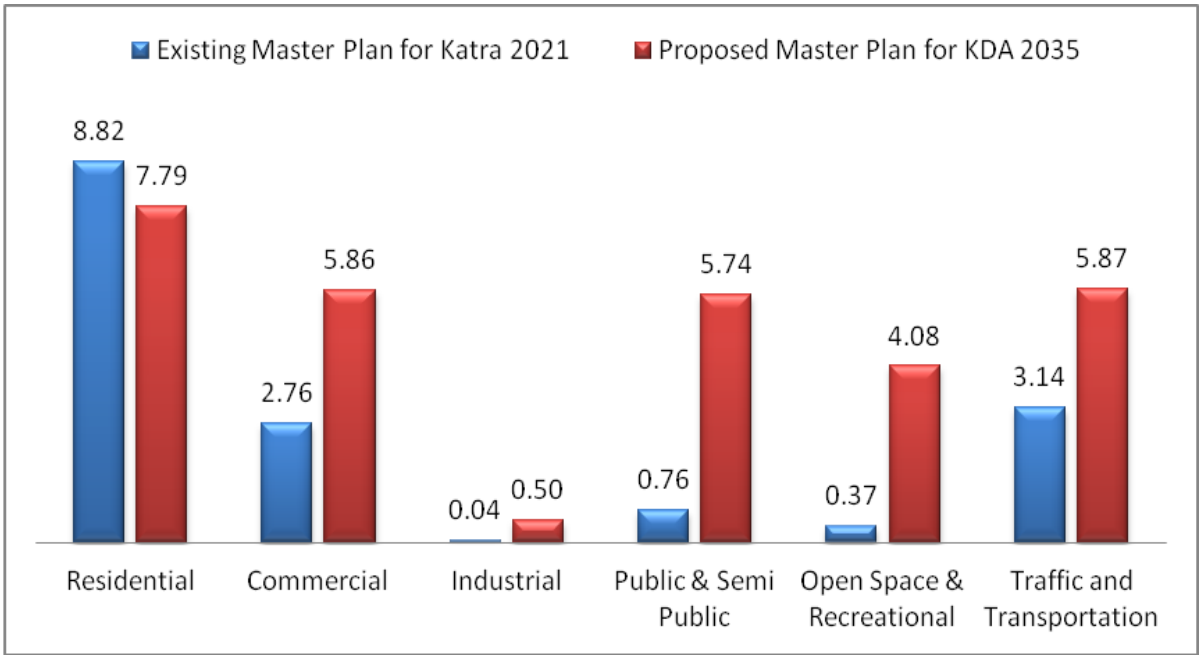


Figure 13-4: Comparison of Percentage of Existing and Proposed Land use Distribution



As estimated total area requirement by 2035 is 7838 Ha *(78.38 sq.km.)* while existing master plan 2021 has already projected area requirement of 1092.39 Ha *(10.92 sq.km.)*. Therefore, actual area requirement would be 6746Ha *(67.46 sq.km.)* for development *(i.e. developable).* However, there would be areas, which are not available to carry out proposed development *(hills, green areas, forest, and high slope).* It would constitute approx. 70-80 percent of total area.

In the proposed land use for 2035 a greater emphasis is laid on Open Spaces, Recreational Area, Commercial and Circulation in consideration of Katra been a base camp for pilgrims visiting Mata Vaishno Devi. Thrust is also laid on educational and health institutions/facilities.

As per the proposed land use the percentage of developable area is more as compared to existing master plan. Of total projected area requirement, 25-30 percent area would be developable and rest 70 percent (due to the specific terrain and characteristics of the local area) would be non-developable. While as per the existing master plan 2021, near about 20 percent area is developable and rest is non-developable.

Important Features adopted in Proposed master plan as compared With Existing Development.

Growth of the notified area is influenced by predominantly development of pilgrim population. As the impact of migration and rapid urbanization, Katra town and surrounding area is witnessing tremendous pressure on the land. While, the existing notified area is yet not addressed the urban character due to various territorial changes. It is the prime location, as majority of the pilgrims stays in Katra town. The Vision is developed to accommodate maximum amount of pilgrim population as same as residential population.As per existing master plan the residential area is 8.82 % while its area as per proposed master plan is 7.79%, which is less than the existing.

The commercial development is prime factor to cater such robust urban and pilgrim development in the coming future. At present the notified area is mainly focused on commercial and agriculture

along with major contribution on tertiary sectors. Though, it is evident to developed large scale service sector, to provide the sustainable foundation for the economy. The existing commercial development is just 2.76 % out of the total area, while the proposed is double of existing. It is way beyond the general expectation but necessary to support the high density of pilgrim population.

There is no industrial area within the notified area. As per the existing master plan, the industrial area is just 0.04 % of the total area. At present many of these establishment are closed are lying seek and ideal. So, it is important to regain it and provide more new setup. It is provided to 0.24%, which is 0.2% more than the existing use.

The existing provision of public and semi public amenities does not cater the residential population of KDA area. Hence it is necessary to provide the amenities as per standards to cater such a large scale development. As per the existing master plan, the area for amenities is less than 1 %, while the share of proposed amenities in the total land use is 5.74 %. These amenities include educational, health, administration and other facilities/ utilities.

Transportation is also one of the fundamental of the economic growth as well as equitable development. The notified area lacks the provision of balanced transportation at compared to the standard. Considering the nature of the area, the share of road network is higher than other transport modes. The share of road network is 4.37% of the total area followed by railway area. Provision of by-pass for National highways in the North-West part of the town to ease the traffic in that stretch and also to ensure connectivity to development potential areas. As per the existing master plan 3.4 % of the total area is dedicated to transportation which is less than the proposed transportation of 5.87 % of the total area.

To preserve the natural ecosystem, proposed master plan had given enough provision. The notified area is having unprotected forests, which is considered into forest zone. It is about 27.56 % of the total area. 2.78 % of the total area is under water bodies including river, nallas and streams. To conserve these water bodies 50- 100 m buffer is provided along all the water bodies. These buffers are under non developable zone. The area covered by buffer of these water bodies is about 8-9% of the total area.

13.6 Proposed Pedistrain

The section describes in detail the rules and guidlines for pedestrian development in the new KDA region.

13.6.1 Overview

The pedestrian design guidelines section of this document provides a set of planning and design standards to be utilized for the eventual implementation of the various aspects of the pedestrian plan. The construction of the private sector projects will need to be guided by a set of land development regulations.

13.6.2 Vision of pedestrian development

Enhance pedestrian, Bike accessibility and mobility provide safe, accessible, and convenient pedestrian and bicycling facilities and support and encourage increased levels of bicycling and walking.

13.7 GOALS AND OBJECTIVES

The pedestrian environment should be safe.
Sidewalks, walkways, and crossings should be designed and built to be free of hazards and to minimize conflicts with external factors such as noise, vehicular traffic, and protruding architectural elements.

The pedestrian network should be accessible to all.
Sidewalks, walkways, and crosswalks should ensure the mobility of all users by accommodating the needs of people regardless of age or ability.

The pedestrian network should connect to places people want to go.
The pedestrian network should provide continuous direct routes and convenient connections between destinations, including homes, schools, shopping areas, public services, recreational opportunities and transit.

The pedestrian environment should be easy to use.
Sidewalks, walkways, and crossings should be designed so people can easily find a direct route to a destination and will experience minimal delay.

The pedestrian environment should provide good places.
Good design should enhance the look and feel of the pedestrian environment. The pedestrian environment includes open spaces such as plazas, courtyards, and squares, as well as the building facades that give shape to the space of the street. Amenities such as seating, street furniture, banners, art, plantings, shading, and special paving, along with historical elements and cultural references, should promote a sense of place.

The pedestrian environment should be used for many things.
The pedestrian environment should be a place where public activities are encouraged. Commercial activities such as dining, vending, and advertising may be permitted when they do not interfere with safety and accessibility.

Pedestrian improvements should preserve or enhance the historical qualities of a place and the City.
City must be preserved in the public space. Where applicable, pedestrian Improvements should restore and accentuate historical elements of the public right-of-way. Good design will create a sense of time that underscores the history of Chula Vista.

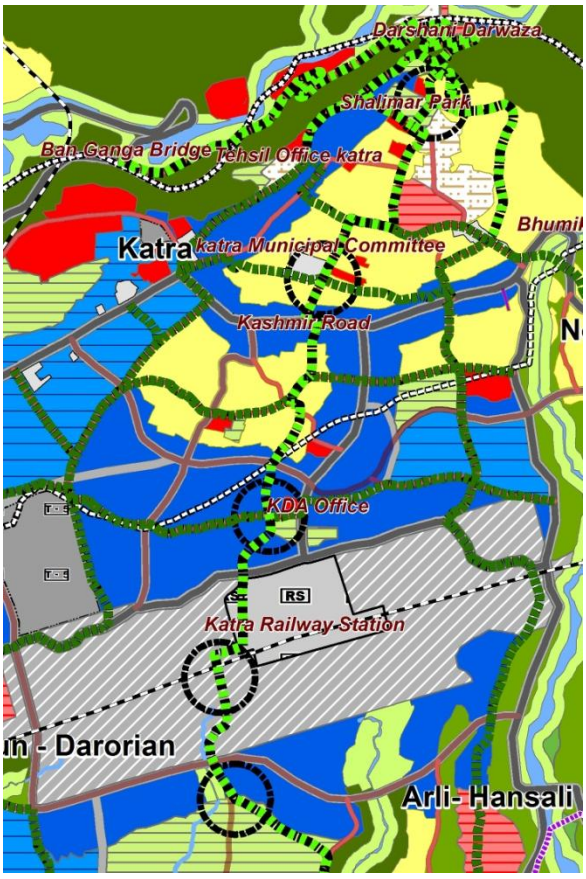
Pedestrian improvements should be economical.
Pedestrian improvements should be designed to achieve the maximum benefit for their cost, including initial cost and maintenance cost as well as reduced reliance on more expensive modes of transportation. Where possible, improvements in the right-of-way should stimulate, reinforce, and connect with adjacent private improvements. The remaining sections of this memorandum delineate pedestrian facility designs. A brief description, graphics, list of potential applications, and summary of standards is provided for each design type presented.

13.8 PEDESTRIAN TRANSPORTATION FACILITIES

- Sidewalk
- Off-Road Path
- Curbs and Curb Ramps
- Ramp and/or Stair Connection to adjacent property

- Traffic Control Devices; Pedestrian signal heads
- Pedestrian Bridge or Tunnel
- Mid-block Street Crossing with signage and crosswalk
- Bus Stop; Shelter
- Landscaped Plaza
- Weather protection features, including storefront awning, street tree and entry canopy
- Way-finding Sign; Street Identification Sign
- Pedestrian Scale Street Lights
- Bollard, low fence, handrail
- Crosswalk; Marked, Raised and/or Material Enhanced

MAP 13-7 Pedestrian Corridor



Identified nodes:

- Shalimar Park
- Bus stand
- Kda office
- Railway Station
- City level open space

Legend

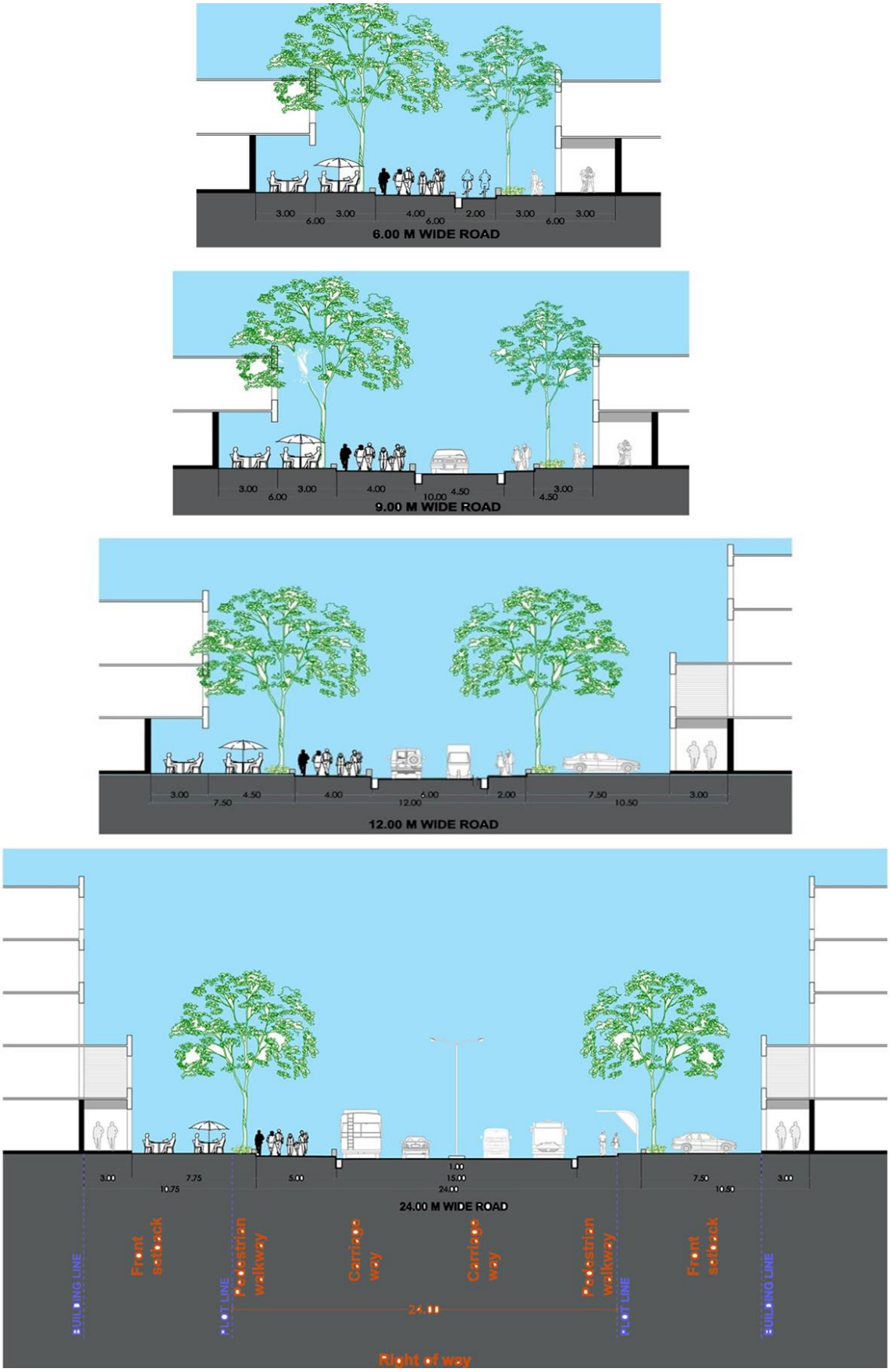
Propsed Pedestrian and Cycle Tract

Proposed Pedestrian

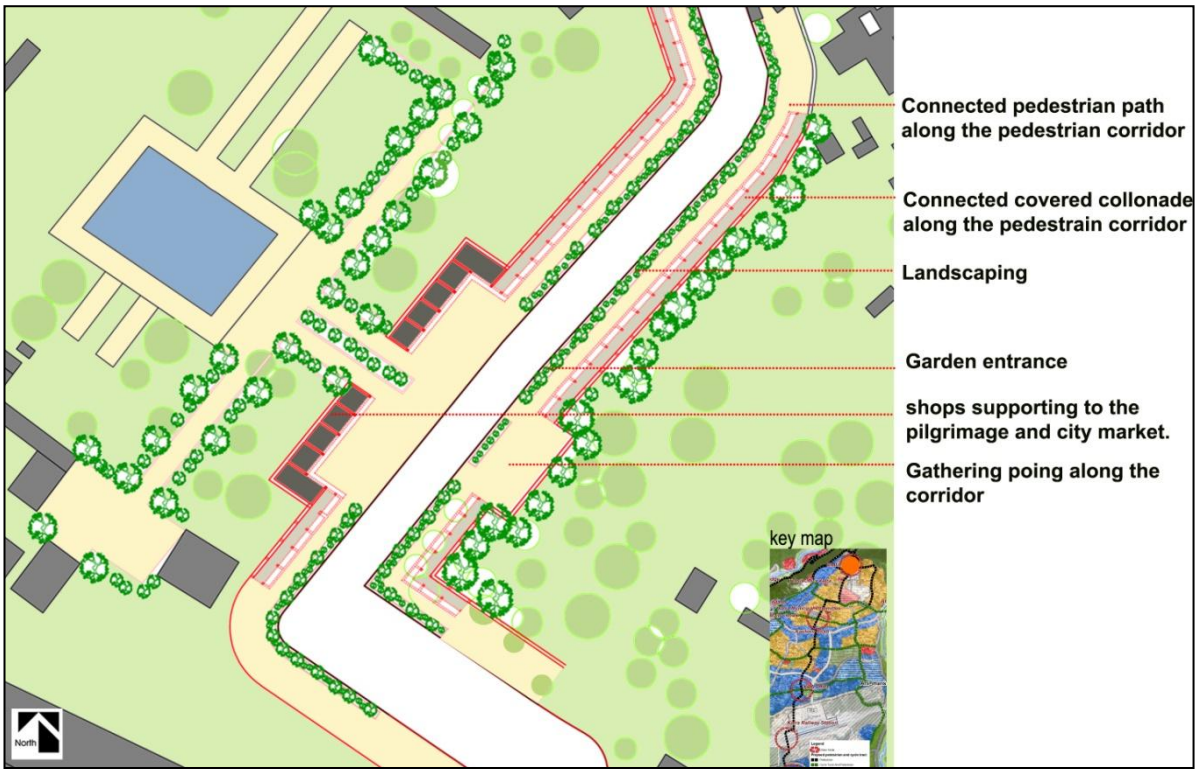
Cycle Track And Pedestrian

Proposed Nodes

Figure 13-5 Proposed Pedestrian Sections

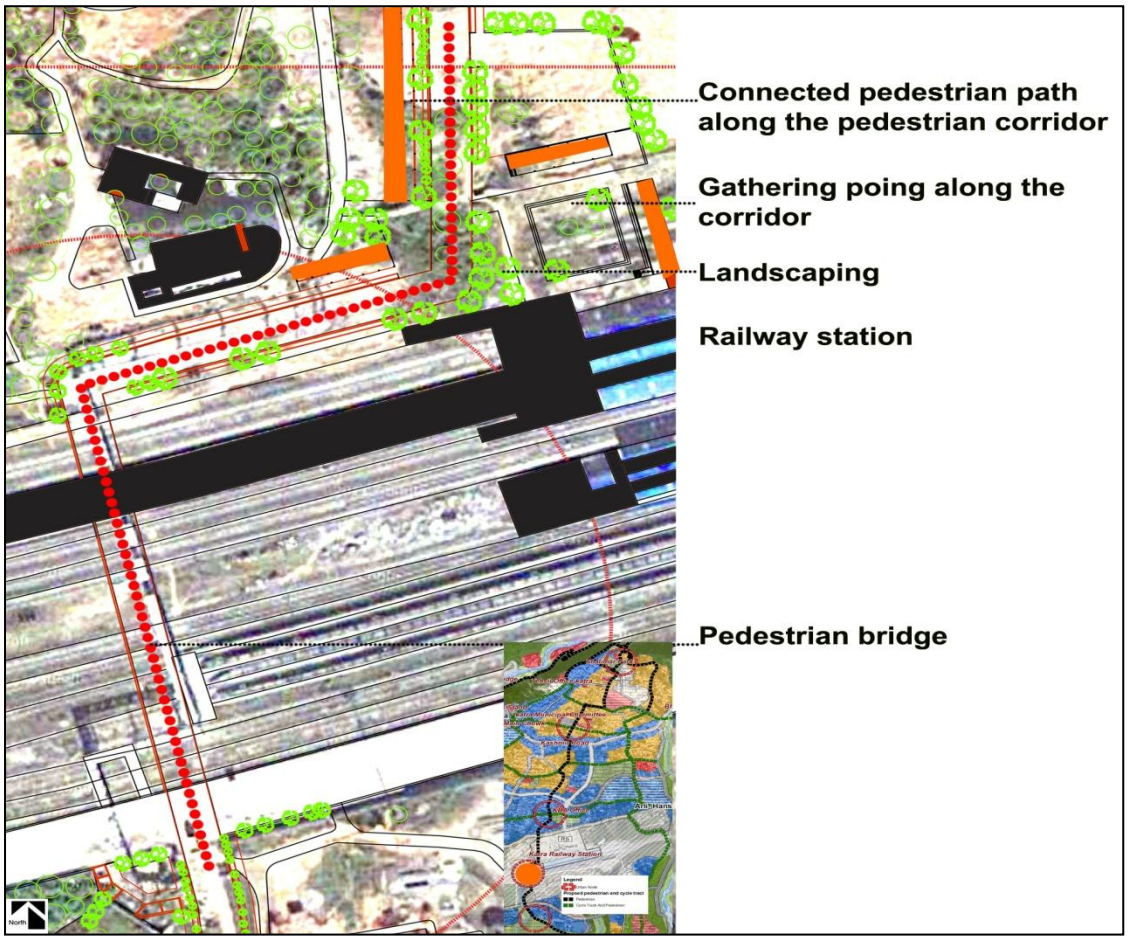


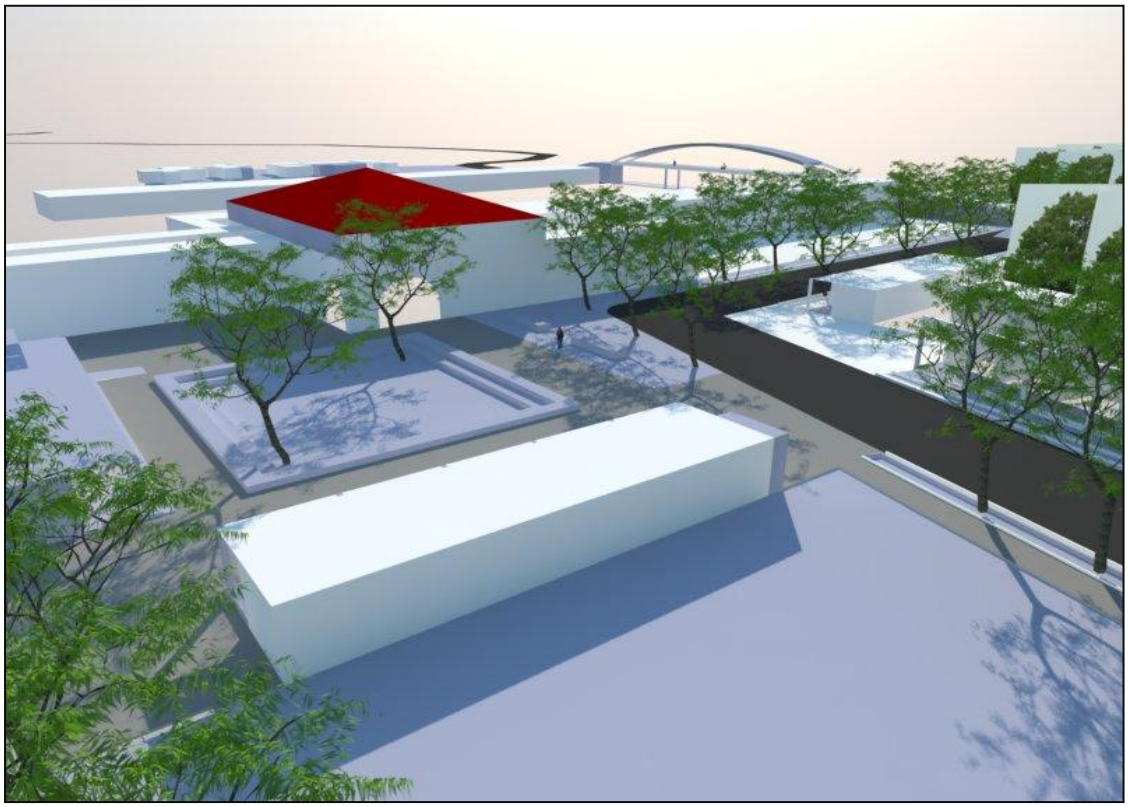
13.9 Redevelopment Of Shalimar Park Node



13.10 Redevelopment Of Bus Station Node

13.11 Redevelopment Railway Station Node





14 DEVELOPMENT CONTROL RULES AND REGULATION

Chapter Contents

- *Preamble*
- *Short Title, Applicability & Commencement*
- *Land Use Zoning Regulation*
- *Bye Laws*

The chapter discusses the development control regulations for the land use that are required to carry out the development in the new KDA area. The definitions that are used in this chapter also shown in brief. The land use zoning regulation and bye-laws are also discussed.

Preamble

Development Control Regulations form part of the Revision of Master Plan for Katra local area.

Purpose of the Regulations

The purpose of the regulations is to ensure that:

- Building is built within the infrastructure levels in an area at a given point of time.
- It will open to developers to construct additional built up area on existing buildings or sites, subject to obtaining permission, when abutting roads are widened, plots are amalgamated to create larger lots and other services are upgraded.
- Building norms encourage decongestion of central area where creation of additional services is relatively difficult.
- Public interest is given higher priority over individual gains.

Aspects Controlled by the Regulations

These regulations broadly control/specify the norms regarding following aspects:

- Restrictions on the minimum plot size
- Minimum width of approach road
- Front setbacks, and other setbacks for buildings within the plot
- Minimum open space for the plot other than the setbacks
- Maximum percentage of ground coverage for buildings within the plot
- Maximum number of floors/height of building
- Parking requirements
- Standards for the part of the buildings not specified here shall be as per the National Building Code

Short Title, Applicability & Commencement

a) These Rules may be called Development Control Regulations of Revision of Katra Masterplan for Katra Town.

b) These rules shall be applicable to Katra Development Authority area, and shall come into force from the date of publication of the Notification in the J & K Gazette.

c) These rules shall apply to all building activity. All existing rules, regulations, bylaws, orders that are in conflict or inconsistent with these Rules shall stand modified to the extent of the provisions of these rules.

d) The land use of the existingplots would remain same after application of the new development rules and regulations, these development rules and regulations are applicable for new development.

Definitions:

1) '**Competent Authority'**means Chief Town Planner, Town Planning Organization, Jammu.

2) **'Height of Building'**means height measured from the abutting road and in case of undulated terrain height can be considered as average of the corresponding ground level or formation level of proposed site.

3) **'High-rise Building'**means a building more than 18 meters in height. However, chimneys, cooling towers, boiler, rooms/ lift machine rooms, cold storage and other non-working areas in case of industrial buildings and water tanks, and architectural features in respect of other buildings may be permitted as a non-High Rise building. Buildings up to 18 m height including stilt floor/parking floor stand excluded from the definition of high-rise buildings.

4) **'Non High-rise Building' or 'Low-rise Building'**means a building having height of up to 18 meters.

5) **'Parking Complex / Parking Lot'**means a premise either built or open which is utilized purely for parking of vehicles and where parking fees is collected by the owner and permitted in specific areas. The minimum site shall be 300 square meters.

6) **'Sanctioning Authority'**means the Commissioner of the Municipality or the Executive Authority of the Gram Panchayat or a Special Unit created for the purpose of sanctioning and monitoring building and development activity.

7) **'Access'** means aligned means of passage from the public road to the plot or land.

8) '**Accessory Building'** means building separated from the main building on a plot and put to one or more accessory uses.

9) **'Accessory Use'** means any use of the premises subordinate to the principal use and customarily incidental to the principal use.

10) **'Alteration'**means change from one occupancy to another or a structural change. Such as an addition to the area or height or the removal or part of a building or a change to the structure such as the construction or cutting into or removal of any wall, part of a wall partition, column, beam, joist floor including a mezzanine floor or other support or a change to or closing of any required means of ingress or egress.

11) **'Assembly Building'** includes any building or part of a building where group of people congregate or gather for amusement, recreation, social , religious, patriotic, civil, travel and similar purposes such as theatres, motion picture houses, drive-in-theatres, assembly halls, museums, mangal karyalayas, skating rinks, gymnasium, restaurants, eating houses, boarding houses, places of worship, dance halls, club rooms, gymkhana, passenger stations and terminals of air, surface and other public transportation services, recreation piers and stadia.

12) **'Balcony'** means a horizontal projection including a parapet, handrail, balustrade to serve as a passage or a sitting out place.

13) **'Basement' or 'Cellar'**means the lower storey of a building below or partly below ground level.

14) **'Building Line'** means the line up to which the plinth of a building adjoining a street or an extension of a street or a future street may lawfully extend and shall include the lines prescribed, if any, in any scheme or master/development plan.

15) **'Built-up Area'**means the area covered by a building on all floors including cantilevered portion, if any, but excepting to areas excluded specifically under these regulations.

16) **'Business Building'** includes any building or part thereof which is used for transaction of business or for the keeping of accounts and records and also office, bank or professional establishment, court house or library if the principal use of any of them is transaction of public business or keeping of books and records.

17) **'Courtyard'** means a space permanently open to the sky within the site around a structure and paved/concreted.

18) **'Corridor'**means a common passage of circulation space including a common entrance hall.

19) **'Educational Building'** means a building exclusively used for a school or college, recognized by the appropriate Board or university, or any other Planning Authority involving assembly for instruction, education or recreation incidental to education use, and including a building for such other user's incidental thereto such as a library or a research institution. It shall also include quarters for essential staff required to reside in the premises, and a building used as a hostel captive to an educational institution whether situated in its campus or not.

20) **'Escape Measure'** means any well ventilated corridor, staircase or other circulation space, or any combination of the same by means of which a safe place in the open air at ground level can be reached.

21) **'Existing Building'or 'Existing Use'** means a building or, as the case may be, use which is lawfully in existence immediately before the commencement of these regulations.

22) **'Exit'** means a passage, channel or means of egress from any building, storey or floor area to a street or other open space of safety; horizontal, outside and vertical exits having meanings at (i), (ii) and (iii) respectively as under –

i **'Horizontal exit'** means an exit which is a protected opening through or around a fire wall or a bridge connecting two or more buildings,

ii **'Outside exit'** means an exit from a building to a public way, to an open area leading to a public way or to an enclosed fire resistant passage leading to a public way.

iii **'Vertical exit'** means an exit used for ascending or descending between two or more levels, including stairways, smoke-proof towers, ramps, escalators and fire escapes.

23) **'Floor'** means the lower surface in a storey on which one normally walks in a building and does not include a mezzanine floor. The floor at ground level with a direct access to a street or open space shall be called the ground floor; the floor above it shall be termed as floor 1, with the next higher floor being termed as floor 2, and so on upwards.

24) **'Front'** means the space between the boundary line of a plot abutting the means of access/road/street and the building line. Plots facing two or more means of access/roads/streets shall be deemed to front on all such means of accesses/roads/streets.

25) **'Habitable Room'** means a room occupied or designed for occupancy by one or more persons for study, living, sleeping, eating or kitchen room used as a living room, but not including

bathrooms, water closet compartment, laundries, serving and storage pantries, corridors, cellars, attics, and inhabitable spaces that are not used frequently or during extended periods.

26) **'Home Occupation'** means occupation other than that of operating an eating or drinking place offering services to the general public, carried by a member of the family residing on the premises and in accordance with which there is no display that will indicate from the exterior that the building is being utilized in whole or in part for any purpose other than that as residential (dwelling) use and in connection with which no article or service is sold or held up for sale except that produced, which is non-hazardous and not affecting the safety of the inhabitants and neighborhood by a member of the family residing in the premises and no mechanical equipment is used except as is customary for purely domestic or household purposes or employing licensable good.

Explanation- If motive power is used, the total electricity load should not exceed 0.75 K.V. "Home Occupation" may also include such similar occupation as may be specified by the Planning Authority with the approval of Authority and subject to such terms and conditions as may be prescribed.

27) **'Industrial Building'** includes any building or structure or part thereof, in which products or materials of all kinds are fabricated, assembled or processed like assembly plants, laboratories, power plants, mills, dairies or factories.

28) **'Institutional Building'** means a building constructed by Government, Semi-Government organizations or registered Trusts and used for medical or other treatment, a hostel for working women or for an auditorium or complex for cultural and allied activities or for an hospice, care of persons suffering from physical or mental illness, handicap, disease or infirmity, care of orphans, abandoned women, children and infants, convalescents, destitute or aged persons and for penal or correctional detention with restricted liberty of the inmates ordinarily providing sleeping accommodation, and includes Dharmashala, hospitals, sanatoria, custodial and penal institutions such as jails, prisons, mental hospitals, houses of correction, detention and reformatories.

29) **'Mercantile Building'** means any building or part thereof which is used as shop, store or market for display and sale of merchandise, either wholesale or retail, or which is used as office or for providing storage and service facilities incidental to the sale of merchandise and located in one and the same building.

30) **'Mezzanine Floor'** means an intermediate floor, not being a loft between the floor and ceiling of any storey.

31) **'Occupancy' or 'Use'** means the principal occupancy or use for which a building or a part of it is used or intended to be used, including contingent subsidiary occupancies, mixed occupancy buildings being those in which more than one occupancy are present in different portions of the buildings.

32) **'Office Building' or 'Office Premises'** means the premises which is to be or which is solely or principally used as office for administration, clerical work or handling money or for operating telephone, telegraph or computer.

Explanation- for the purposes of this clause, "clerical work" includes writing, book-keeping sorting papers, typing filling, duplicating, punching cards or tapes, machine calculating, drawing of matter and the editorial preparation of matter for publication.

33) **'Open Space'** means an area forming an integral part of the site left open to the sky.

34) **'Permission'** means a permission or authorization in writing by the Competent/Sanctioning Authority to carry out any building activity or development work to which these regulations apply.

35) **'Residential Building'** means any building in which sleeping accommodation is provided for normal residential purposes with or without cooking or dining or both facilities or one or two or multi-family dwellings, lodging or rooming houses, hostels, dormitories, apartment houses and flats, residential hostels along with its private garages.

36) **'Road' or 'Street'** means any highway, street, lane, pathway, alley, stairway, passageway carriageway, footway, square, place of bridge, whether a through fare or not, over which the public have a right of passage or access or have passed and has access uninterruptedly for a specified period, whether existing or proposed in any scheme and includes all bunds, channels, ditches, storm water drains, culverts, sidewalks, traffic islands, roadside trees and hedges, retaining walls, fences, barriers and railings within the street lines.

37) **'Road or Street Level or Grade'** means the officially established elevation or grade of the central line of the street upon which a plot fronts and if there is no officially established grade, the existing grade of the street at its mid-point.

38) **'Road or Street Line'** means the line defining the side limits of a road or street.

39) **'Road Width' or 'Width of Road/Street'** means the whole extent of space within the boundaries of a road when applied to a new road/street, as laid down in the city survey or development plan or prescribed road lines by any act or law and measured at right angles to the course or intended course of direction of such road.

40) **'Site' or 'Plot'**means a parcel or piece of land enclosed by definite boundaries.

41) **'Site Depth'** means the mean horizontal distance between the front and rear site boundaries.

42) **Zone**: Means any division in which local area is divided for purpose of development.

43) **Use Zone:** Means any area of any one of specific dominant uses of urban functions like residential, Commercial, Public and Semi-Public, transport and communication, Green Area etc.

44) **Plans:** means a detailed subdivision plan indicating size and arrangement of all premises use.

45) **Floor Area Ration (FAR):** means ratio of the total area of all the floors of any building, divided by the total plot area and is taken as percentage as under:-

$$F.A.R. = \frac{\text{Total floor area of all floors} \times 100}{\text{Total Plot area}}$$

46) **Building Height:** is the vertical distance measured from the average level of the central line of adjoining street to the highest point of the building.

47) **Storey:** Mean the portion of the building included between the surface of any floor next above it or if there be no floor above it then the space between any floor and the ceiling next above it.

48) **Building Set back:** means the distance by which any building of structure shall be separated from the corresponding boundary lines of the plot.

49) **Dwelling:** is a building designed or used or to be used for residential purposes. Dwelling shall not include boarding or rooming house, tent, tourist camps, hotel, guest houses or other structures used for transit residential like pilgrims, tourists, specialized terms etc.

50) **Non confirming use/Building:** it is a building structure or use of land existing at the time of commencement of zoning regulations and which does not conform to the regulation pertaining to the zone in which it is situated

51) **Plot:** a piece off land occupied or intended to be occupied for occupancy by a main building with its accessory building and uses incidental to it.

52) **Plot width:** the shorter distance from one side of the plot line to the other, measuring though that part of the plot to be occupied by the building.

53) **Required open space:** the space between the plot line and the minimum building set back line.

54) **Erection:** means to construct a building for the first time or to reconstruct existing building by way of additional/alteration or any change in the roof or wall or compound in any repect on the plot for wich the permission for construction has been previously obtained.

55) **Conversion of building:** Conversion of building or any part thereof for human habitation from one dwelling house into more than one dwelling house or vice versa.

Conversion of building or any part thereof into a shop, warehouse or factory or vice versa.

Conversion of building use or one intended to be used for purposes. Such as shop, warehouse or light industry etc. into one or another purpose.

14.1 Land Use Zoning Regulations

14.1.1 Land Use Zones Classifications

The Land Use Zoning Regulations contain the following classification of the broad land use zones:

Residential Use Zone

Residential Zone: Areas earmarked as Residential Use Zone in the proposed Land Use Plan.

Commercial Use Zone

Commercial Zone: Areas earmarked as Commercial Use Zone and the Commercial Strips in the proposed Land Use Plan.

Resort and Hotel Zone: Areas earmarked as Resort/Hotel Use Zone and the in the proposed Land Use Plan.

Manufacturing Use Zone

Areas earmarked as Manufacturing Use Zone in the proposed Land Use Plan only.

Public, Semi-Public Facilities and Utilities Use Zone

Areas earmarked as Public, Semi-public Facilities, Utilities Zone and religious zone in the proposed Land Use Plan, and the sites specifically earmarked for any such public/semi-public use.

Open Space Use Zone

Open Space Recreational: Areas earmarked as Open Space Recreational in the proposed Land Use Plan, and the sites specifically earmarked as Parks, Playgrounds, and Exhibition Grounds.
Open Space Buffer: Areas specifically earmarked as Open Space Buffer around the Water Bodies Use Zone containing various types of existing water bodies. The Open Space Buffer contains a belt of minimum 30 M width from the Full Tank Level of such water bodies.

Traffic and Transportation

All the roads as earmarked in the proposed Land Use Plan and the sites specifically earmarked for related facilities like, roads, railways, airports railway terminus, bus depots, truck terminals, and parking lots.

- Transportation: Roads, Railways, Airports
- Communication: Logistics Hubs (Bus Depots and Truck Terminals)

No other activity is permitted except the specified one. Uses permitted and prohibited in different categories of land use zones are described against each. The uses are not to be treated as exhaustive. Similar uses and activities may be permissible in the appropriate locations by the KDA and shall be subject to such restrictions and conditions as may be imposed.

Conservation Use Zone

Areas specifically earmarked as conservation Urban Use zone which is almost all over the remaining regional area

Forest Zone

All Reserved Forests as notified by the Forest Department, subject to change as amended from time to time. No activity other than forest is permitted in this zone unless expressly allowed by the Forest Department. Notified forest area to be treated as forest area even though otherwise shown in the proposed Land use Plan.

Water Body Zone

Water Body Zone generally indicates all existing water bodies, i.e. Rivers, Streams, Lakes and Tanks, as indicated in the topographical sheets published by the Survey of India, or the State Irrigation Department or Revenue Department or other competent authorities. The boundary of the water bodies relate to the Full Tank Level / Flood Level as indicated in relevant maps, covering both perennial and non perennial parts when such distinction exists.

Special Reservations Zone

- Heritage Buildings and Precincts
- Bio Conservation Zone
- Natural Heritage
- Defense / Military Lands
- Others (Any Other Special Reservations)

14.1.2 Residential Use Zone

Residential Zone- 1(R1)

The various uses permitted and prohibited in Residential Use Zone-1 as mentioned in the following table.

Table 14-1: Residential Zone Uses Permitted and Uses Prohibited

Uses Permitted On All Locations	Uses Permissible on applicant to competent	Uses Prohibited
I	II	III
• All types of residential buildings	• Professional Establishments	• All other uses not mentioned in Col. I
• Bakeries and confectioneries	• Private nursing Home • Auditoria	• Botanical garden
• Banks • Burial-grounds/ Cremation ground • Bus depots without workshop • Park, Playground, green house, • Religious Building like temples, Mosques, Churches,Gurdawars, and ashram, Club Culture and philanthropic association of non commercial nature.	• Public Assembly Hall • Educational • Institutions satisfying the needs for provision of parking within premises and keeping away growth of traffic bottleneck, Taxi or Scooter stands, Bus stop, Public Utility Building	• Courts of law
• Bus stands		• Heavy, large and extensive industries
• Cinema halls on plots above 3000 sq.mts and abutting road of minimum 18 meters width • Clubs		• Hospitals treating contagious and infectious diseases
• Colleges • Community centres		• Indoor games stadium

• Computer software units /IT Enabled Services • Convenience shopping		• International conference centre
• Customary home occupation/household units • Dharamshalas		• Obnoxious and hazardous industries
• Doctors' clinics and Dispensaries • Electrical distribution station		• Outdoor games stadium
• Electronic printing press • Exhibition and art gallery		• Reformatory
• Fire stations		• Sewage treatment plant/disposal work
• Foreign missions • Function halls on plots above 3000 sq.mts and abutting road of minimum 18 meters width		• Shooting range
• Games facilities of local nature both indoor and outdoor • Group housing / Apartment Complexes		• Slaughter-house
• Guest houses • Gymnasium		• Solid waste dumping yards
• Health facilities with not more than 20 beds • Hostels & Boarding houses • Hotels on plots of above 2000 sq.mts and abutting road of minimum width of 18 meters		• Storage godowns of perishables, hazardous and inflammable goods
		• Storage of gas cylinders
• Library • Motor vehicle repairing workshops/garages • Municipal, state and central government offices • Night shelters • Other educational buildings other than professional colleges/institutions • Parks/totlots • Petrol pumps		• Warehousing
		• Water treatment plant
		• Wholesale mandis
		• Workshops for buses etc.

• Plant nursery • Police check posts • Police stations • Post offices • Professional offices • Public utilities and buildings except service and storage yards • Religious premises • Research institutes		• Zoological garden
• Restaurants/eating places • Retail shopping centres • Schools • Showroom for sale & distribution of LPGas • Taxi stand/three wheeler stands • Technical training centre • Transit visitors camp • Water pumping station • Weekly markets		
• Yoga centers/Health clinics		

14.1.3 Commercial Use Zone

The various uses permitted and prohibited in Commercial Use Zone are as mentioned in the following table.

Table 14-2: Commercial Zone: Retail and General business

Uses Permitted	Uses Permissible on application to competent authority	Uses Prohibited
I	II	III
• All uses permitted in Residential	• Taxi stand in case the road or bazaar is not a mall road type	• All activities which cause nuisance and are noxious and obnoxious in nature • Hazardous and extractive industrial units • Hospitals/research laboratories treating contagious diseases • Poultry farms/ dairy farms • Reformatory
• Bakeries and confectionaries		
• Banks		
• Bus and truck depots		
• Cinema halls		
• Clubs		
• Colleges		
• Conference centers		

• Courts		• Sewage treatment/ disposal sites • Slaughter-houses • Storage of perishable and inflammable commodities
• Fire Station		
• Function halls on plots of minimum 3000 sq. m. and abutting road width of minimum 18 m.		
• Gas installation and gas works		
• Godowns and warehousing		
• Guest houses		
• Health facilities with maximum 200 beds		
• Hostel/boarding houses		
• Hotels		
• Junk yards		
• Library		
• Multistoried parking complexes		
• Museum		
• Non polluting non-obnoxious light industries		
• Offices		
• Parking sites		
• Parks/open space		
• Petrol pumps		
• Police stations/posts		
• Polytechnic and higher technical institutes		
• Post offices		
• Railway yards/stations		
• Religious buildings		
• Religious places		
• Repair garages		
• Research institutions		
• Research/training institute		
• Restaurants		
• Retail shops and retail shopping centers, Shopping Malls		
• Service centres/garages/workshops		
• Sports and related facilities		
• Sports/stadium and public utility installation		
• Taxi stand/three wheeler stands		

• Telephone exchange		
• Timber yards		
• Water treatment plant		
• Weekly / informal markets		
• Weekly market		
• Wholesale trade/markets		
• Professional Offices		

Note: Special Commercial Areas along Highways, Major Roads wherever indicated on the plan; are conditional. These can be used subject to the following conditions:

- Handing over of land to concerned authority for widening of road up to the proposed width with free of cost through registered gift deed.

- Developing the service road with applicant own cost.

- Access from property to road only through service road.

Table 14-3: Commercial Zone: Resort and Hotel

Uses Permitted	**Uses Permissible on application to competent authority**	**Uses Prohibited**
I	**II**	**III**
• All uses permitted in Residential	• Warehousing/ Storage of perishable goods	• All other uses not mentioned in Col I
• Hotel and Resorts	• Timber yards	
• Motel	• Bus and Truck depots service centers	
• Cafeterias	• cinemas	
• Retail shops and retail shopping centers, Shopping Malls	• Cultural facility	
• Show Rooms		
• Plaza		
• Conference centers		
• Banks		
• Financial Institution		
• Hotels boarding houses		
• Professional Offices		
• Nursing Homes		
• Baratghars		
• Night Shelters		
• Dormitories		

• Auto/ Taxi/ Charted Buses Parking Sites		
• Commercial Offices		
• Government Institutions		
• STD/PCO		
• Telephone Exchange		
• Restaurant		
• Parking sites		
• Parks/open space		
• Petrol pumps		
• Police stations/posts		
• Post offices		
• Religious buildings		
• Religious places		
• Repair garages		
• Sports/stadium and public utility installation		
• Sports and related facilities		

14.1.4 Manufacturing Use Zone

The various uses permitted and prohibited in Manufacturing Use Zone are as mentioned in the following table.

Table 14-4: Manufacturing Zone: Uses Permitted and Uses Prohibited

Uses Permitted	Uses Prohibited
I	II
• Non Polluting industries • Banks and financial institutions • Bus depot and workshop • Bus terminal • Cemeteries • Cold storage and ice factory • Computer software units /IT Enabled Services • Electric power plant • Gas godowns, godowns & warehousing • Gas installations and gas works • Government/semi-government/private business offices • Health facilities incidental to main uses • Helipads • Junkyards • Loading and unloading spaces • Parking of vehicles • Parks and playgrounds	• All other uses not mentioned in Col I • Hotels • Residential dwellings other than those essential for operational and watch and ward staff • Schools and colleges

• Public utilities • Residential buildings for essential staff and for watch and ward • Restaurants • Service stations & repair garages • Sewage disposal works • Storage and depot of non-perishable and non-inflammable commodities and incidental use • Warehousing • Workshops/garages	

14.1.5 Public, Semi-Public Facilities Use Zone, Utilities Use Zone and Religious Use Zone

The various uses permitted and prohibited in Public, Semi-public use zone, Public Utilities Zone and Religious use zone are as mentioned in the following table.

Table 14-5: Public, Semi-public Facilities and Utilities Zone: Uses Permitted and Uses Prohibited

Uses Permitted	Uses Permissible on application to competent authority	Uses Prohibited
I	II	III
Public, Semi-public use zone • Auditorium • Bank • Burial ground/ cemetery/ cremation ground • Bus and railway passenger terminal • Bus/truck terminal • Cinema hall/Multiplex • Clinic and laboratory • Club • College • Community hall • Computer software units /IT Enabled Secvices on independent plots of more than 1000 sq.mt size • Conference hall • Cultural and religious building • Dharamshala • Dispensary • Exhibition centre • Fire station/fire post • Function hall	Residential and other uses incidental to educational use Restaurants Group housing Retail Shopping Stations Parking Areas Restaurants Super Bazars Shopping Plazas Residential	• All other uses not mentioned in Col I • Any other use other than the specific reservation • Dairy and poultry farms • Farm houses • Heavy, extensive and other obnoxious and hazardous industries • Junk yards • Processing and sale of farm products and uses not specifically permitted herein • Slaughter houses • Wholesale markets • Workshops for servicing and repairs

Uses Permitted	Uses Permissible on application to competent authority	Uses Prohibited
I	II	III
• Guest house • Health/primary center • Helipad • Hospital • Hostel • Hotel on plot above 1000 sq.mt. • Institution • Jail • L P Gas Godown • Library • Monument • Museum/art gallery • Offices • Open air theatre • Petrol pump • Police station/police post • Polytechnic college • Post office • Public utilities and buildings • Radio transmitter and wireless station • Railway station/yard • Religious building/center • Research and development center • Residential plotted or group housing for staff / employees as incidental to the main use • Retail shopping centre • School • Service station • Sewage disposal works • Social and cultural institutions • Social and welfare centers • Telecommunication centre • Telephone exchange • Universities and specialized educational institutions		

Uses Permitted	Uses Permissible on application to competent authority	Uses Prohibited
I	II	III
• Warehouses/storage godown • Water supply installations • Water supply, drainage, storm water, solid waste disposal, electricity, communication system and related installlations, parking lots, public utility buildings **Public Utility** • Sewage treatment plant/disposal work • Power Station • Solid Waste Site • Power Grid **Religious** • Religious building, Temple, Mosque, • Trust • Dharmashala • Meditation and Spiritual centre • Religious Institution • Philanthropic institution • Sarais for Pilgrim Use	• Grave Yard and Cremation Ground not Creating Tentacles in future development,	

14.1.6 Open Space Use Zone

Open Space Recreational Use Zone

The various uses permitted and prohibited in Open Space / Recreational are as mentioned in the following table.

Table 14-6: Open Space Recreational: Uses Permitted and Uses Prohibited

Uses Permitted	Uses Permissible on application to competent authority	Uses Prohibited
I	II	III
• Botanical/zoological garden • Building and structures ancillary to use permitted in open spaces and parks subject to the total ground coverage not exceeding 2% • Camping grounds • Commercial use of transit nature like circus • Local parks • Outdoor sports stadiums • Picnic huts with built up area not exceeding 2% • Playgrounds • Public & institutional libraries with total built up area not exceeding 2% of total site • Regional parks • Restaurants as part of sports, recreational outdoor facilities not exceeding 5% ground coverage • Specialised parks/maidans for multi-use • Golf Courses	• Regional Park • Botanical Garden • Bird Sanctuary • Holiday Resorts	• Any building or structure which is not required for open air recreation • Dwelling units except for watch and ward

Note: On sites specifically indicated as parks, playgrounds or Green Belt Project, no other activity except the specified use shall be allowed.

Open Space Buffer Use Zone

No construction is permitted in the Open Space Buffer (buffer belt of minimum 30 meters around the Full Tank Level of existing water bodies), except for fishing, boating, and picnics along the banks provided that only construction allowed is open to sky jetties for boating, platforms for fishing.

14.1.7 Conservation Use Zone

The various uses permitted and prohibited in Conservation Zone are as mentioned in the following table.

Table 14-7: Conservation Zone: Uses Permitted and Uses Prohibited

Uses Permitted	Uses Permissible on application to competent authority	Uses Prohibited
I	II	III
• Agriculture • Agro based cottage industries without use of power • Dwellings and ancillary buildings for the people engaged in the farm (rural settlement) subject to a maximum ground coverage of 1% with minimum land extent of one hectare • Horticulture, floriculture , forestry • Storage and drying of fertilizer • Storage, processing and sale of farm produce • Village settlement expansion	• Sewage disposal works and public utility facilities • Quarrying / mining • Brick tiles and pottery manufacture in temporary buildings only • Public utilities • Transport and communication facilities • Petrol and other fuel filling stations • Poultry and dairy farm • Electric power plant • Milk chilling stations and pasteurization plants • Educational Institution • Libraries	Residential use except those ancillary uses permitted in agricultural use zone subject to 1% ground coverage

14.1.8 Forest Zone

No activity other than forest is permitted in this zone unless expressly allowed by the Forest Department.

14.1.9 Water Body Zone

No activity is permitted in this zone unless expressly allowed by the concerned authority.

14.1.10 Special Reservations Zone

Defence / Military Lands

Defense/Military Lands are lands under occupation of the Defense Services or otherwise earmarked for defense services. These cannot be put to other uses. The areas covered by Defense lands and certain adjoining areas as may be specifically notified, may be subjected to restrictions on constructions or on the use of lands in the interest of safety and security of the defense services or the civil population living in the contiguous areas.

14.1.11 Others (Any Other Special Reservations)

Any other Special Reservations specifically earmarked in Master Plan, is allowed to be used only for the uses specified therein.

14.1.12 Transportation and Communication Use Zone

The various uses permitted and prohibited in Transportation and Communication Zone are as mentioned in the following table.

Table 14-8: Transportation and Communication Zone: Uses Permitted and Uses Prohibited

Uses Permitted	Uses Permissible on application to competent authority	Uses Prohibited
I	II	II
• Accessory and support shopping activity • Helipad • Any other use/activity incidental to transport and communication • Booking offices • Goods terminals • Motor garage • Observatory and weather office • Parking areas/buildings • Radio and television station • Repair and repair shop and facilities such as night shelter • Residential dwelling units for essential staff and watch and ward • Restaurants • Road transport terminals (bus terminals and depots) • Truck terminal • Bus Stop and Terminal	• Petrol Pump • Godowns • Ware housing	Use/activity not specifically permitted herein.

14.2 Bye Laws

The Basic objective of suggesting various norms and standards for enforcement of Master Plan of KDA is to provide basis for taking decisions, by the agencies, which are involved in either enforcement of the Masterplan or involved in the development process

The building bye laws in respect various use zones,

14.2.1 Residential use zone

The residential areas are developed either as:
a) Plotted Development
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 reevison of Katra Master 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. Core area of old city can be considered for courtyard planning with following norms:

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:-

Table 14-9 Minimum plot size permissiable limits

Area (In Sq mt)	Max. Ground Coverage	No. of Storeys	Type of Const	Set Back Limits (Minimum)			
				Front (M)	Rear (M)	Side (M)	Side (M)
25-100	75%	G+1	Row	3	1.0	0	0
101-250	65%	G+1	Row	3	1.2	0	0
251-350	55%	G+2	Semi-detached	4.5	1.2	3	0
351-450	50%	G+2	Semi-detached	4.5	1.5	3	0
451-500	45%	G+2	Detached	7.5	1.5	3	3
501-1000	40%	G+3	Detached	7.5	3	3	3
1001-1400	35%	G+4	Detached	12	3	3.5	3.5
Above 1400	30%	G+5	Detached	12	4.5	4.5	4.5

Regulations for Private/ Public Developers

i) Group Housing/ Flatted Development:

Minimum plot size	0.40 ha (4000 Sqm)
Max. Ground Coverage	35%
Max. FAR	200%
Maximum Height	30 mts.

Min. Set backs to be determined @ one- third of the height of each building or 25'-0" what ever more.

Note:

- *Basement, if constructed and used for parking, services and for essential storage shall not be counted in FAR.*
- *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 with minimum setback of 10' from plotline.*
- *In-house back-up facilities to be provided for buildings beyond four storeys.*
- *Minimum 1 ECS per dwelling unit shall be provided for MIG and HIG Housing.*
- *Stilts, stairs and lift ducts shall not be counted in FAR.*

Housing Colonies:

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.

Min. Width of road

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".

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".

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.

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:-

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

Land to be allotted for open spaces, schools, public building, utilities and convenient shopping for a housing colony of 20 plots and above shall not be less than 20% 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.

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%.

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.

14.2.2 Commercial

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.

Single Shops:

Plot Area less than 100 Sqmts

Max. Ground Coverage	80%
No. of Storeys	G+1
Max. Height	9 mts
Max. FAR	120%

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

Reatil Cluster:

Plot Area	100 Sqmt- 500 Sqmts
Max. Ground Coverage	60%
Max. FAR	160%

Maximum Height	12 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.

Shopping Cluster:

Plot Area	500 Sqmts to 2000 sqmts
Max. Ground Coverage	45%
Max. FAR	200%
Max. Height	15 mts.

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

Commercial Complex:

Plot Area	2000 Sqmts to 4000 sqmts
Max. Ground Coverage	40%
Max. FAR	250%
Max. Height	18 mts.

Set Backs: Front setback shall be governed by the building line or 20 ft from the plot line whichever is more. Rear set back should be min. 1/3rd of the height of the building and sides set back should be min.15'-0" on each side.

Plot Area	More than 4000 Sqm
Max. Ground Coverage	35%
Max. FAR	250%
Max. Height	24 mts.

Set Backs: Front setback to be governed by the building line or 40 ft from the plot line whichever is more. Rear and sides set back should be min. 1/3rd of the height of the building.

Note:

Shopping permissible on ground and 1st floor only.

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

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 or 15' whatever more.

Hotels:

Plot Area	1000-2000 Sqmts
Max. Ground Coverage	40%
Max. FAR	200%
Max. Height	12 mts.

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.

Plot Area	2000 Sqmts and above
Max. Ground Coverage	30%
Max. FAR	250%
Max. Height	24 mts.

Set Backs: Front setback to be governed by the building line or 30 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.

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	25 mts.

Side set backs: Front setback to be governed by the building line of the road or 30' from the plot line whatever more. Rear and side set backs shall be minimum 1/3rd of the height of the structure or 20' whichever is more.

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:

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

Janjghar / Community Center/ Banquet Hall:

Minimum Plot Area	1.5 acres (12 Kanals)
Max. Ground Coverage	30%
Max. FAR	60%
Max. Height	15 mts

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 or 10' whatever more

Ware Housing, Storage Vegetables & Fruit Mandis:

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

Petrol Pumps:

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

Minimum distance from the road intersections.

- 50 mts. on roads having R/W upto 30 mts
- 100 mts. on roads having R/W more than 30 mts

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.

Plot Size (Minimum);

- Only filing station 30 mts. X 17 mts.
- Filling cum service Station minimum size 36 mts x 30 mts.
- Frontage of the plot should not be less than 30 mts.
- Longer side of the plot should be the frontage.
- New petrol pump shall not be located on any road having R/W less than 15 mts.

b) Other Controls:

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

Ground Coverage	20 %
FAR	20%
Max. Height	6 mts

Canopy Equivalent to permissible ground coverage within setback line.
Front Setback 6 mts (min) or B/L whichever is more

Filling Station (Size 30 mt x 17 mts)

Ground Coverage	10 %
FAR	10%
Max. Height	6 mts
Canopy	Equivalent to permissible ground coverage within setback line
Front Setback	3 mts (min) or B/L whichever is more

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	

Other Regulations:-

- Shall be accepted to Explosive /Fire Deptt.

- Ground Coverage will exclude canopy area
- Mezzanine if provided will be counted in FAR
- 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.

PUBLIC AND SEMI PUBLIC/ INSTITUTIONAL USE:

Government Offices:

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

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 or 10' whichever more.

Note:

- *The integrated office complex shall include Central Govt. Offices, local Govt. offices, public sector undertaking offices, courts and other Govt. offices, institutions.*
- *Basement 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. Set Back of min. 10' should be maintained in basement from all sides.*

Educational:

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 10'.

Primary School:

Minimum Plot Area	2000 Sqmts
Maximum Ground Coverage	25%
Maximum FAR	75%
Maximum height	15 mts

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 or 10' whichever more.

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

Middle School:

Minimum Plot Area	4000 Sqmts
Maximum Ground Coverage	25%
Maximum FAR	100%
Maximum Height	15 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 or 10' whichever more.

High/ Higher Secondary School:

Minimum Plot Area	7500 Sqm.
Maximum Ground Coverage	25% (including Hostel/ Residential accommodation for staff)
Maximum FAR	100%
Maximum Height	18 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 or 10' whichever more.

College:

Minimum Plot Area	30000 Sqm
Maximum Ground Coverage	25% (including Hostel/ Residential accommodation for staff)
Maximum FAR	100%
Maximum Height	18 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 or 10' whichever more.

Note:

- *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.*
- *Minimum road width in front should not be less than 12 mts.*
- *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.*

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

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

Residential (25% of the total land area):

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

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

Maximum Ground Coverage	10%
Maximum FAR	15%

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.

Health:

Hospital:

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

Note:

- *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.*
- *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.*
- *Front set back shall be governed by the building line of the road or 30' from the plot line whichever is more.*
- *Minimum rear and side set backs should be 1/3rd of the height of the building or 15' whichever more.*

Health Center/ Nursing Home:

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

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

General (Public & Semi Public Premises)

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

Religious Premises:

Plot Area	500 Sqm
Maximum Ground Coverage	25%
Maximum FAR	60%
Maximum height (Excluding minars, shikahrs and Domes)	11 mts

Police Post:

Plot Area	500 Sqm
Maximum Ground Coverage	25%
Maximum FAR	70%
Maximum height	12 mts

Police Station/ Fire Station

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

Post & Telegraph Office

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

Non- Residential Premises:

Hostel

Plot Area	500 Sqm
Maximum Ground Coverage	25%

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

Note:

- *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".*
- *Min. road width should not be less than 12 mts.*
- *Basement to the max. extent of 50% of plot area shall be allowed & if used for parking & services, should not be counted in FAR.*
- *Parking @ 1.0 ECS for every 100 Sqm. shall be provided within own premises*

Guest House, Boarding House and Lodging House

Minimum Plot Size	500 Sqm.
Maximum ground Coverage	33.33%
Maximum FAR	100%
Maximum Height	15 m

Note:

- *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" .*
- *Max. no of rooms shall be 12 (double bed room).*
- *Parking @ 1.0 ECS for every 100 Sqm. shall be provided within own premises*

INDUSTRIAL USE:

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.
Light and Service Industry:

Plot Size (Sqm)	Max. Ground Coverage	Max. FAR in		Max. height in	
		Plains	Hills	Plains	Hills
100 to 400	60%	125%	100%	12 m.	9 m
400 to 4000	50%	125%	100%	12 m.	12 m
4000 to 12000	45%	125%	100%	12 m.	12 m
Above 12000	40%	100%	75%	12 m.	9 m

Other Controls:

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.

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

Extensive Industry (Medium & Large Industry):

Plot Size (Sqm)	Max. Ground Coverage	Max. FAR in		Max. height (m)
		Plains	Hills	
400 to 4000	50%	100%	75%	9
4000 to 12000	45%	90%	60%	9
12000 to 28000	40%	80%	50%	9
28000 & Above	30%	60%	45%	9

Note:

- *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.*
- *In case of truss, height of building should be adjusted/ relaxed..*
- *Height relaxation can be considered by the competent authority for specialized industries requiring more height.*

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.

Table 14-10 Parking Standards

S.No	Use/ Use Permitted	Equivalent Car Spaces (ECS) per 100 Sqm of floor area
1.	**Residential** Group Housing	1.5 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..
2.	**Commercial :** i) Wholesale, retail, shopping, office & Hotels ii) Cinemas iii) Community/ Banquet Hall/ Janjghar	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. 1 ECS for 10 seats 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
3.	**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
4.	**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.

15 INSTITUTIONAL FRAMEWORK AND IMPLEMENTATION STRATEGIES

Chapter Contents

- *Institutional Framework*
- *Phasing Development*

This chapter presents the present institutional mechanism and its working. The existing implementation set-up in terms of local authorities involved, existing set-up of granting building permission & the mode of development control have been discussed. It also discusses the proposed institutional framework required for implementation of the Master Plan. The phasing of development require in the KDA area is also discussed.

15.1 Institutional Framework

15.1.1 Relevance of Institutional Framework

In order to have plans and policies formulated and implemented there needs to be an appropriate institutional structure, not only at state level but at local level and vertical coordination among different departments. This would very much depend with the authorities and responsibility given by the state government.

15.1.2 Need for an Umbrella Authority

The Master plan envisages the development of state of art physical and social infrastructure to facilitate the growing amount of pilgrims and urban growth thus providing a good quality of life to the resident population of the urban and rural area. The Katra master plan area comprises of one town and 29 villages. In Katra town, Municipal Committee Katra (MCK) manages all the civic activities and in villages all the individual Garm Panchayats handles the responsibility of civic management. But for the holistic development of the overall notified region there should be only one development authority.

The implementation of the Master Plan consists mainly of:

- Acquisition of the lands required for various public users including roads,
- Construction and development of the sites so acquired for the public purposes including construction of the roads,
- The development control on the entire developmental activities through Development Control Regulations framed under the Master Plan.

Hence, a development authority is needed for the development of the region for the balanced growth of Physical and Social Infrastructure and controlled development regulations.

15.1.3 Development Authority and Its Objects

As per Jammu and Kashmir Development Act, 1970 Act no. XIX of 1970, the Authority shall be a body corporate by the name of the Local Area having perpetual succession and a common seal with power to acquire, hold and dispose of property, both movable and immovable, and to contract and shall in the said name use and be used.[29]

The Objects of the Authority:

- to acquire, hold, manage and dispose of land and other property,
- to carry out building, engineering and other operations, to execute works in connection with supply of water and electricity, disposal of sewerage and other services and amenities
- development control on the entire developmental activities through Development Control Regulations

[29] Jammu and Kashmir Development Act, 1970 Act No. XIX 1970

15.1.4 Existing Institutional Setup

Katra Development Authority (KDA)

The Government of J&K has notified the town under the provisions of J&K State Municipal Act in 1971 to enable the local authority to carry out civic functions. Considering the future growth potential of the town, Katra Development Authority *(KDA)* was formed in 2002 under the Housing and Urban Development Department with the enactment of Jammu & Kashmir Development Act, 1970. As per notification, KDA area includes six villages surrounding the town having total approximate area of 20.88 sq.km and Katra town area 5.35 sq.km. As per the proposed Katra Master Plan, the total area of new KDA is 78.38 sq.km.

Katra Development authority (KDA) is working for creating better facilities in the town both for visiting pilgrims and for residents of the town. As the area of development increases the responsibilities of the authority also increases.

Organizational setup KDA

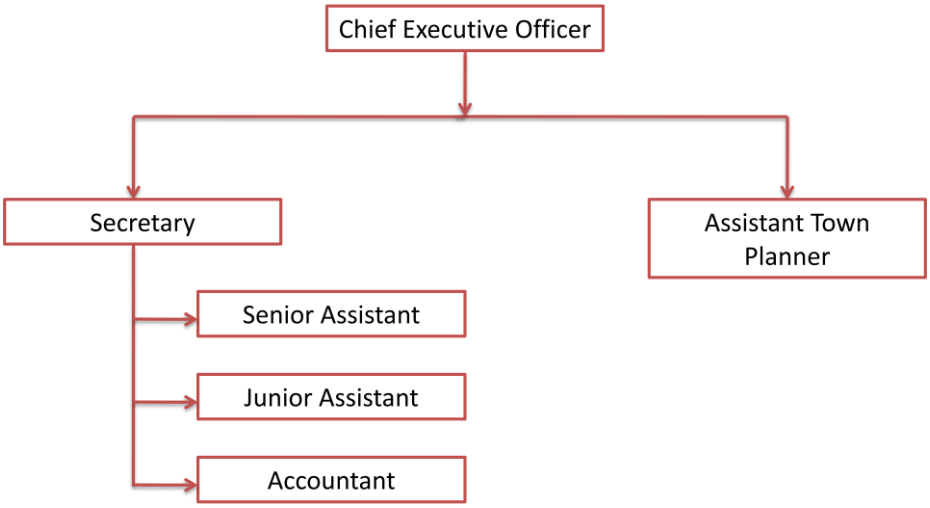
Government order No.291 HUD of 2010 dated 16-12-2010, following posts have been created in the Katra Development Authority as detailed below:

Table 15-1: Existing Setup of Katra Development Authority (KDA)

Sr. No	Name of the Post	No. of Posts	Present status
1.	Chief Executive Officer	01	Working
2.	Secretary	01	**Vacant**
3.	Assistant Town Planner	01	**Vacant**
4.	Accountant	01	Working
5.	Senior Assistant	01	**Vacant**
6.	Junior Assistant	01	**Vacant**

In the existing KDA authority Chief Executive Officer is the main authority in the organization. Under Chief Executive Officer there are two posts of Secretary and Assistant Town Planner. Under Secretary there are three assistants at the post of Senior Assistant, Junior Assistant and Accountant. Assistant Town Planner is the person who looks after the Planning and Development of the region.

Figure 15-1: Existing Organization Structure



15.1.5 Proposed Institutional Setup

Presently, KDA is the Development Authority responsible for all the civic activities in the notified area. But there are no sub-divisions or sub-department in the organization. Therefore, there should be mainly three sub-departments/agencies who are responsible for the overall implementation of the functions of the Notified Area. These sub-departments can be as follows:

1. Acquisition and Disposal of Land and Other Property
2. Granting Building Permission and Exercise the Development Control
3. Infrastructure Services and Amenities Provision

The above sub-departments are described in brief as follows:

Acquisition and Disposal of Land and Other Property

In this section, the Authority can acquire any land for the purpose of development of the area as per proposed Master Plan. If in the opinion of the Government, any land is required for the purpose of development, or for any other purpose under this Act, the Government may acquire such land under the provisions of the Land Acquisition Act, Samvat 1990.[30]

Granting Building Permission and Exercise the Development Control

The department for the Notified Area has powers to grant the development permission and also guide the District Collectorate for the balanced development of the area. The District Collectorate is responsible to provide the NA permission prevailing in the Notified Area.

KDA would collectively take care of the development control by guiding the rest of the sub-department / authorities' whenever necessary, and also it is proposed to Delegation of Powers to Collector in lines with the Sanctioned Master Plan.

In the case of unauthorized construction in the Notified Area, KDA has due power to exercise along with the respective Local Authorities.

[30]Jammu and Kashmir Development Act, 1970 Act No. XIX 1970

The Z.P. should be responsible for the implementation of the Master Plan and the Chief Town Planner will exercise the development control. KDA will assist the Collector and Zilla Parishad / Garm Panchayats whenever necessary.

At present KDA is not sufficiently equipped to engage in a meaningful way for the proposed development. It is necessary that a thorough relook at the staff structure of KDA is taken up. This would mean to start by filling in the required manpower of senior level at KDA.

Infrastructure Services and Amenities Provision

Infrastructure is the basic requirement of urban life and its adequacy and accessibility are two important ingredients and key contributors in the upgradation and enrichment of quality of life. Hence, the provision of these basic amenities is the responsibility of the sub-department. The infrastructure services includes execution works in connection with supply of water and electricity, disposal of sewerage, development of new road network and improvement and other services and amenities and generally to do anything necessary or expedient for purposes of such development.

15.2 Phasing of Development

With chaninging socio-economic and environmental dynamics of the KDA area as well as acquisition of the land would difficult for development authority it is proposed that KDA takes up the phased development through land pooling mechanism. The phasing programme for implementing the Master Plan has been developed considering the locations, present development pattern, direction of growth, availability of public lands, priority, nature and scale of facilities and the overall vision envisaged for the effective development of the Notified Area (Refer Map No. 15-1). The programme proposes the plan implementation in 3 phases. The phases are:

Phase I - Immediate

Phase II - Short Term

Phase III – Long Term

The same are further explained in detail:

15.2.1 Phase 1 - Immediate

Giving consideration to available existing infrastructure i.e. major thoroughfare wide road, and other basic physical and social infrastructure, and the direction and pace of urban sprawl, the areas along the existing major roadsof Katra town and along the road connecting NH-1A to Jammu are to be developed earliest.

Up gradation of existing Katra town area and old KDA area are proposed to be developed in the first phase of the Master Plan development. Other than these, the area of proposed Railway station area and its surrounding area shall also be developed in Phase 1.

The proposed major roads of 30 m wide are proposed to be developing first and the one connecting to the NH-1A shall be strengthened. Significant portion of the proposed 30 M wide central spine shall also be developed.

Following table presents the areas for several components that will be developed and served in Phase 1.

Table 15-2: Phase 1 - Implementation of Master Plan

Proposed Land Use Distribution	Proposed Area	
	Area (Ha)	Area (sq.km)
Roads	143.34	1.43
Transportion	13.99	0.14
Amenities	152.95	1.53
Open Space and Recreation	147.56	1.48
Residential	220.15	2.20
Commercial	286.36	2.86
Industrial	0.06	0.00

15.2.2 Phase 2 – Short Term

In second phase, the central spine of KDA area is proposed to be develope fully. The area around the Shree Mata Vaishno Devi University is proposed to develop in second phase.

The commercial activities around central recreational area proposed on central spine is the first major land use to be developed. The area around Shree Mata Vaishno Devi University is proposed to be institutional area. A major transportation node having activities like bus stand, area for helipad is also proposed to be develope in this second phase. It is suggested implementing most of the infrastructure and amenities in phase 2.

The central spine would be the major road having maximum traffic during peak hours. Therefore, many amenities and hotel/restaurant activities are developed here. The part of the 30 M wide central spine developed in Phase 1 shall now be widened to full 30 m ROW, while the remaining part of this central spine shall be developed with the same width.

Following table presents the areas for several components that will be developed and served in Phase 2.

Table 15-3: Phase 2 - Implementation of Master Plan

Proposed Land Use Distribution	Proposed Area	
	Area (Ha)	Area (sq.km)
Roads	67.21	0.67
Transportion	8.84	0.09
Amenities	207.92	2.08
Open Space and Recreation	46.24	0.46
Residential	225.13	2.25
Commercial	108.41	1.08
Industrial	0.00	0.00

15.2.3 Phase 3 – Long Term

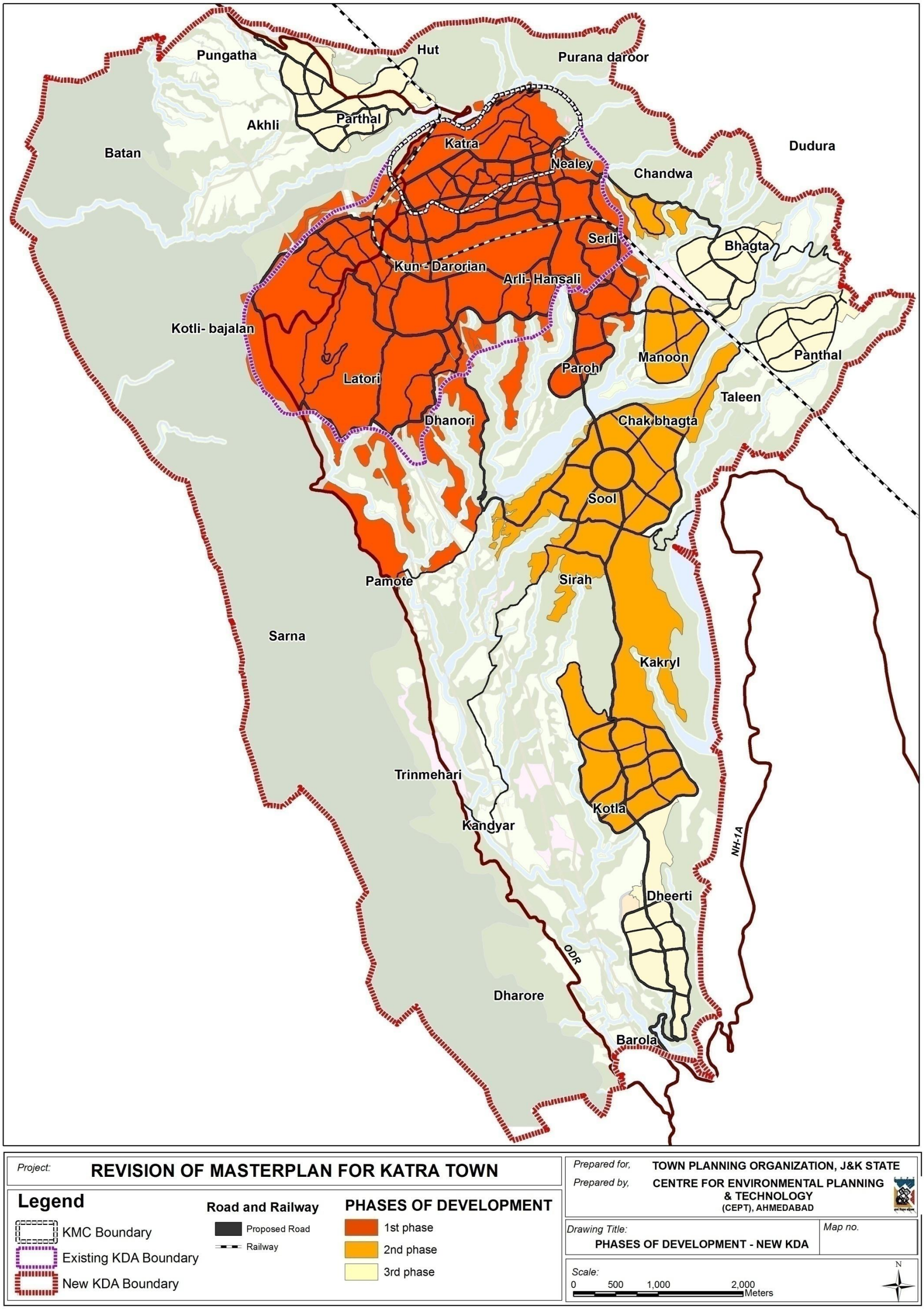
Phase 3 is developed mainly to cater the future residential development and other infrastructure facilities and amenities. This phase would be provided with the remaining lower hierarchy roads and amenities.

Following table presents the areas for several components that will be developed and served in Phase 3.

Table 15-4: Phase 3 - Implementation of Master Plan

Proposed Land Use Distribution	Proposed Area	
	Area (Ha)	Area (sq.km)
Roads	53.66	0.54
Transportion	0.00	0.00
Amenities	29.55	0.30
Open Space and Recreation	22.92	0.23
Residential	117.71	1.18
Commercial	43.33	0.43
Industrial	18.92	0.19
	286.09	2.86

Map 15-1: Proposed Phasing of Development in New KDA Boundary



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- *UDPFI guidelines*
- *Information provided by Katra Municipal Committee, Katra*
- *Information provided by Jammu & Kashmir Tourism Development Corporation, Government of J&K*
- *Information provided by PHED, Katra*
- *Information provided by Chief Education Officer, Reasi District*
- *Information provided by the Block Medical Officer, Katra*
- *Information provided by Shri Mata Vaishno Devi Shrine Board*
- *Information collected from Primary Survey*

ANNEXURE

Annexure – I: Demographic Details

DEMOGRAPHIC DETAILS																				
Code	Details	Total households	Total Population	Male	Female	SC Total population	ST Total population	Total Literates	Total Workers	Total main workers	Main Workers				Total marginal workers	Marginal Workers				Total non-workers
											Cultivators	Agriculture labourers	Household workers	Others		Cultivators	Agriculture labourers	Household workers	Others	
10	Udhampur District	122462	743509	399686	343823	142061	109867	343429	366430	245387	134959	2836	2011	105581	121043	92917	3954	1194	22978	377079
0002	Reasi Tehsil	20649	120380	64148	56232	24440	17502	60876	47549	33827	16764	648	284	16131	13722	9770	1277	159	2516	72831
0003	Udhampur Tehsil	43242	252467	141152	111315	48173	18806	147019	114808	85463	26520	614	697	57632	29345	22736	734	166	5709	137659
0002-41003000	Katra - NAC	1432	8083	4566	3517	1518	12	5689	2847	2723	15	4	5	2699	124	3	9	2	110	5236
Old KDA Villages																				
0002-00397900	Purana Droorh	117	636	328	308	99	0	362	288	158	1	3	0	154	130	107	6	0	17	348
0002-00399900	Kotli Bajialan	282	1610	833	777	372	150	933	758	460	121	42	13	284	298	184	90	7	17	852
0002-00400000	Kun Daroorian	481	2867	1551	1316	1082	16	1678	823	755	129	72	10	544	68	8	6	2	52	2044
0002-00400100	Arli Hansali	108	629	333	296	48	0	363	213	213	70	6	3	134	0	0	0	0	0	416
0003-00410300	Serli	73	438	227	211	36	0	227	167	78	32	1	0	45	89	66	1	1	21	271
0003-00410000	Nelay	90	395	248	147	143	18	242	171	166	6	1	3	156	5	1	1	0	3	224

Annexure – II: Pilgrim Tourists Flow to Katra

Year	Total no. of pilgrims visiting Katra annually (lac)	CAGR (%)
1980	12.12	-
1985	14.85	0.04
1986	13.86	-0.07
1987	18.58	0.34
1988	19.93	0.07
1989	23.12	0.16
1990	21.87	-0.05
1991	31.15	0.42
1992	35.16	0.13
1993	33.68	-0.04
1994	37.05	0.10
1995	40.11	0.08
1996	43.35	0.08
1997	44.34	0.02
1998	46.22	0.04
1999	46.7	0.01
2000	52.17	0.12
2001	50.56	-0.03
2002	44.32	-0.12
2003	54	0.22
2004	60	0.11
2005	62.34	0.04
2006	69.5	0.11
2007	74.17	0.07
2008	67.92	-0.08
2009	91.35	0.34
2010	87.49	-0.04
AVERAGE		**0.08**

Source: Tourism Development Corporation, Government of J&K

Annexure – III: Migrated Population Projections in Rural Area

Sr. No.	Year / Villages	2011 Residential Pop	2011 Floating Pop	2011 Total Pop. 2011	2021 Residential Pop	2021 Floating Pop	2021 Total Pop. 2021	2031 Residential Pop	2031 Floating Pop	2031 Total Pop. 2031	2035 Residential Pop	2035 Floating Pop	2035 Total Pop. 2035
1st Division													
1	Kun Darorian	3641	546	4187	4,625	694	5,319	5874	881	6,755	6464	970	7,434
2	Kotli Bajalan	2045	307	2352	2,597	390	2,987	3299	495	3,794	3630	545	4,175
3	Purana Darooh	808	121	929	1,026	154	1,180	1303	195	1,498	1434	215	1,649
4	Arli Hansali	799	120	919	1,015	152	1,167	1289	193	1,482	1418	213	1,631
5	Serli	556	83	639	707	106	813	897	135	1,032	988	148	1,136
6	Nelay	502	75	577	637	96	733	809	121	930	891	134	1,025
TOTAL: Division 1		8351	1253	9604	10607	1591	12,198	13472	2021	15,493	14824	2224	17,048
2nd Division													
7	Dhirti	1282	192	1474	1628	244	1872	2067	310	2377	2275	341	2616
8	Bhagta	1271	191	1462	1615	242	1857	2051	308	2359	2257	339	2596
9	Sira Kotla	1236	185	1421	1570	235	1805	1994	299	2293	2194	329	2523
10	Sule	909	136	1045	1155	173	1328	1467	220	1687	1614	242	1856
11	Kakrial	753	113	866	957	143	1100	1215	182	1397	1337	201	1538
12	Prooh	733	110	843	931	140	1071	1182	177	1359	1301	195	1496
13	Dhanori	644	97	741	818	123	941	1039	156	1195	1143	171	1314
14	Manun	545	82	627	692	104	796	879	132	1011	967	145	1112
15	Chak Bhagta	486	73	559	618	93	711	785	118	903	864	130	994
16	Latoori	366	55	421	465	70	535	590	89	679	649	97	746
TOTAL: Division 2		8225	1234	9459	10447	1567	12014	13269	1990	15259	14601	2190	16791
3rd Division													
17	Kandiyar	1237	186	1423	1571	236	1807	1996	299	2295	2196	329	2525
18	Dudura	981	147	1128	1245	187	1432	1582	237	1819	1741	261	2002

Sr. No.	Year / Villages	2011 Residential Pop	2011 Floating Pop	2011 Total Pop. 2011	2021 Residential Pop	2021 Floating Pop	2021 Total Pop. 2021	2031 Residential Pop	2031 Floating Pop	2031 Total Pop. 2031	2035 Residential Pop	2035 Floating Pop	2035 Total Pop. 2035
19	Dhror	975	146	1121	1239	186	1425	1574	236	1810	1732	260	1992
20	Batan	784	118	902	995	149	1144	1264	190	1454	1391	209	1600
21	Treen Meari	748	112	860	950	143	1093	1207	181	1388	1328	199	1527
22	Sarna	638	96	734	810	121	931	1029	154	1183	1132	170	1302
23	Hut	414	62	476	526	79	605	668	100	768	735	110	845
24	Akhli	391	59	450	497	75	572	631	95	726	694	104	798
25	Talen	177	26	203	224	34	258	285	43	328	313	47	360
26	Pandhal	264	40	304	336	50	386	426	64	490	469	70	539
27	Pharthal	1718	258	1976	2183	327	2510	2772	416	3188	3051	458	3509
28	Pamote	1310	196	1506	1663	249	1912	2113	317	2430	2325	349	2674
29	Chandwa	1105	166	1271	1404	211	1615	1783	267	2050	1962	294	2256
TOTAL: Division 3		10741	1611	12352	13643	2046	15689	17328	2599	19927	19068	2860	21928