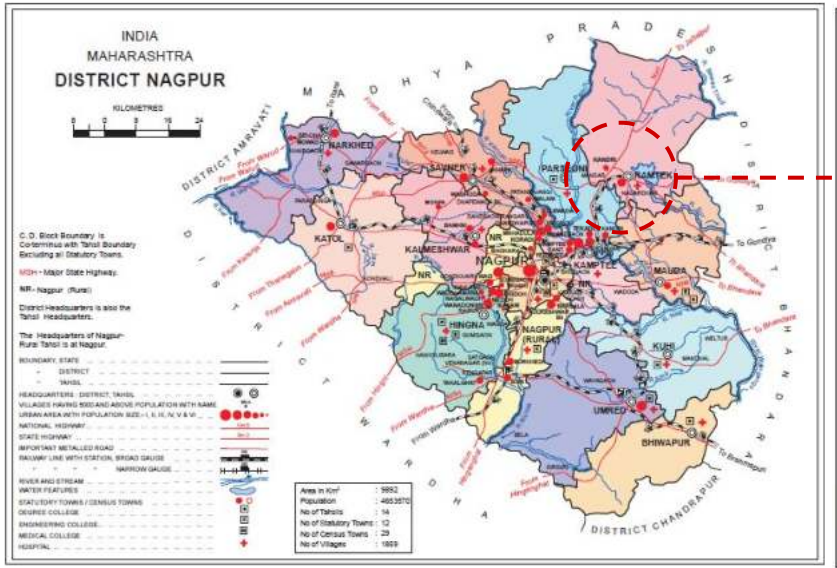
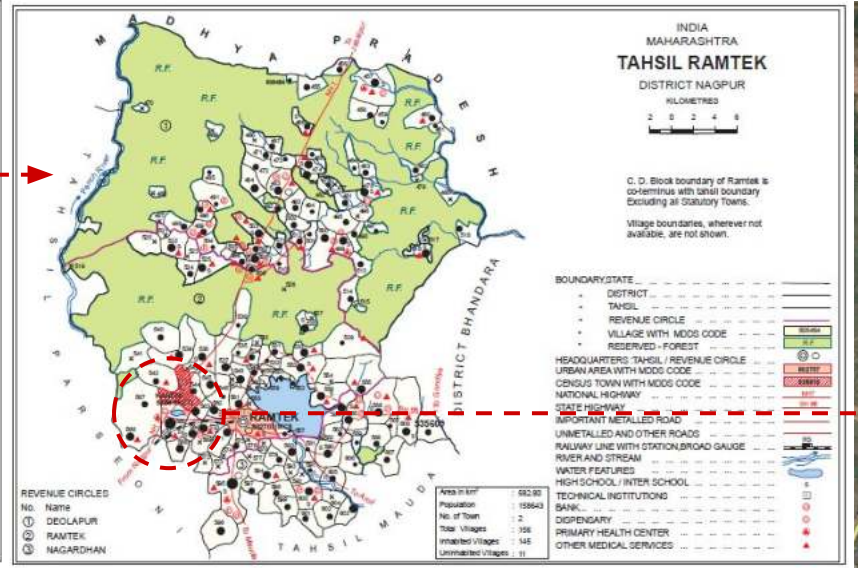
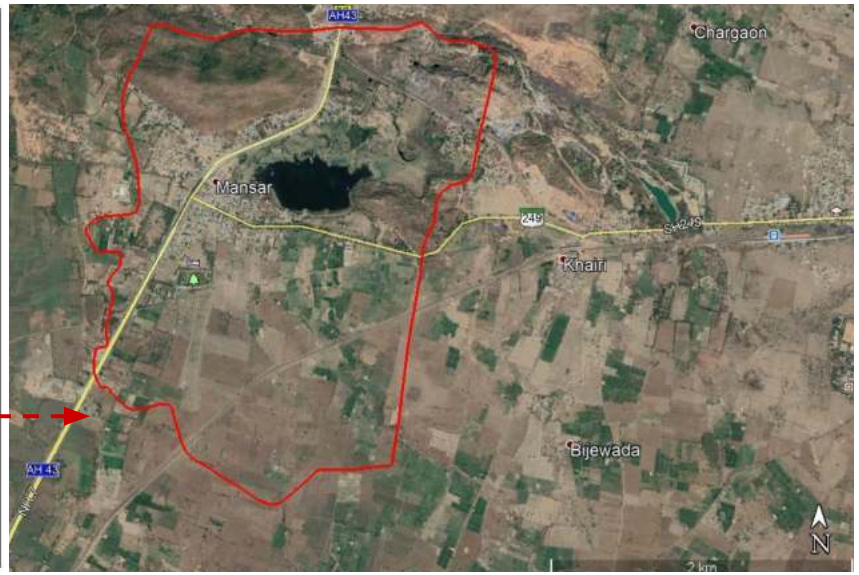
Presentation

MANSAR







Visvesvaraya National Institute of Technology, Nagpur

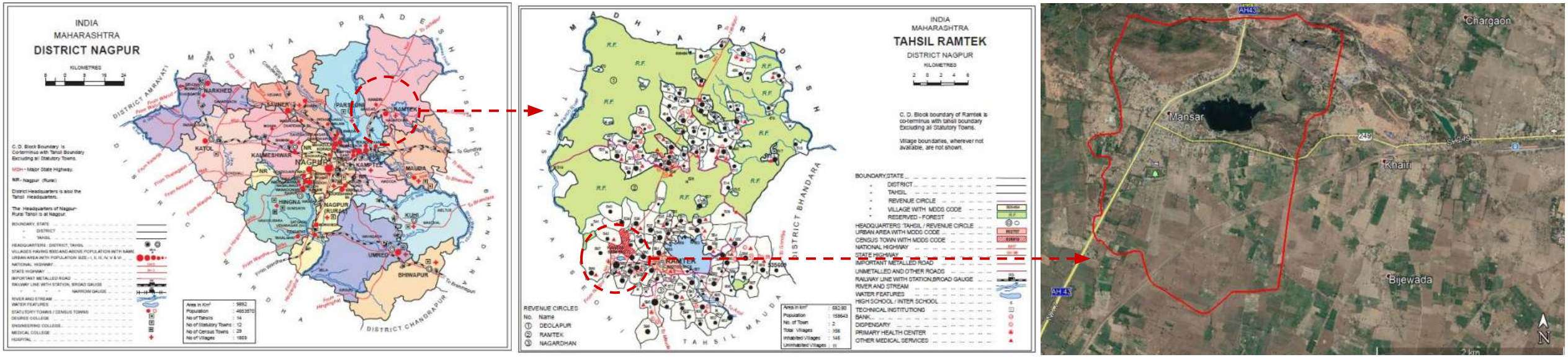
Department of Architecture & Planning

Contents

Regional Characteristics

Regional Setting & Administrative boundary

Mansar is a **village in Ramtek** tehsil of Nagpur district in the Indian state of Maharashtra.



Location and Boundary of Mansar Census Town

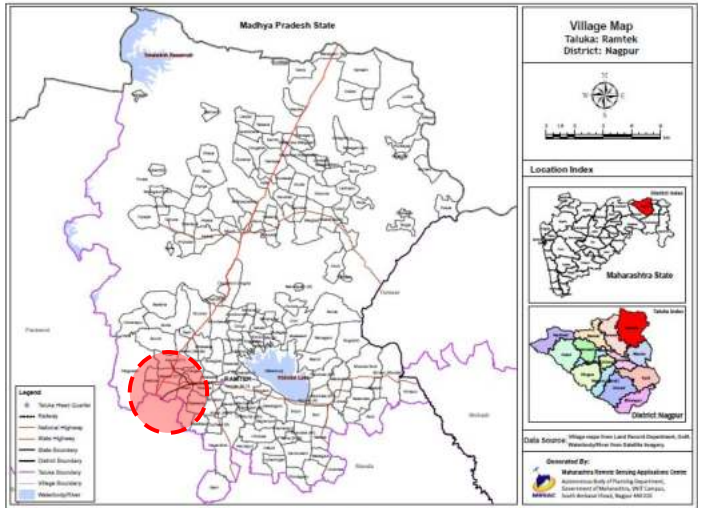
Mansar has **population of 7139** is Ramtek sub district's the **2nd most populous village**, located in Ramtek sub district of Nagpur district in the state Maharashtra in India.

Total geographical area of Mansar village is **7 km2/ 712ha** and it is the 20th biggest village by area in the sub district. **Population density** of the village is **1019 persons per km2.**

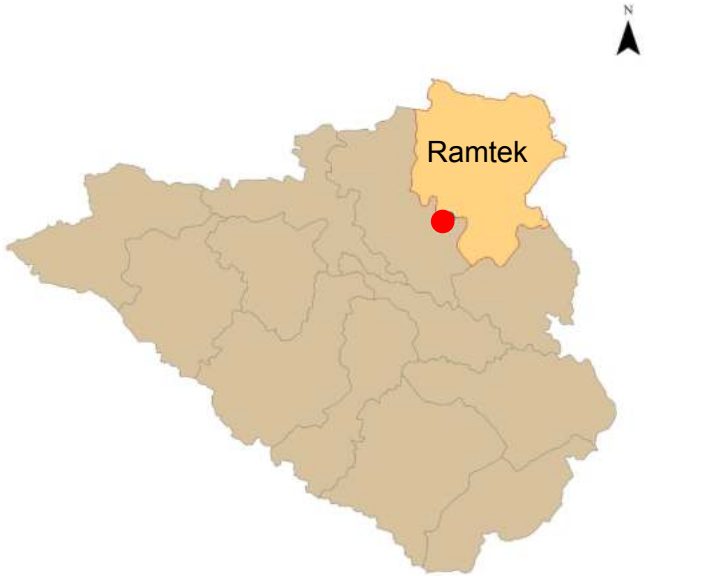
Regional Characteristics

Regional Setting & Administrative boundary

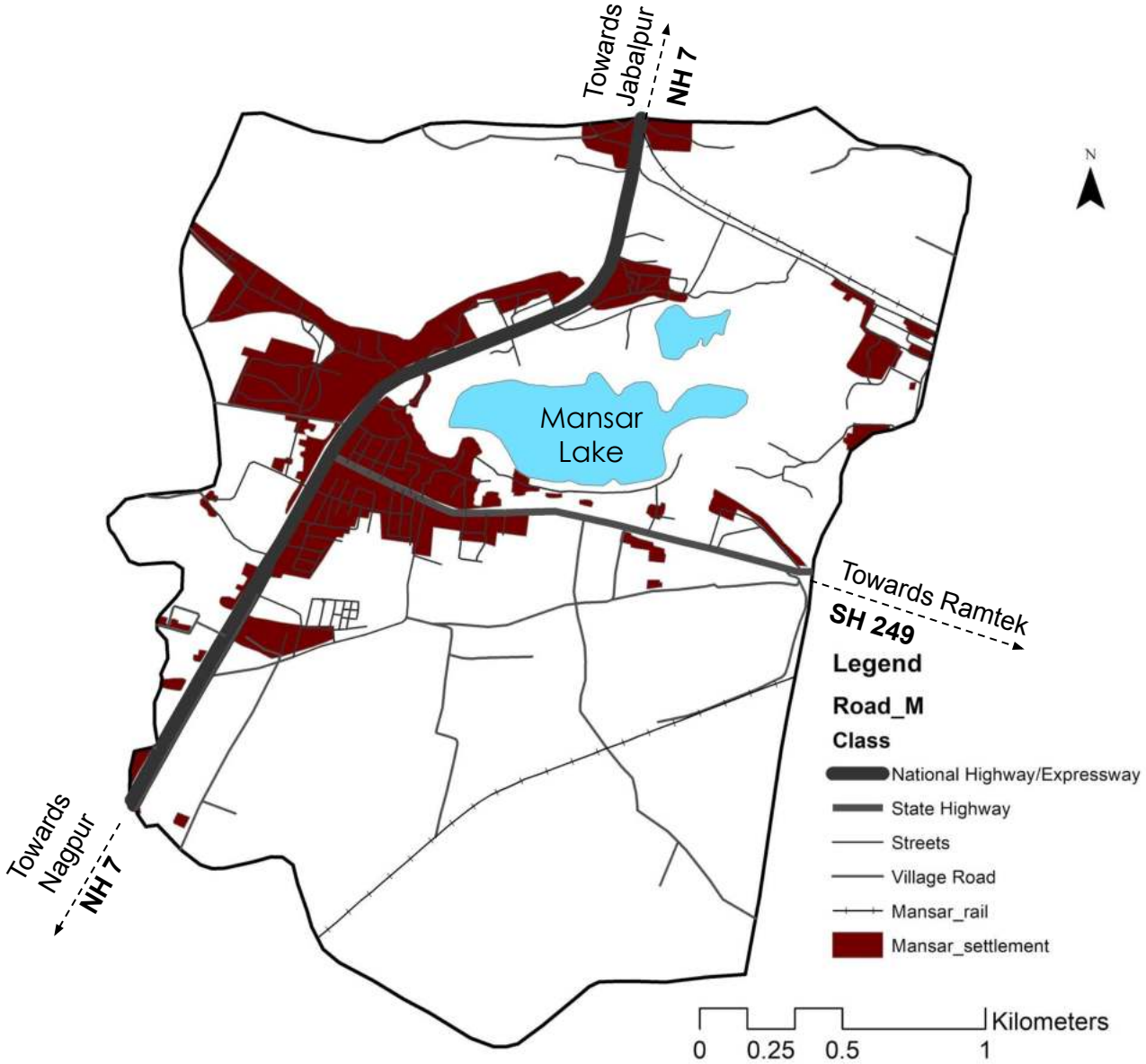
Source: RRSC-central,NRSC, ISRO, Nagpur and MRSAC



Ramtek Tehsil of Nagpur district showing Mansar village.



Map showing location of Mansar in Ramtek Block of Nagpur District.



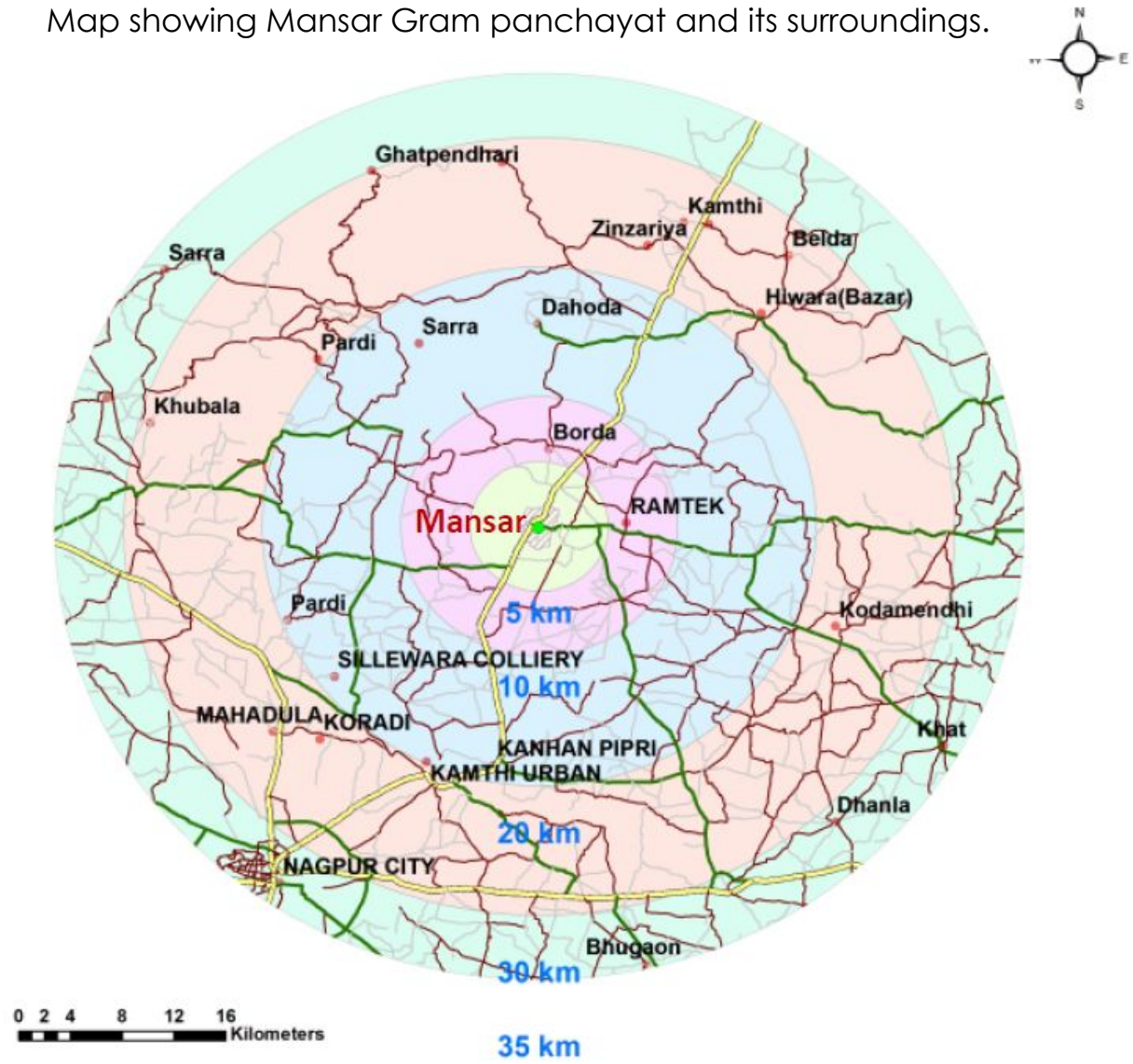
Basemap of Mansar

Regional Characteristics

Surrounding Context

Source: RRSC-central,NRSC, ISRO, Nagpur

Map showing Mansar Gram panchayat and its surroundings.



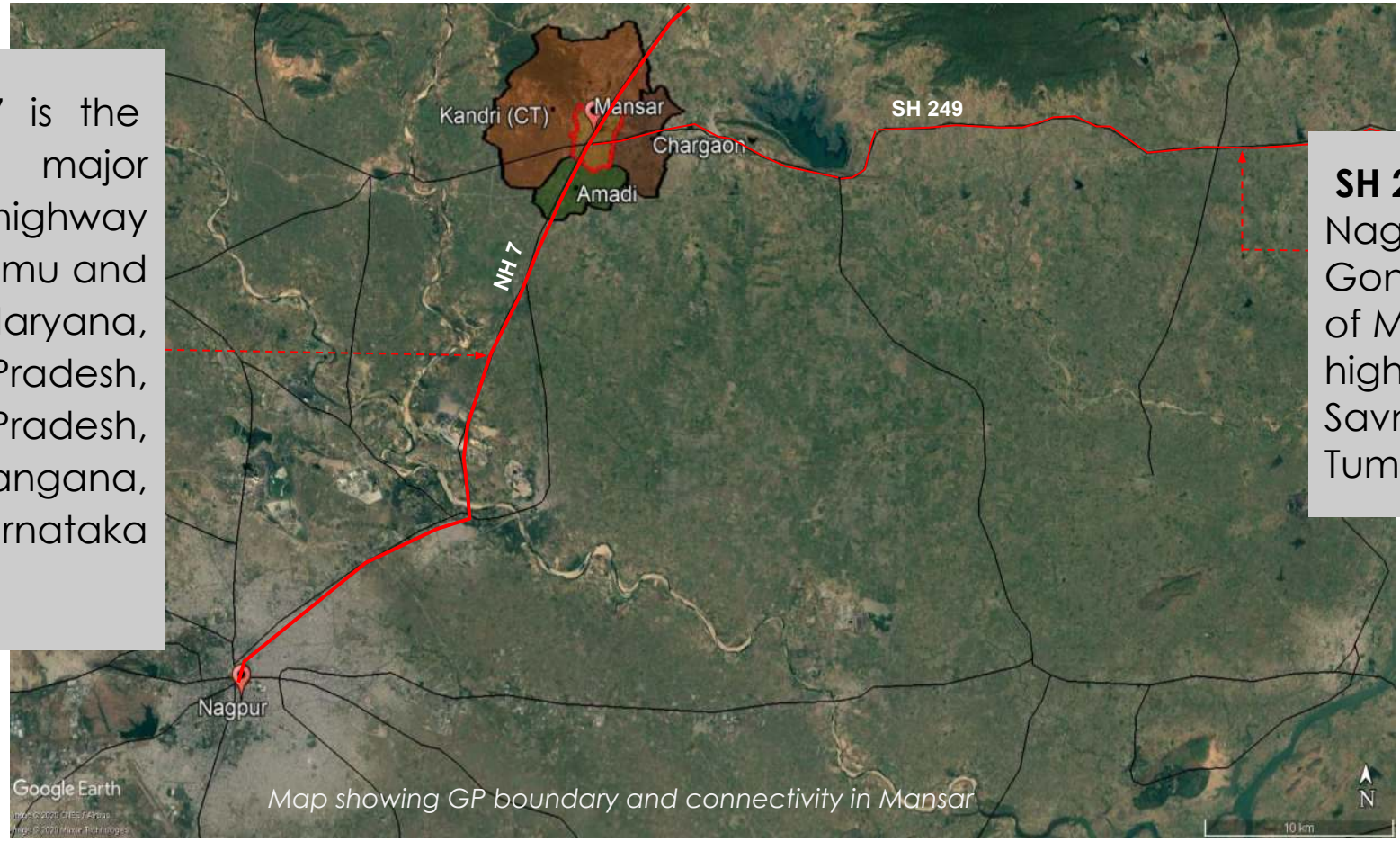
This town is located **5 km west of Ramtek** and **30 km northeast of Nagpur city**.

Regional Characteristics

Connectivity

The village is well connected with nearby towns & cities by roadways. As the google image shows, the internal roads are not planned & developed spontaneously over the period. The nearest railway stations are at Nagpur (46 Kms).

National Highway 7 is the longest and major North-South running highway which connects Jammu and Kashmir, Punjab, Haryana, Delhi, Uttar Pradesh, Rajasthan, Madhya Pradesh, Maharashtra, Telangana, Andhra Pradesh, Karnataka and Tamil Nadu.



Map showing GP boundary and connectivity in Mansar

SH 249 is a state highway in Nagpur, Bhandara, and Gondia Districts in the state of Maharashtra. This state highway touches Katol, Savner, Parseoni, Ramtek, Tumsar, and Gondia.

Source: Google Earth

The adjacent Villages are Amadi (3.4 km), Chargaon(11km), and Kandri CT (7.8 km)

Regional Characteristics

Existing Features

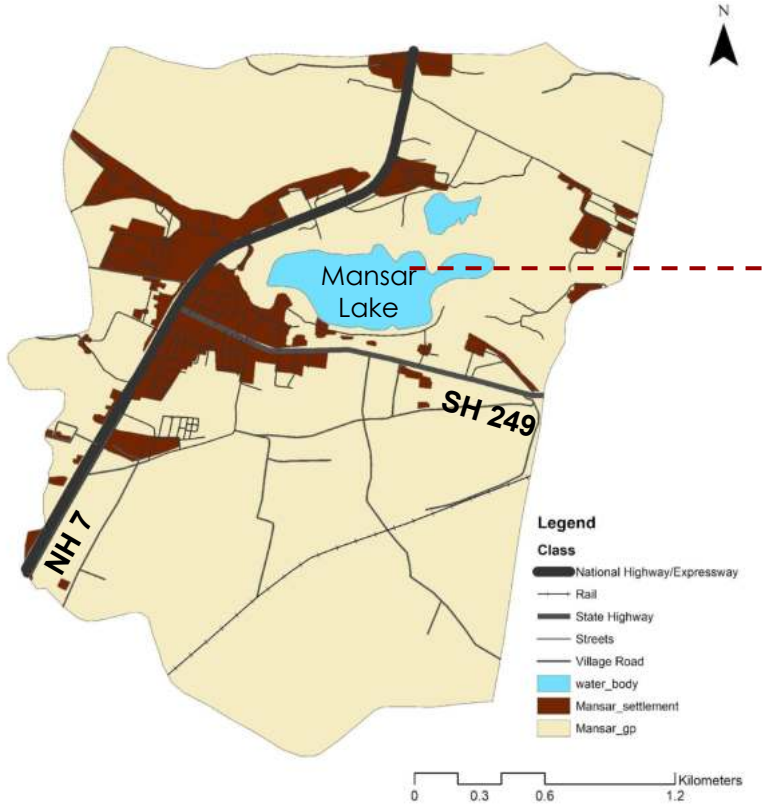
- **In 1972**, **an image of a deity**, later identified as Shiva Vamana was found from a **hillock in Mansar**, locally known as **Hidimba Tekri**.
- **Important excavations were carried out at the ancient sites of Mansar since 1997-98**, under the aegis of the **Bodhisatva Nagarjun** Smarak Samstha Va Anusandhan Kendra, Nagpur and under the directions of Jagat Pati Joshi and A. K. Sharma. So far **5 sites** have been **excavated in Mansar**, which are designated as MNS 1, MNS 2, MNS 3, MNS 4 and MNS 5.
- Exposed Brick Structures containing the Buddhist Monastery, Buddhist Box Pattern Stupa, Small Temples and the Palace Structure. Various Stone images also exposed during the Excavation. Identified as the Capital of Vakatakas. The evidence of Purushamedha and the construction of Sheyna-Chiti is the important point. These excavations have resulted in the discovery of various shrines (MNS 3, 4, 5) and a palace complex (MNS 2), identified as Pravarapura, the capital of the Vakataka king Pravarasena II (1st half of 5th century).
- Adjacent to this palace, on Hidimba Tekri (MNS 3), an extensive temple complex has been unearthed, identified as Pravareśvara. A 3 m tall lime model of a male human figure in crouching position was found underneath one of the terraces of MNS 3. Significant 5th-century sculptures of Hindu deities, artefacts and some coins have been discovered in the excavations.
- The **water reservoir** around the site and findings of ancient tools and other objects point to the fact that a **large population inhabited the area 1600 years ago**.

The discovery has made Mansar one of the prime archaeological sites in the country.

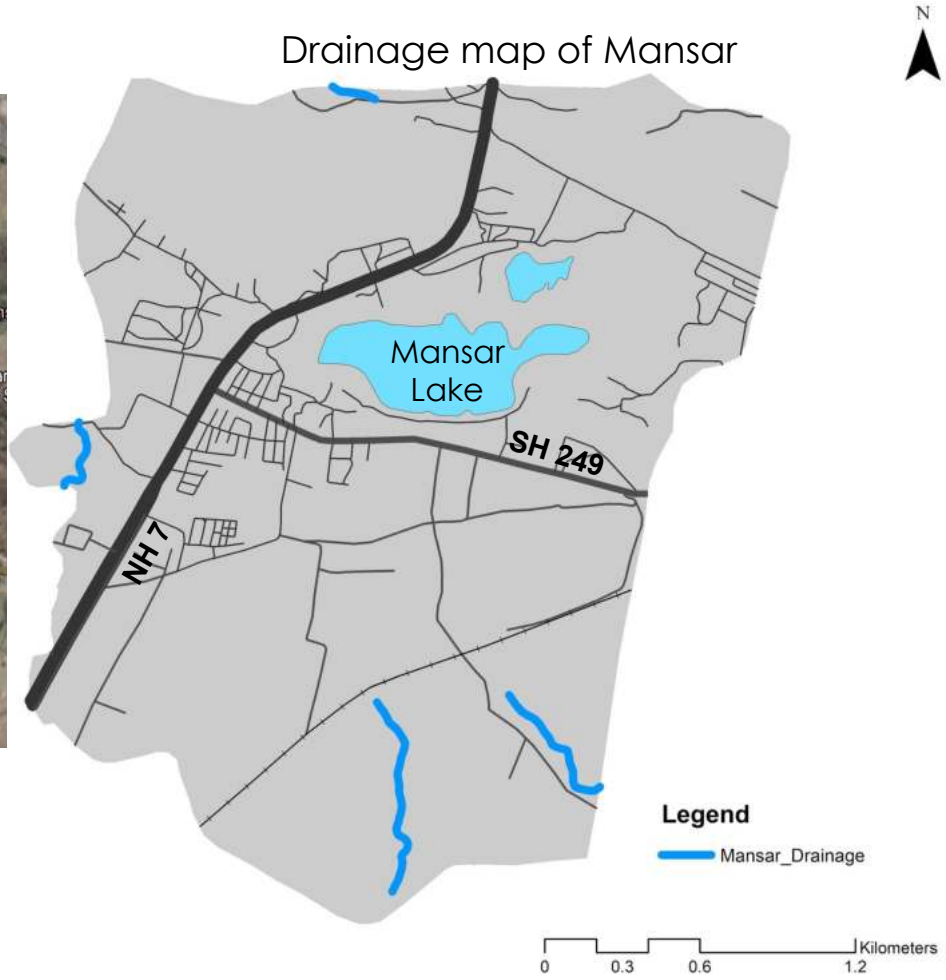
Regional Characteristics

Existing Features

Source: RRSC-central,NRSC, ISRO, Nagpur



Drainage map of Mansar



Mansar lake is the **only source of water for the residents of Mansar**. This lake is **surrounded by archaeological remains and many temples**. Its surrounding brings the **best pilgrimage experience for visitors** and thus is one of the **tourist attractions in Ramtek.**

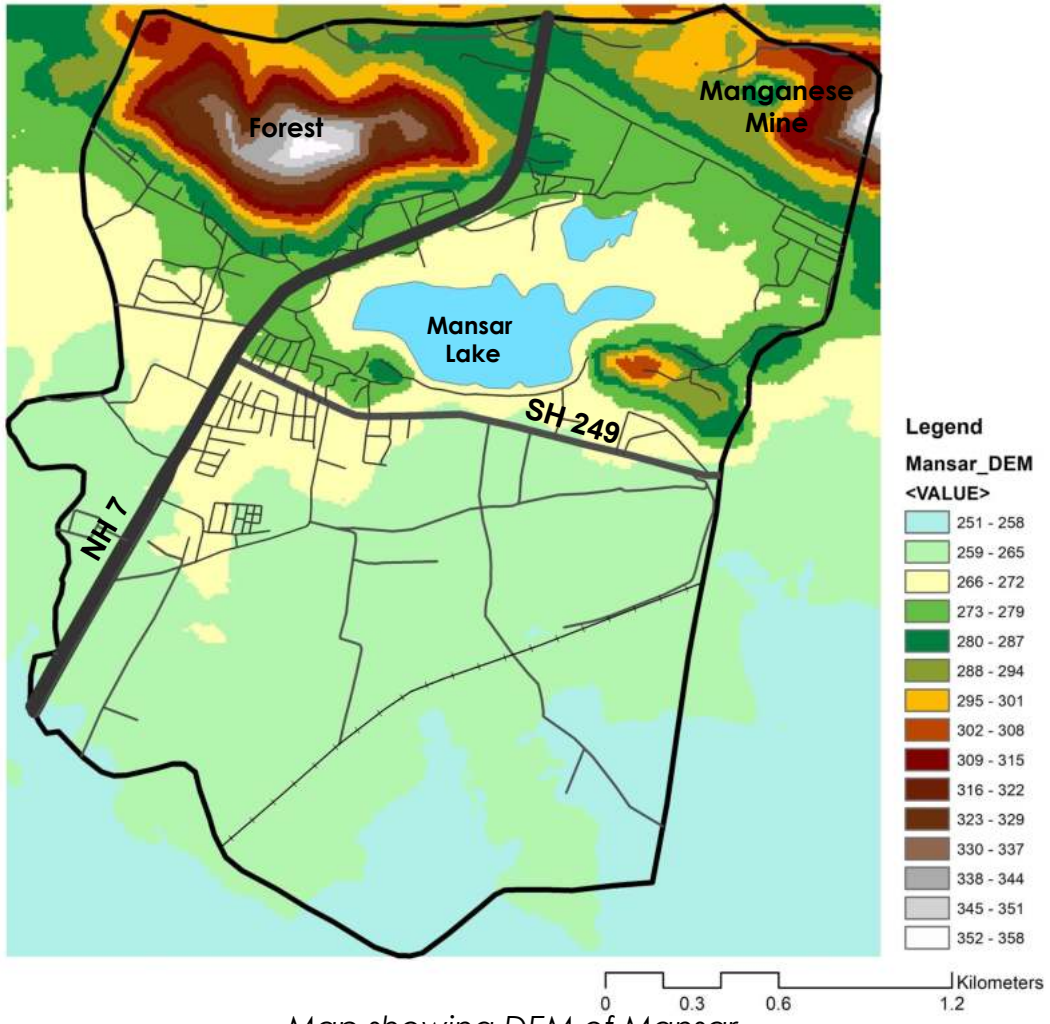
The South side of the lake is surrounded by chain of temples. Capital of Vakatakas, Mahanubhav Panth Mandir Mansar I, Mahanubhav Sthan, Bodhisattva Buddha Vihar, Shida Aai Mandir are one of those temples located there.

Surrounding Mansar village are vast stretches of vacant land. Lots of greenery and forests are observed at the peripheral areas of the village. Due to the presence of abundant natural environment, the atmosphere feels lively and pure.

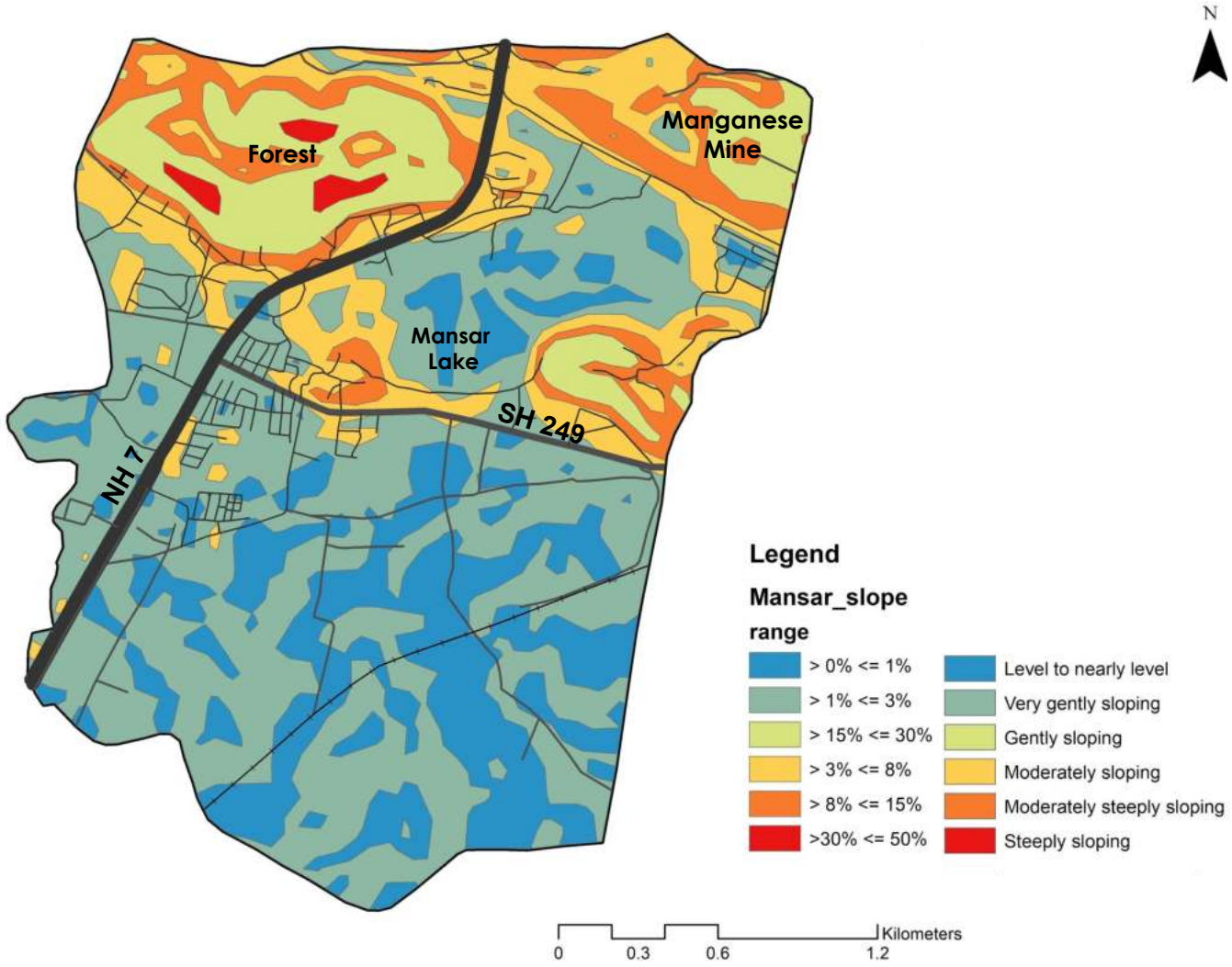
Regional Characteristics

Physiography

Source: RRSC-central,NRSC, ISRO, Nagpur



Map showing DEM of Mansar



Map showing Slope of Mansar

Topography

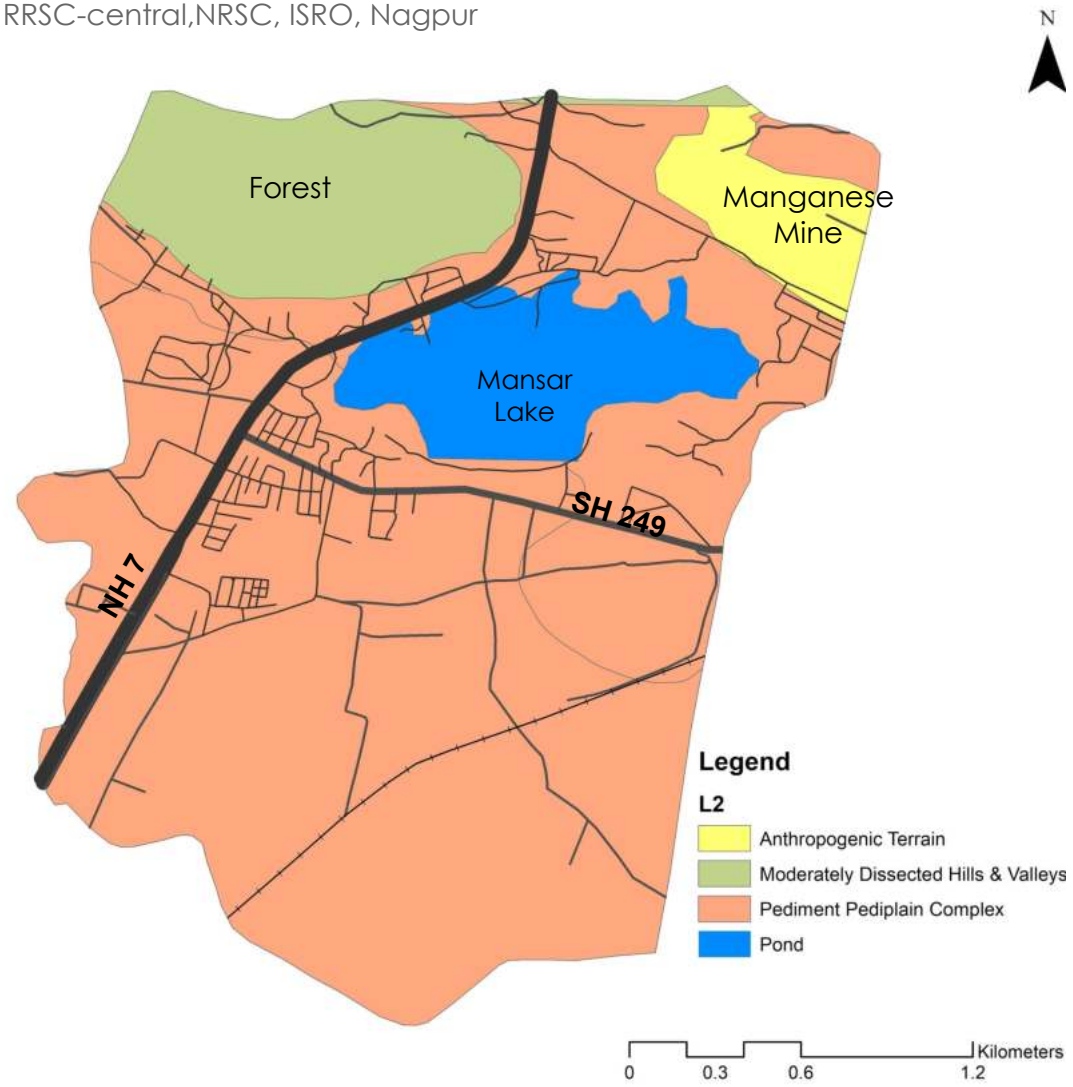
The elevation ranges from about 253m above msl to about 357m msl.

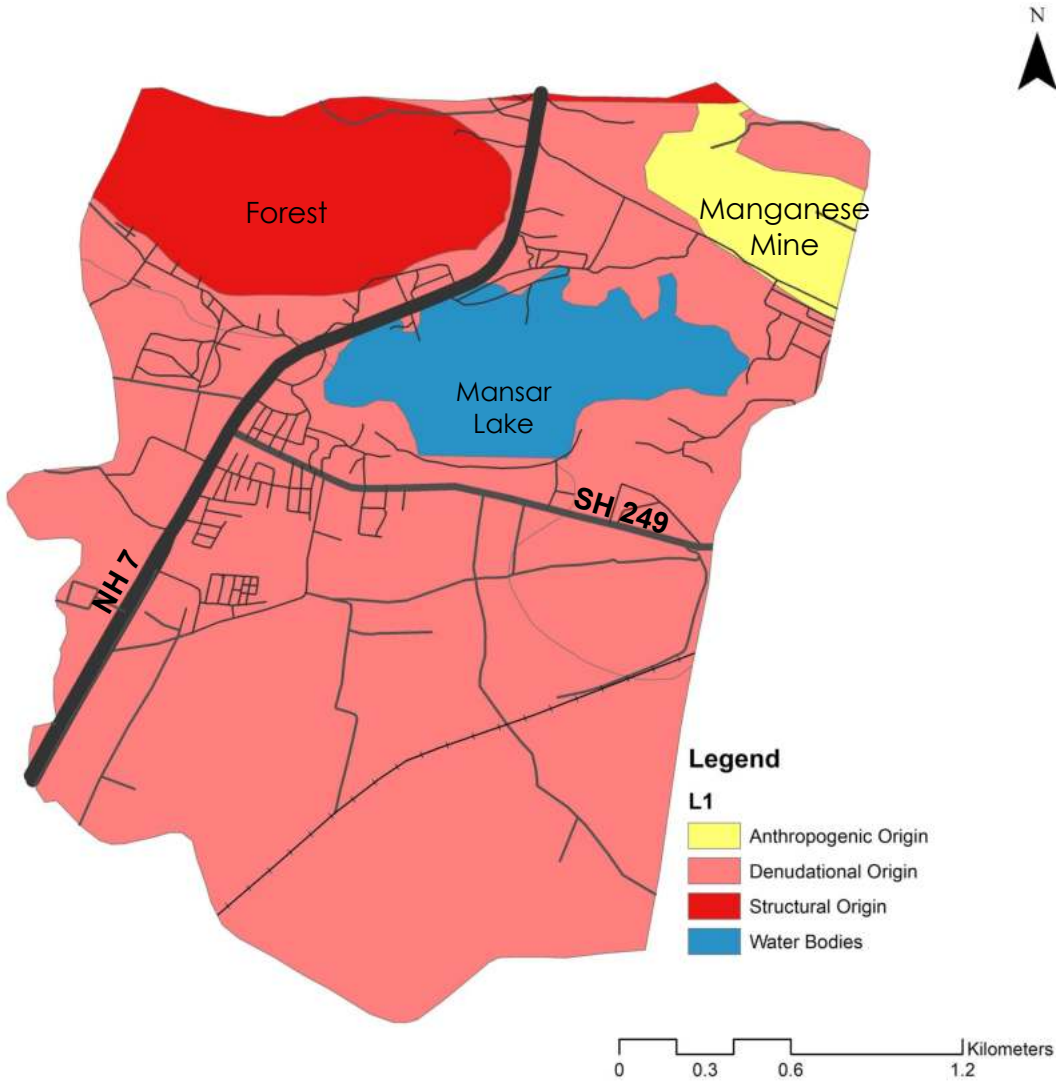
Slope: There is steep slope towards Forest area in the north west , moderate slope near the mine are in north east and near the mansarovar lake and near to level slope in the habitation mask.

Regional Characteristics

Geomorphology

Source: RRSC-central,NRSC, ISRO, Nagpur





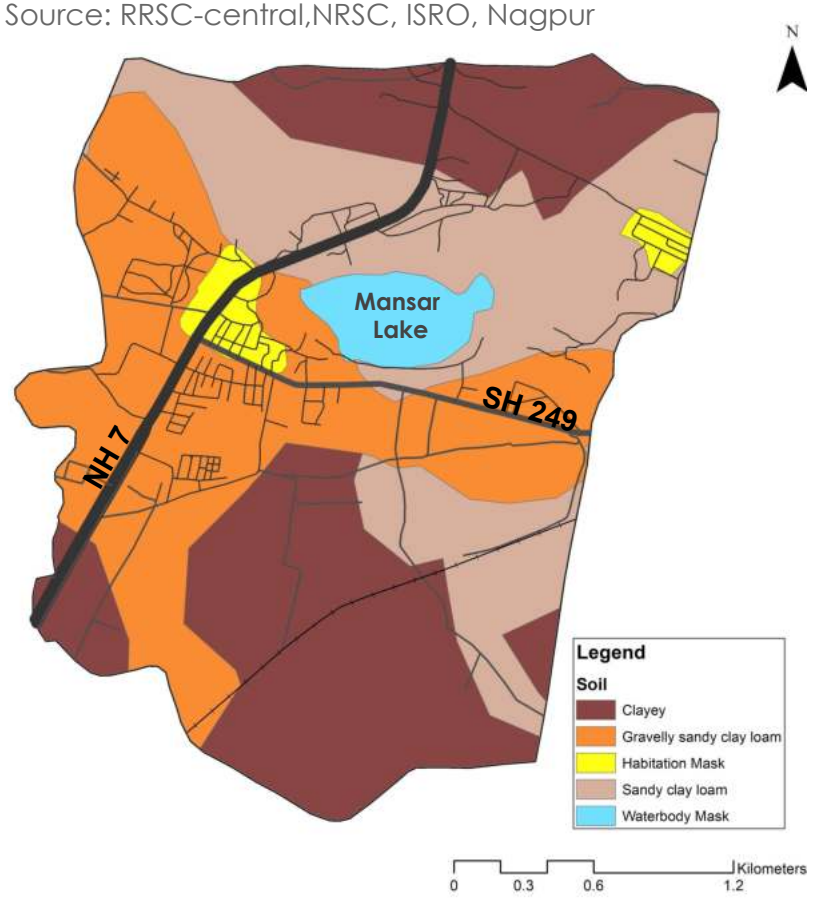
Geomorphology

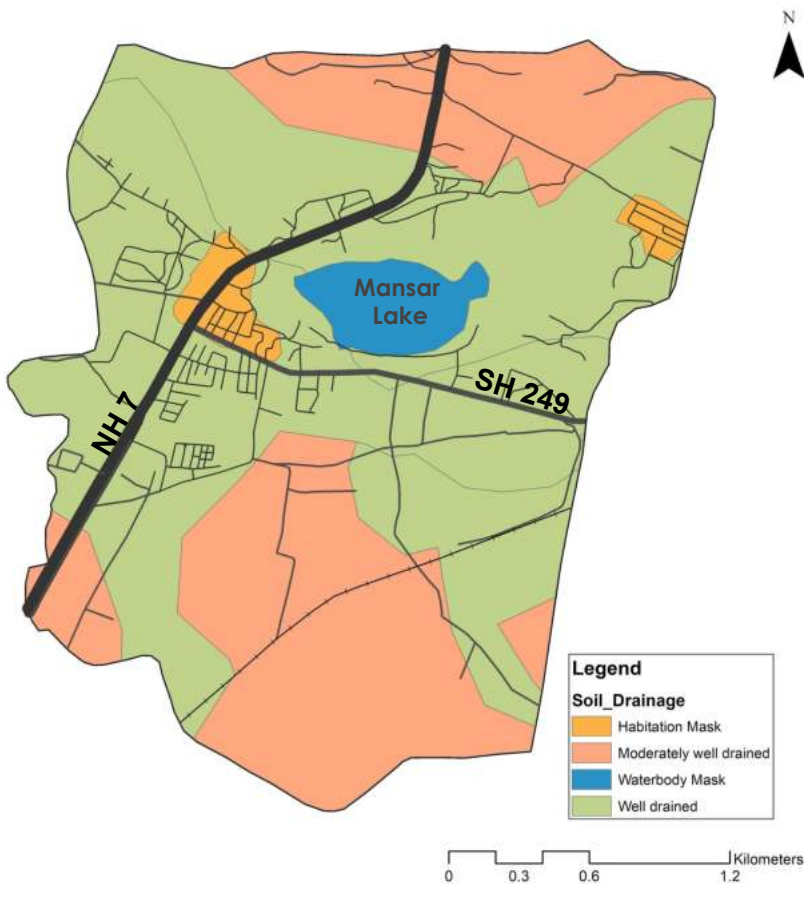
The habitation mask comes in denudational origin and Pediment Pediplain complex type.
Forest area is of structural origin and the Mine are is of Anthropogenic origin.

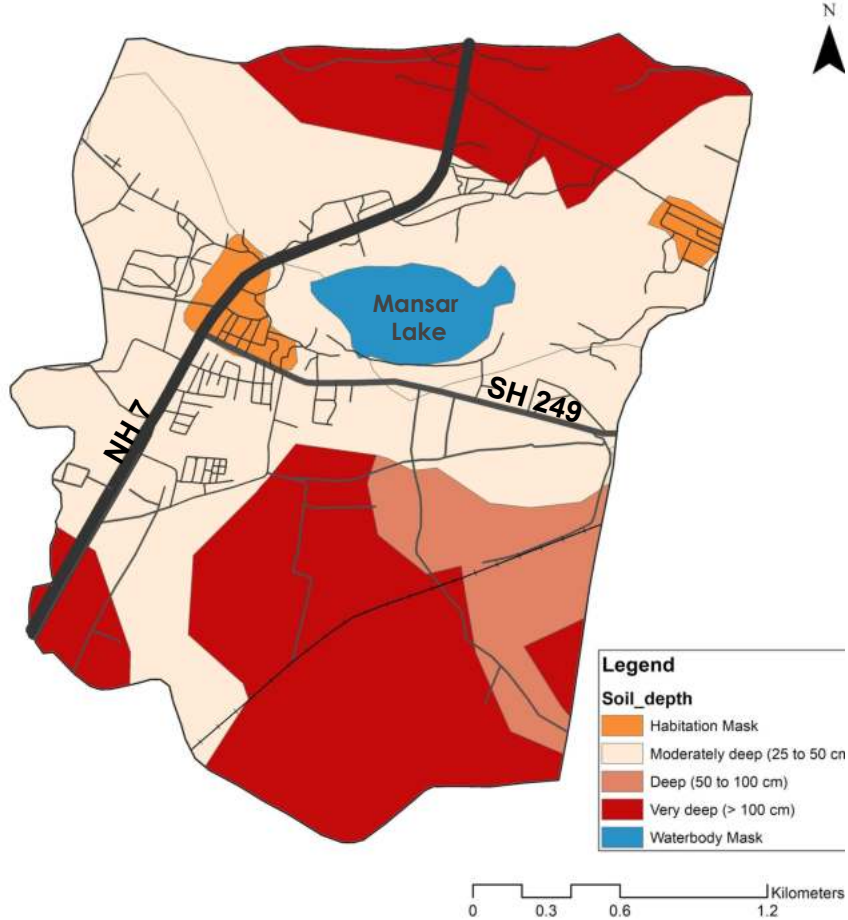
Regional Characteristics

Soil condition

Source: RRSC-central,NRSC, ISRO, Nagpur





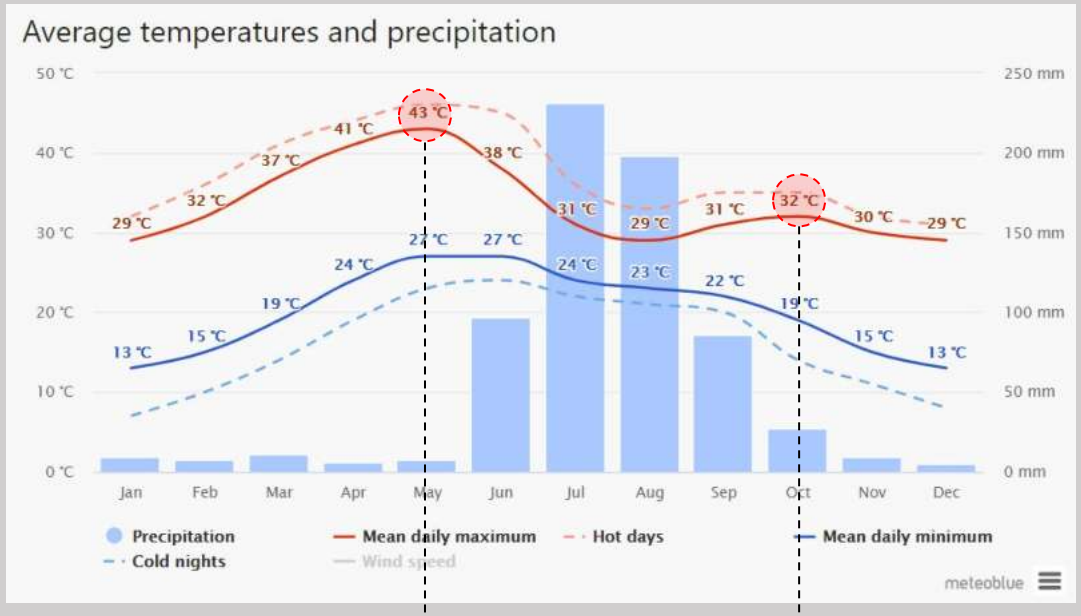


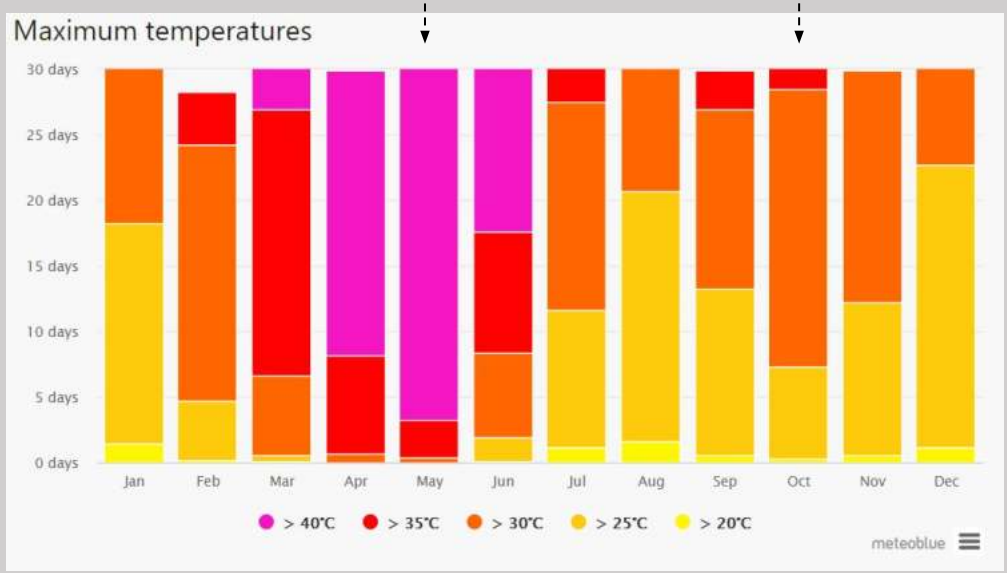
Soil Condition

Along NH7 and SH249, and Mansarovar lake , the soil type is Gravelly sandy and Clay loam. The soil type is well drained and has moderate depth of 25 to 50 cm.

Regional Characteristics

Climate





TEMPERATURE

May is the hottest month of the year with mean daily maximum temperature of about 43 Centigrade. With the onset of monsoon, temperature decreases appreciably in June but remains steady thereafter till September. During the period, the weather is generally pleasant. After monsoon, day temperature increases slightly and there is secondary maximum temperature in October. The climate becomes cool in December and continues up to February. December and January are the coldest months of the year.

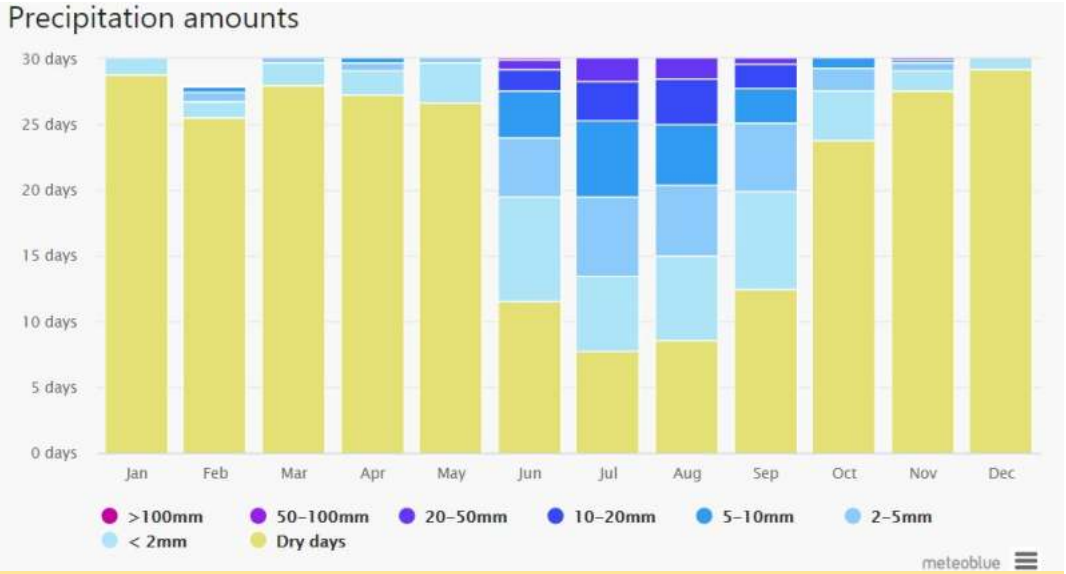
HUMIDITY

An increase in temperature results in corresponding decrease in relative humidity and vice versa. Therefore, summer months form the driest part of the year when relative humidity is low, particularly in April and May. The climate is highly humid in monsoon, particularly in August. The average relative humidity in monsoon months goes as high as 85 percent.

Source: https://www.meteoblue.com/en/weather/historyclimate/climatemodelled/nagpur_india_1262180

Regional Characteristics

Climate

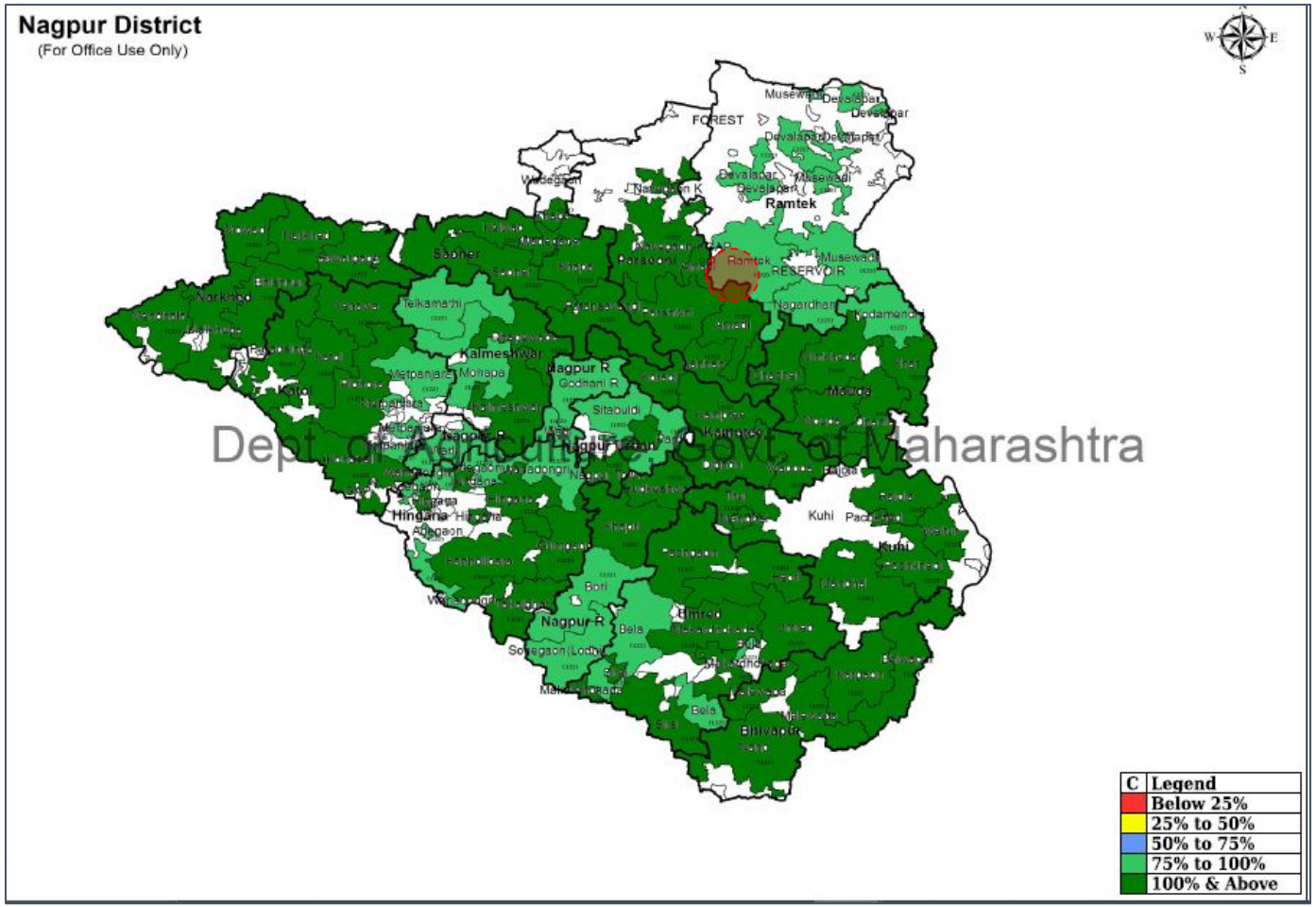


PRECIPITATION

On an average the Nagpur district receives an annual rainfall of about 1,200 mm which classifies it in the moderate rainfall zone.

Nagpur receives precipitation on account of both monsoons, namely southwest and northeast.

The southwest monsoon occurs during June to September and northeast monsoon during October to December.



The maps shows the intensity of rainfall for the year 2019 is 75 to 100%.

Source:

- https://www.meteoblue.com/en/weather/historyclimate/climatemodelled/nagpur_india_1262180
- http://maharain.gov.in/?MenuID=1075 Maharashtra Krishi website

Population Characteristics

Population Characteristics

Census Data and Household survey Data

Demographic profile and Population Density (Net and Gross)

- The Mansar village is home to 7139 people, among them 3536 (50%) are male and 3603 (50%) are female.
- 60% of the whole population are from general caste, 20% are from schedule caste and 20% are schedule tribes.
- Child (aged under 6 years) population of Mansar CT is 10%, among them 54% are boys and 46% are girls.
- There are total 1639 households in the village and an average 4.3 persons live in every family.
- Area of GP is 638 ha. The Gross population density is 11.18 ppl/ha.

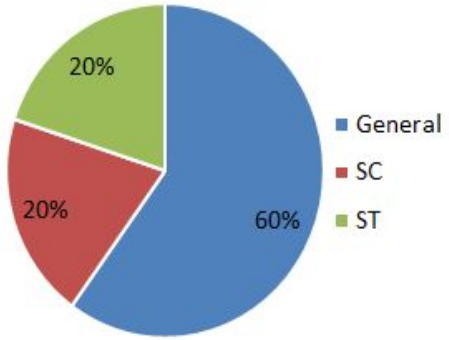
Population growth (Natural growth and Migration Patterns)

- Population of the Mansar CT has increased by 11% in last 10 years.
- Female population growth rate of the village is 12% which is 3% higher than male population growth rate of 9%.

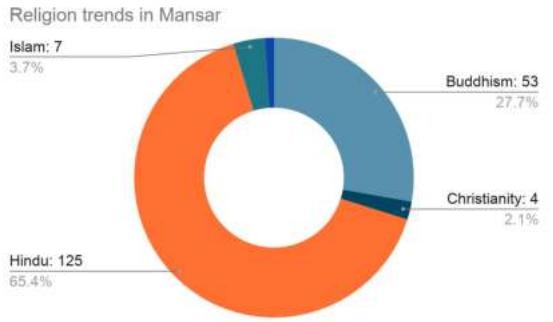
Literacy and Age-Sex Composition

- Total 5342 people in the village are literate, among them 2760 are male and 2582 are female. Overall the literacy rate is 75%
- As of 2011 census, there are 1018 females per 1000 male in the village.

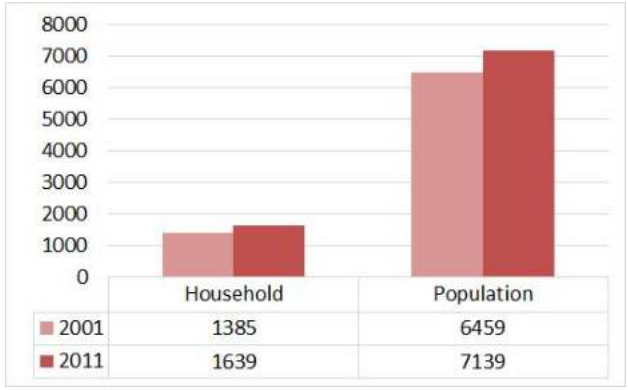
Source: Census 2011 and Household Survey



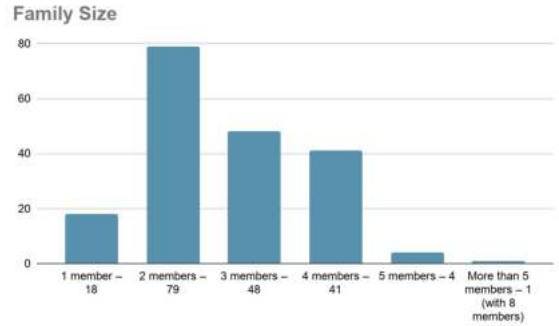
Caste population distribution



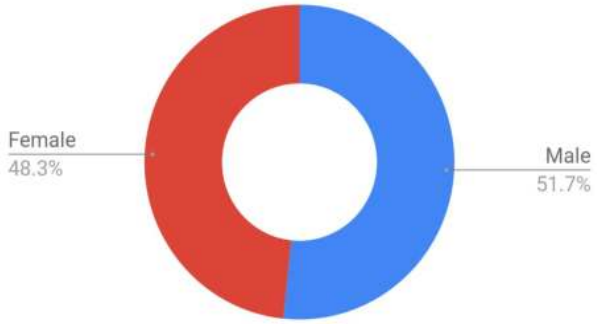
As per HH survey,Majority of the people are Hindu, followed by Buddhism, Islam and Christianity



Decadal growth of population (2001-2011)



General family size is observed to be 2 – 3 members per family.

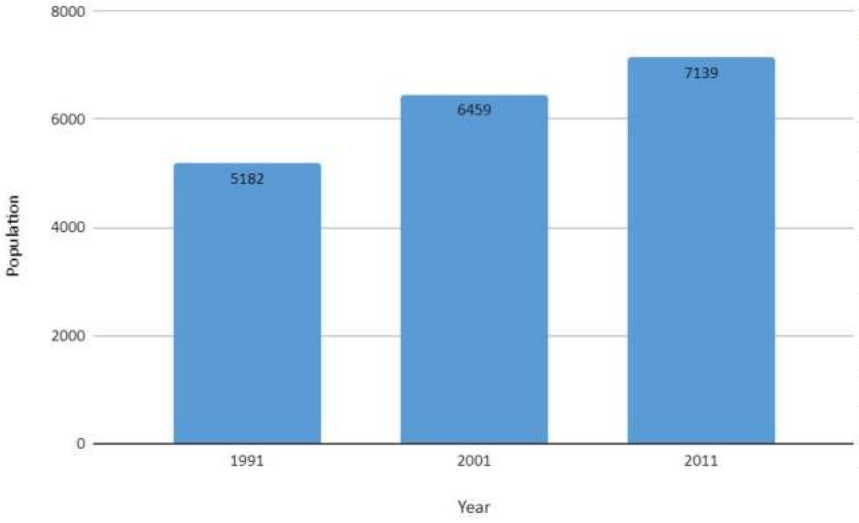


Male Female literacy in %

Male Female ratio

Population Characteristics

Projected Population



Arithmatic Method				Geometric Method				Increamental Increse Method				Exponential Method			
Year	Popualtion	Increase		Year	Popualtion	Increase	Growth Rate	Year	Popualtion	Increase	Increamental Increase	Year	Popualtion	Increase	Growth Rate
1991	5182	-		1991	5182	-		1991	5182	-	-	1991	5182	-	
2001	6459	1277		2001	6459	1277	246429949	2001	6459	1277	-	2001	6459	1277	246429949
2011	7139	680		2011	7139	680	.10527945	2011	7139	680	-597	2011	7139	680	.10527945
		1957	Total			1957				978.5					351709404
	K=	978.5	Average				025944010							r=	175854702
					K= for 2 decades root of 2 of product		161071446								
2020 (Present)	8020			2020	2738			2020	7488.15			2020	8359		
2021	8118			2021	8289			2021	8066			2021	8507		
2031	9096			2031	9624			2031	10600			2031	10137		
2041	10075			2041	11174			2041	14061			2041	12080		
2051	11053			2051	12974			2051	18449			2051	14394		

Average Population Projection for **2021** is **8245**

Average Population Projection for **2031** is **9864**

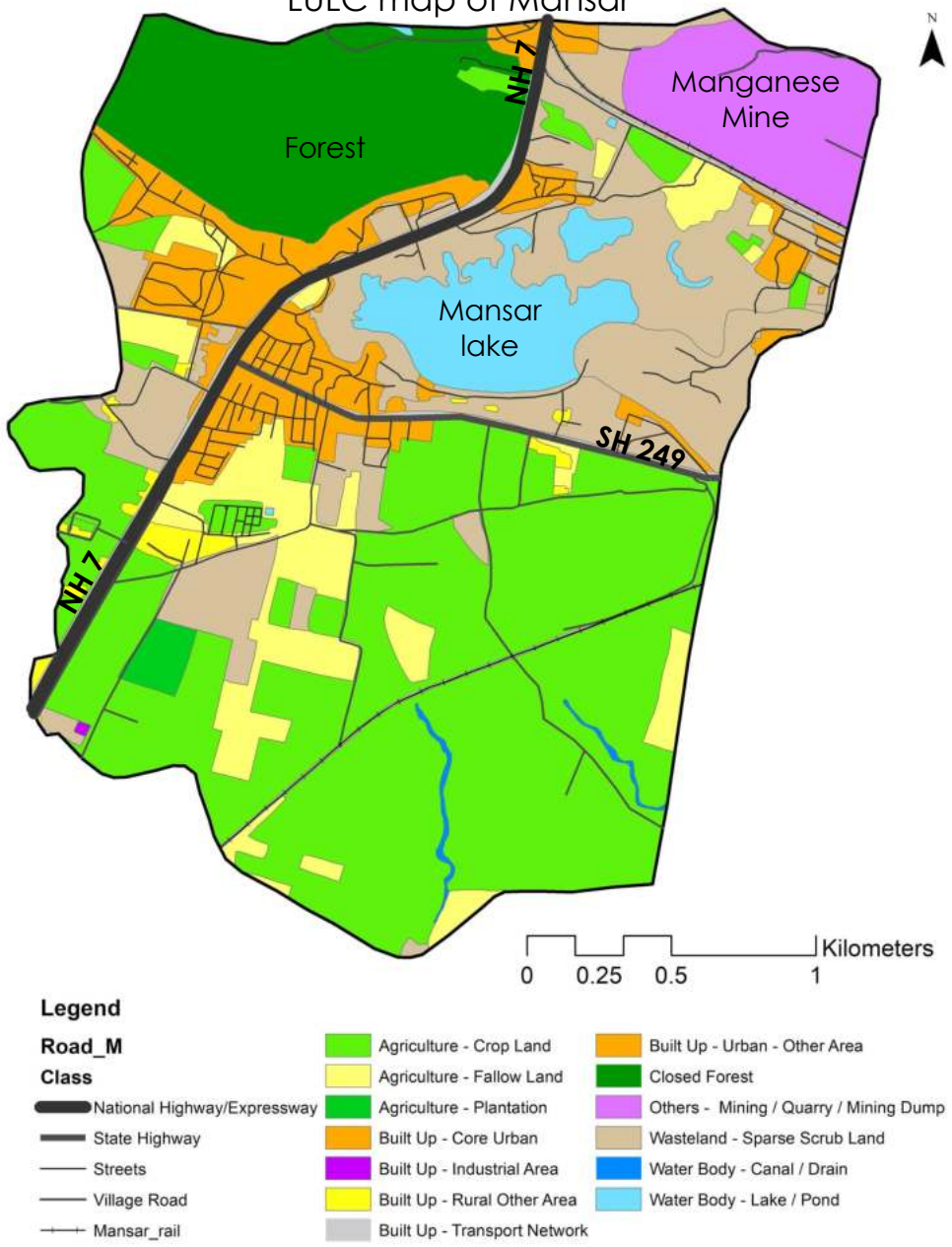
Average Population Projection for **2041** is **11847.**

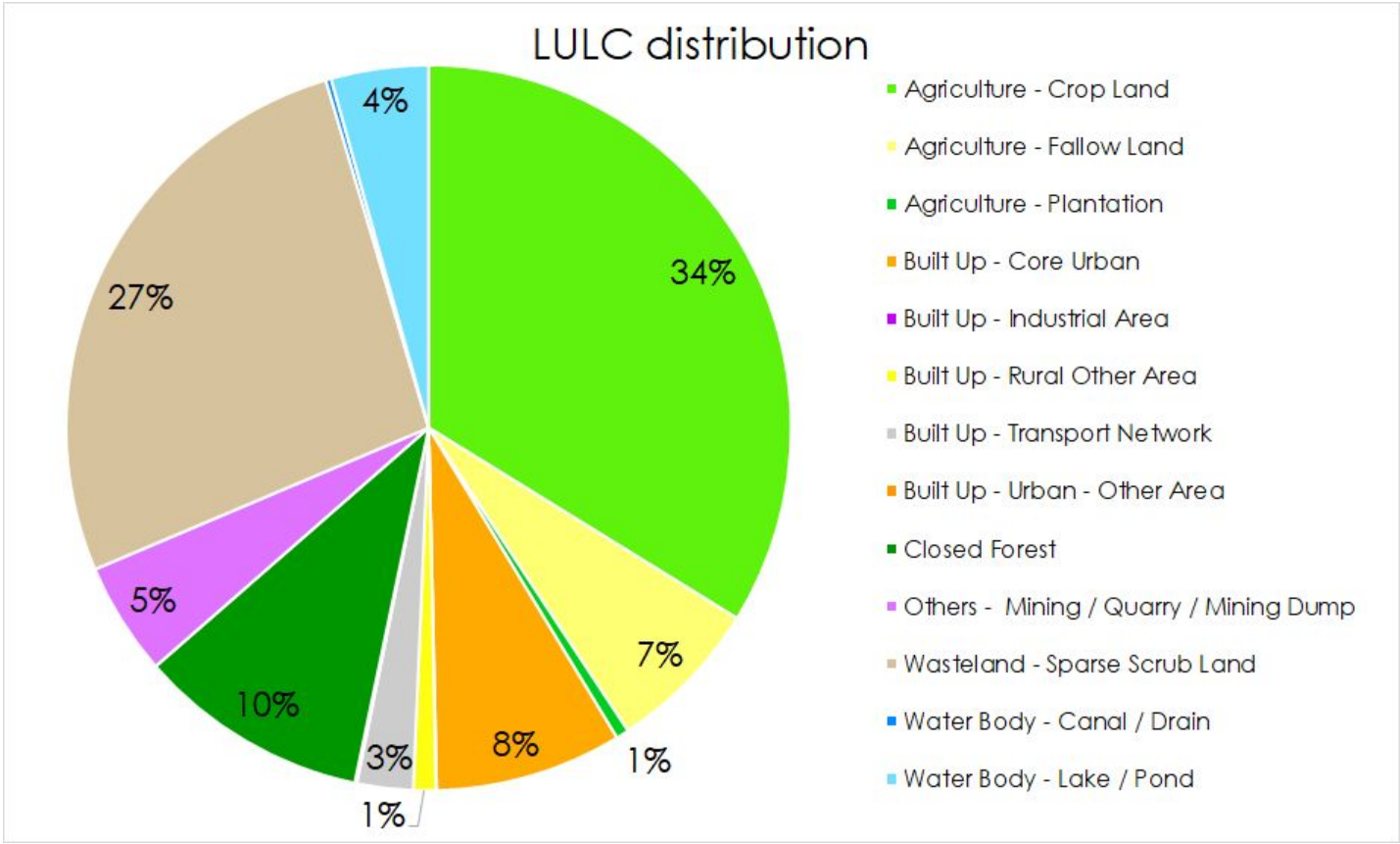
Existing Scenario

Existing Scenario

Land use Land cover

LULC map of Mansar





Pie chart showing LULC distribution in %

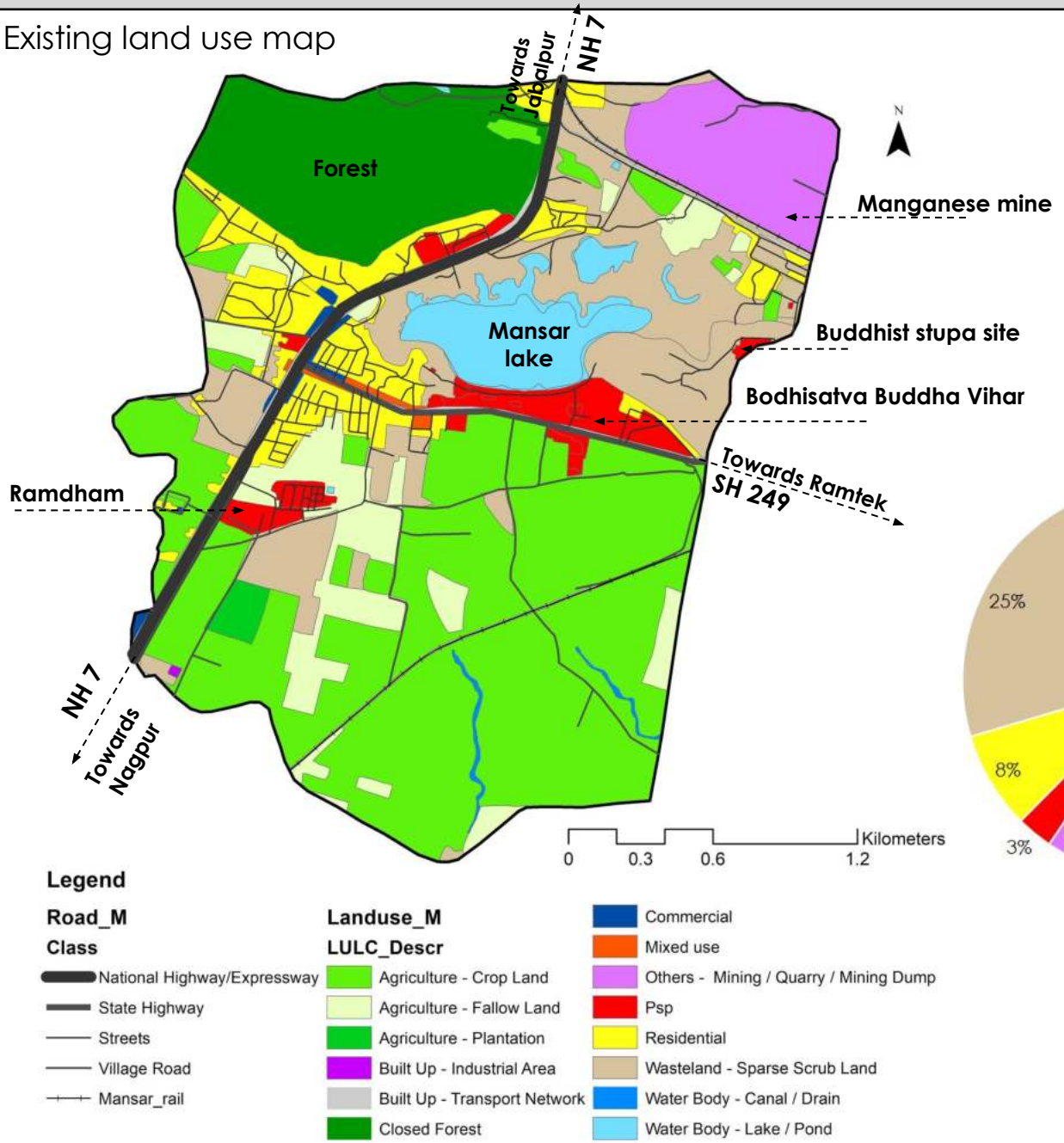
Total Agriculture land area is 42%, total Built Up area is 9%, Forest area is 10%, Mining is 5%, Scrub land is 27%, water body is 4% and transportation is 3%

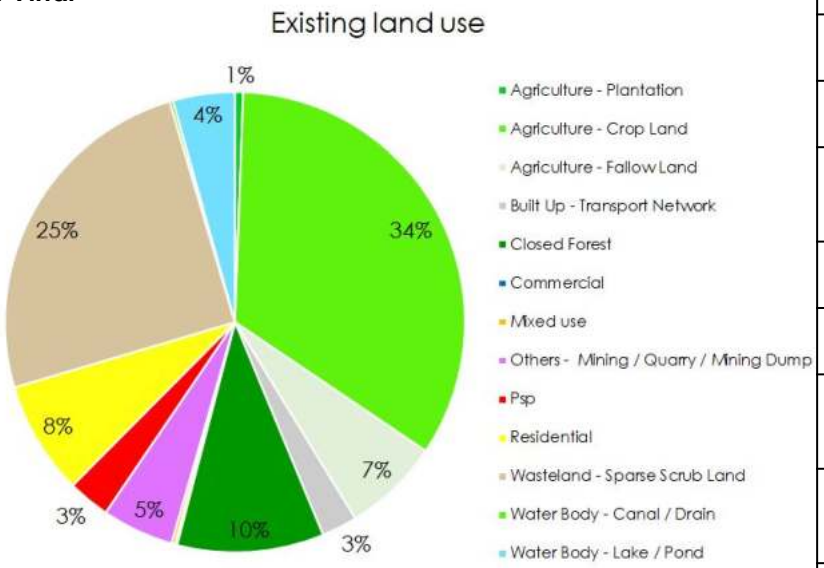
Source: RRSC-central,NRSC, ISRO, Nagpur

Existing Scenario

Existing Land use

Existing land use map





Land use classes	Area in ha	Area in %
Agriculture - Plantation	4.07	0.6%
Agriculture - Crop Land	241.36	33.9%
Agriculture - Fallow Land	48.44	6.8%
Built Up - Transport Network	17.82	2.5%
Closed Forest	73.48	10.3%
Commercial	1.13	0.2%
Mixed use	1.77	0.2%
Others - Mining / Quarry / Mining Dump	35.95	5.0%
Psp	21.07	3.0%
Residential	56.75	8.0%
Wasteland - Sparse Scrub Land	178.00	25.0%
Water Body - Canal / Drain	1.73	0.2%
Water Body - Lake / Pond	30.97	4.3%
Total	712.54	100.0%

Source: RRSC-central,NRSC, ISRO, Nagpur

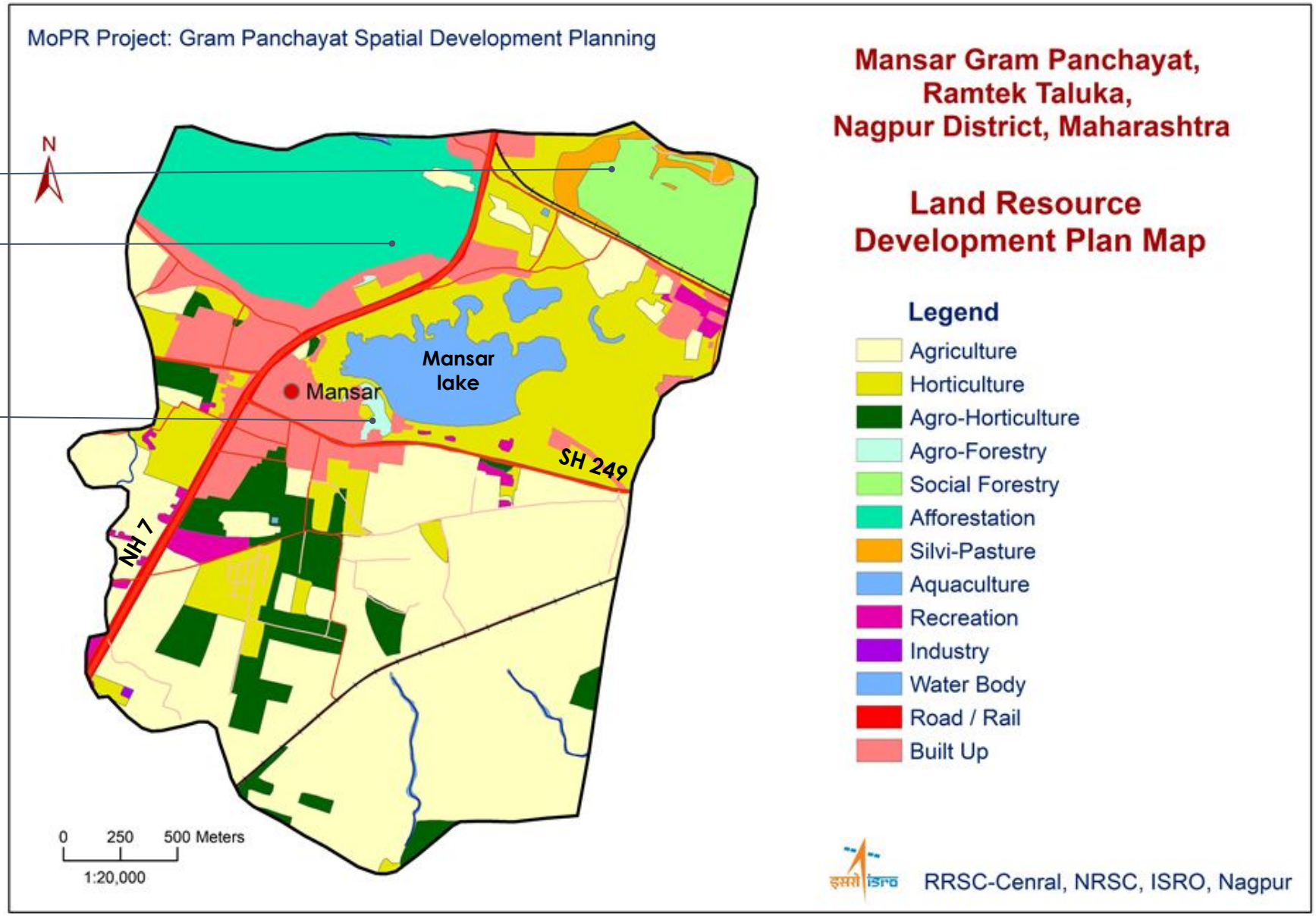
Existing Scenario

Existing Land Resource Development plan

The Manganese mine area is also allocated for Social Forestry and Silvi Pasture.

Forest area comes under Afforestation.

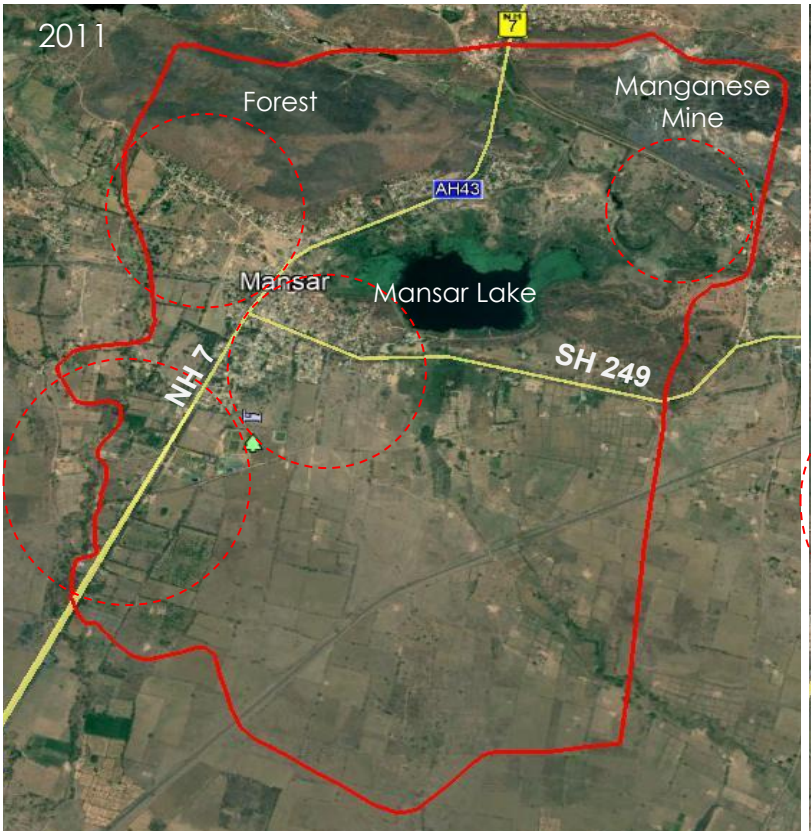
Agroforestry land is near Mansar lake and adjacent to habitation mask.

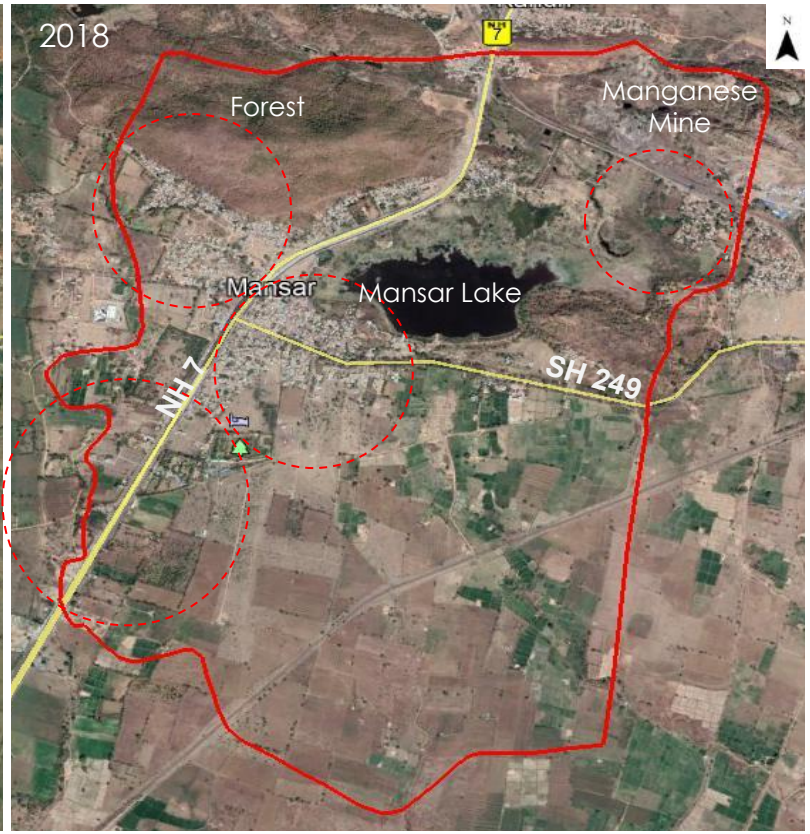


Source: RRSC-central,NRSC, ISRO, Nagpur

Existing Scenario

Development trends

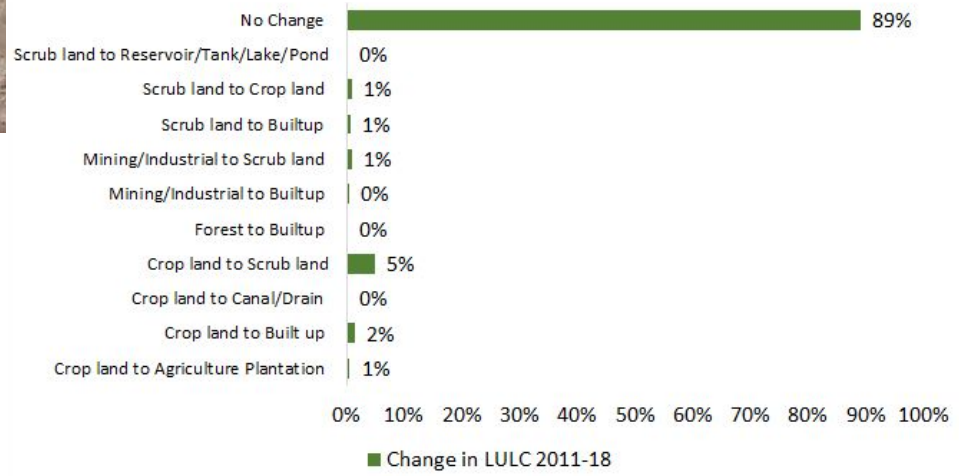




Map showing change in land use/ land cover from 2011-2018

Table showing change in land use/ land cover area.

Changes in LULC classes	Area (ha)
Crop land to Agriculture Plantation	4.1
Crop land to Built up	10.8
Crop land to Canal/Drain	1.7
Crop land to Scrub land	35.7
Forest to Built up	2.1
Mining/Industrial to Built up	2.8
Mining/Industrial to Scrub land	7.1
Scrub land to Built up	5.5
Scrub land to Crop land	6.2
Scrub land to Reservoir/Tank/Lake/Pond	1.9
No Change	634.6
Grand Total	712.6



Bar chart showing change in land use/ land cover in %

- The development trend is along the NH7, near forest and Mansar lake.
- Overall there is no significant change in land use from 2011-2018.

Source: Google Earth and RRSC-central,NRSC, ISRO, Nagpur

Existing Scenario

Schemes

Sr. no.	Scheme name	Component name	Amount allotted (Tied total) (Rs.)	Amount allotted (Untied total) (Rs.)	Planned outlay (Tied total) (Rs.)	Planned outlay (untied total) (Rs.)
1	MG National Rural Employment Guarantee Act	MG National Rural Employment Guarantee Act	0	54,459	0	0
2	XV Finance Commission	Tied Grant	17,19,356	0	17,70623	0
3	XV Finance Commission	Basic Grant (untied)	8,59,678	8,59,678	0	19,47,684
	Total		25,79,034	9,14,137	17,70,623	19,47,684
Amount per person (Rs./Person)			**361**	**128**	**248**	**273**

Under the XV finance commission :

Agriculture

1. Repairing of Pump house near Pendhari Vihir and installment of new materials
2. Regarding farmers training and crops production

Physical Infrastructure

Water Supply

1. Providing water supply at proper locations and supply of excess motors
2. Repairing of drinking water well
3. Provision of tap water

Solid Waste Management

1. Waste management and composting from wet waste

Other Infrastructure facilities

1. Providing streetlights
2. Providing paving blocks besides cement roads

Sanitation

1. Providing toilet facilities at Anganwadi
2. Provision of public toilets at Primary Health Centre

Social Infrastructure

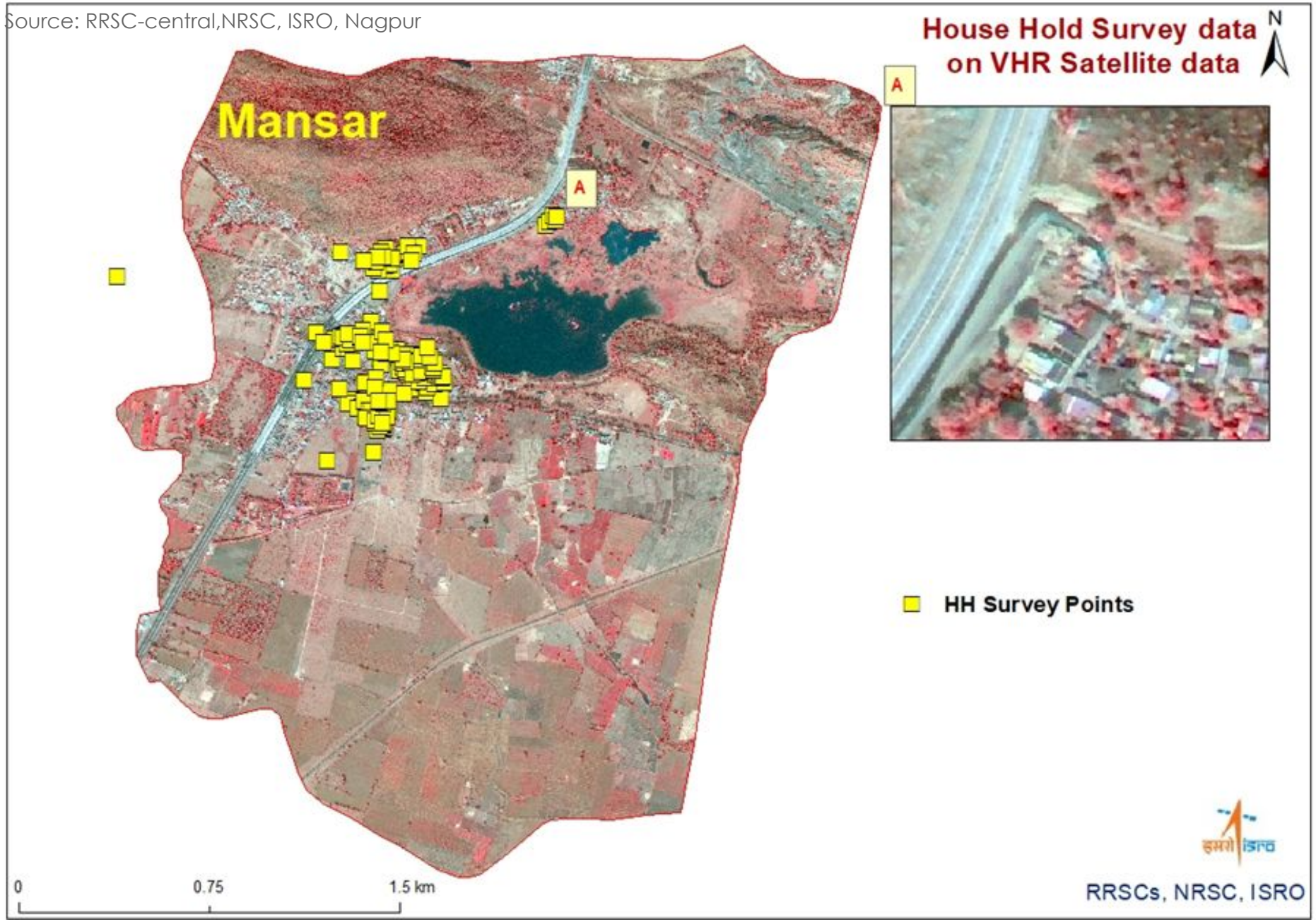
1. Repairing and maintenance works at Anganwadi
2. Provision of sound system to primary schools

Sectors

Housing

Housing

Existing conditions of houses



In Mansar, total 191 responses were recorded.

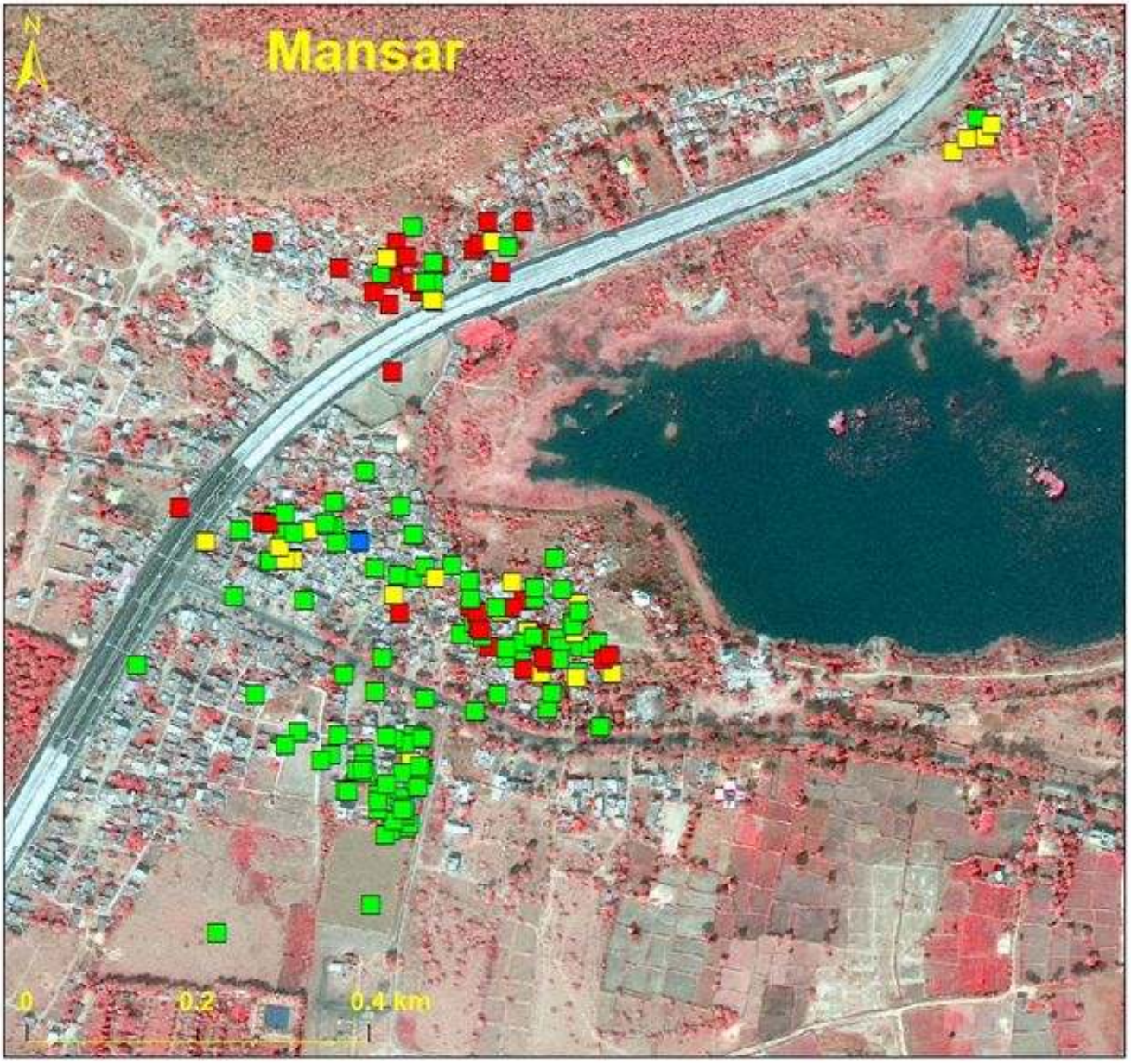
Following map indicates Household survey points in Mansar.

Blow up map shows detailed household survey points at “A” taken by VHR satellite data.

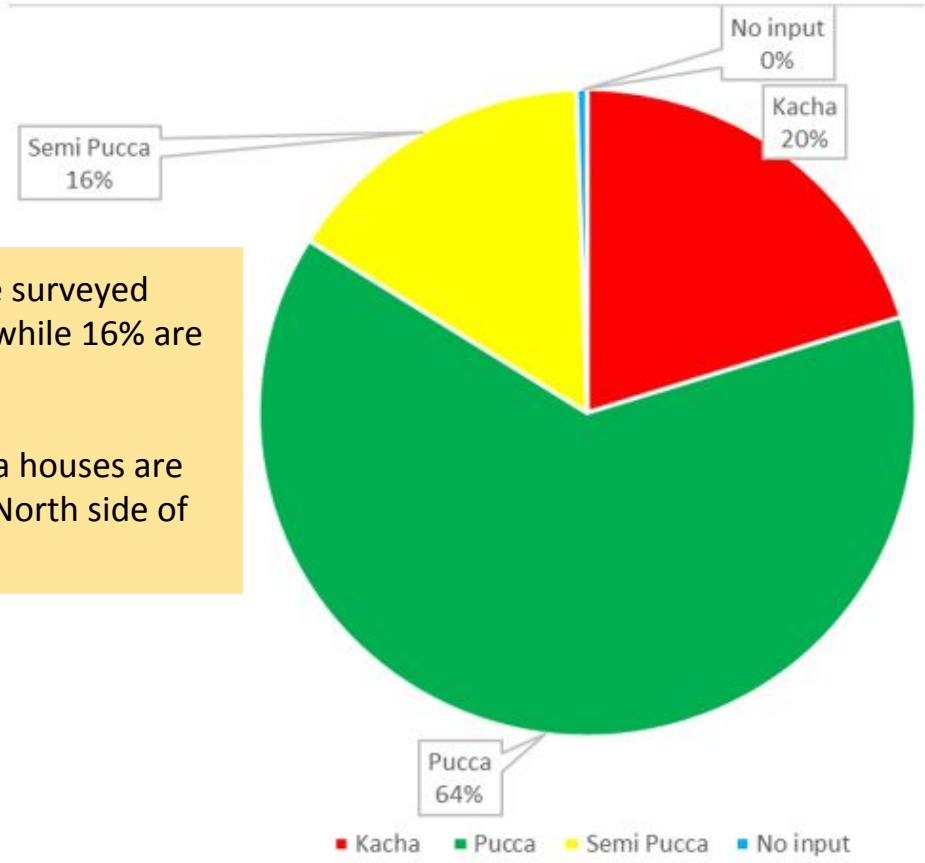
Housing

Existing conditions of houses

Source: RRSC-central,NRSC, ISRO, Nagpur



House Hold Survey data distribution based on House Type



Around 20% of the surveyed houses are Kacha while 16% are semi-pucca.

Most of the Kaccha houses are located along the North side of NH 44.

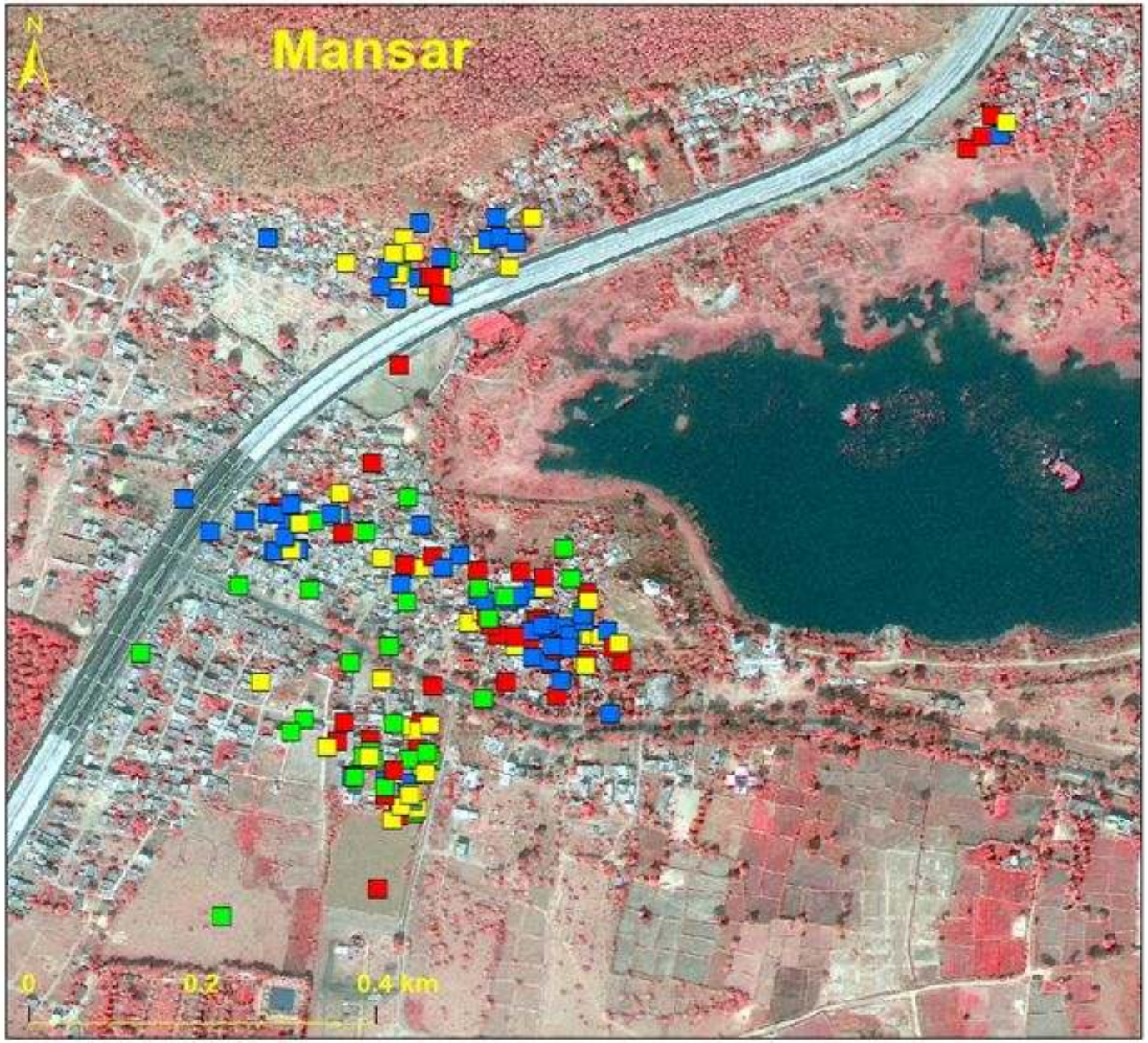
House Type
- Kachcha
- Pucca
- SemiPucca
- No input

RRSCs, NRSC, ISRO

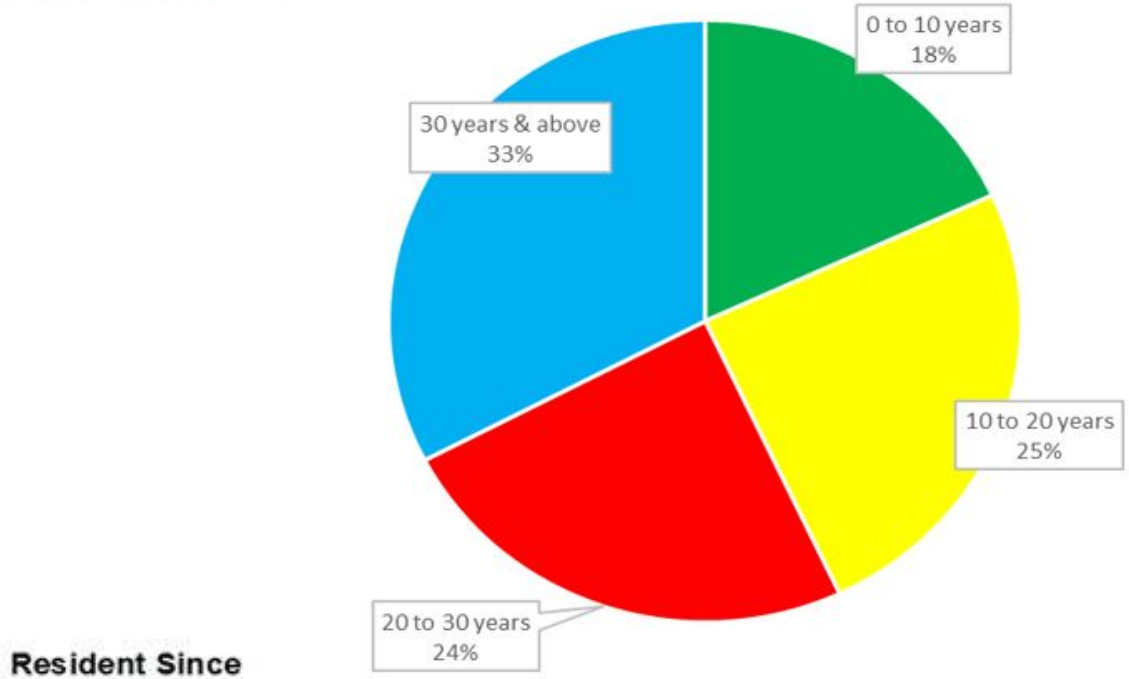
Housing

Existing conditions of houses

Source: RRSC-central,NRSC, ISRO, Nagpur



House Hold Survey data distribution based on Resident Since highlighting Kacha House



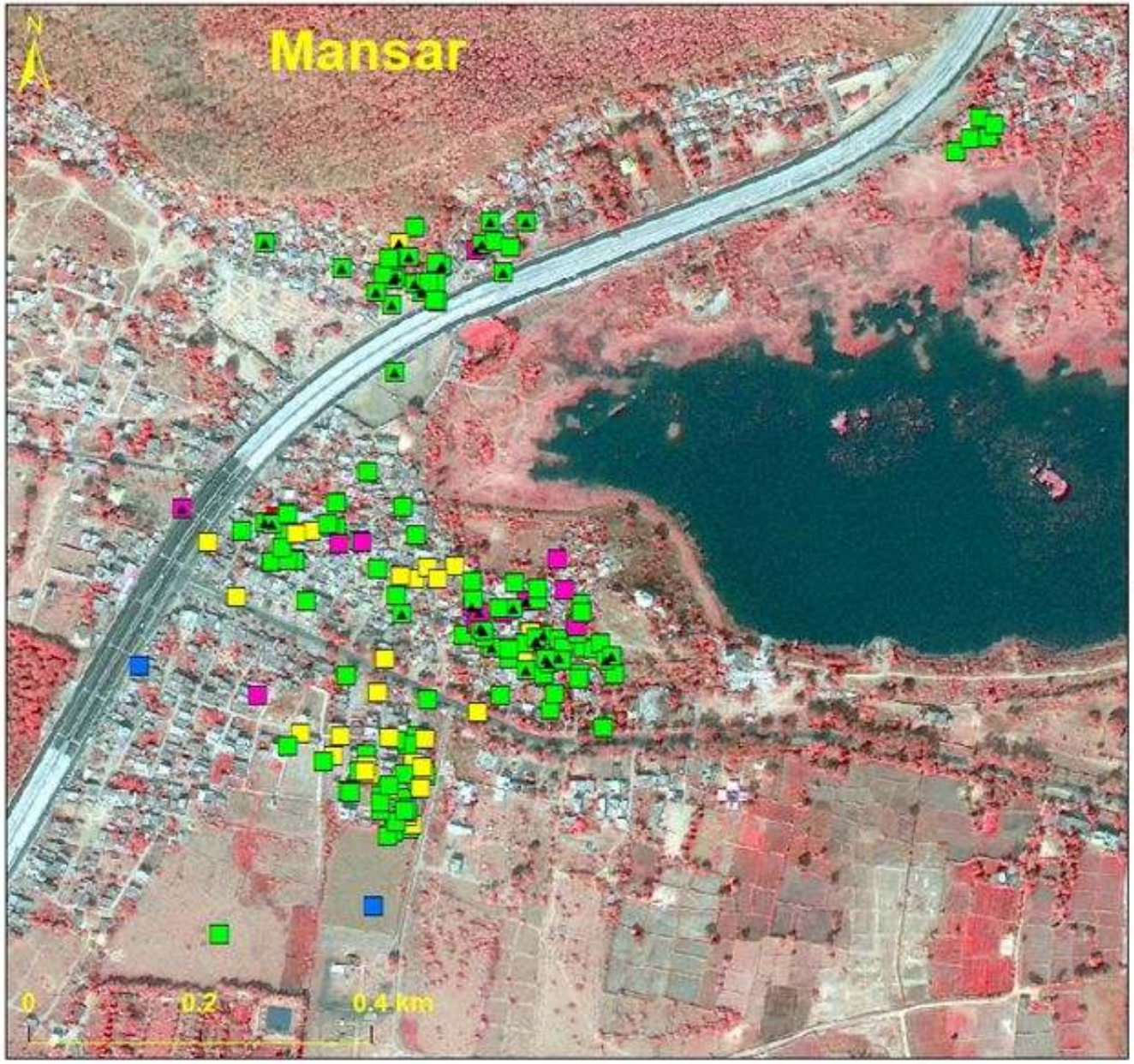
RRSCs, NRSC, ISRO

Total 33% of the surveyed houses are native (30 years and above) while old buildings account for 7.3%. These old buildings are 50 years of age and above.

Housing

Existing conditions of houses

Source: RRSC-central,NRSC, ISRO, Nagpur



House Hold Survey data distribution based on House Height highlighting Kacha House

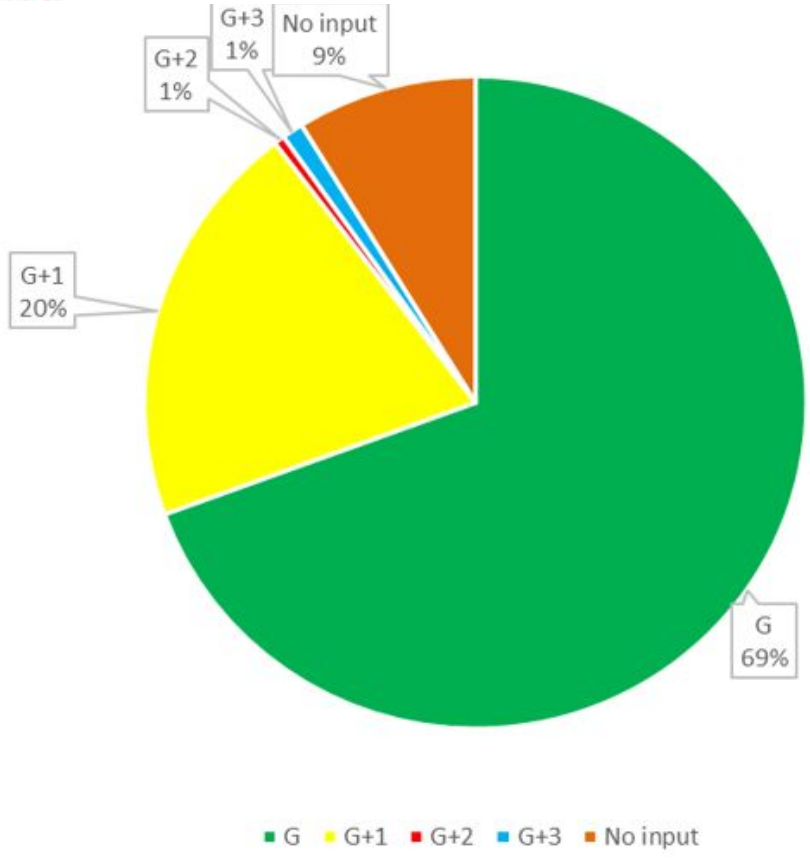
HH Survey Points

▲ Kachcha House

House Heig

- **G**
- **G+1**
- **G+2**
- **G+3**
- **No input**

RRSCs, NRSC, ISRO

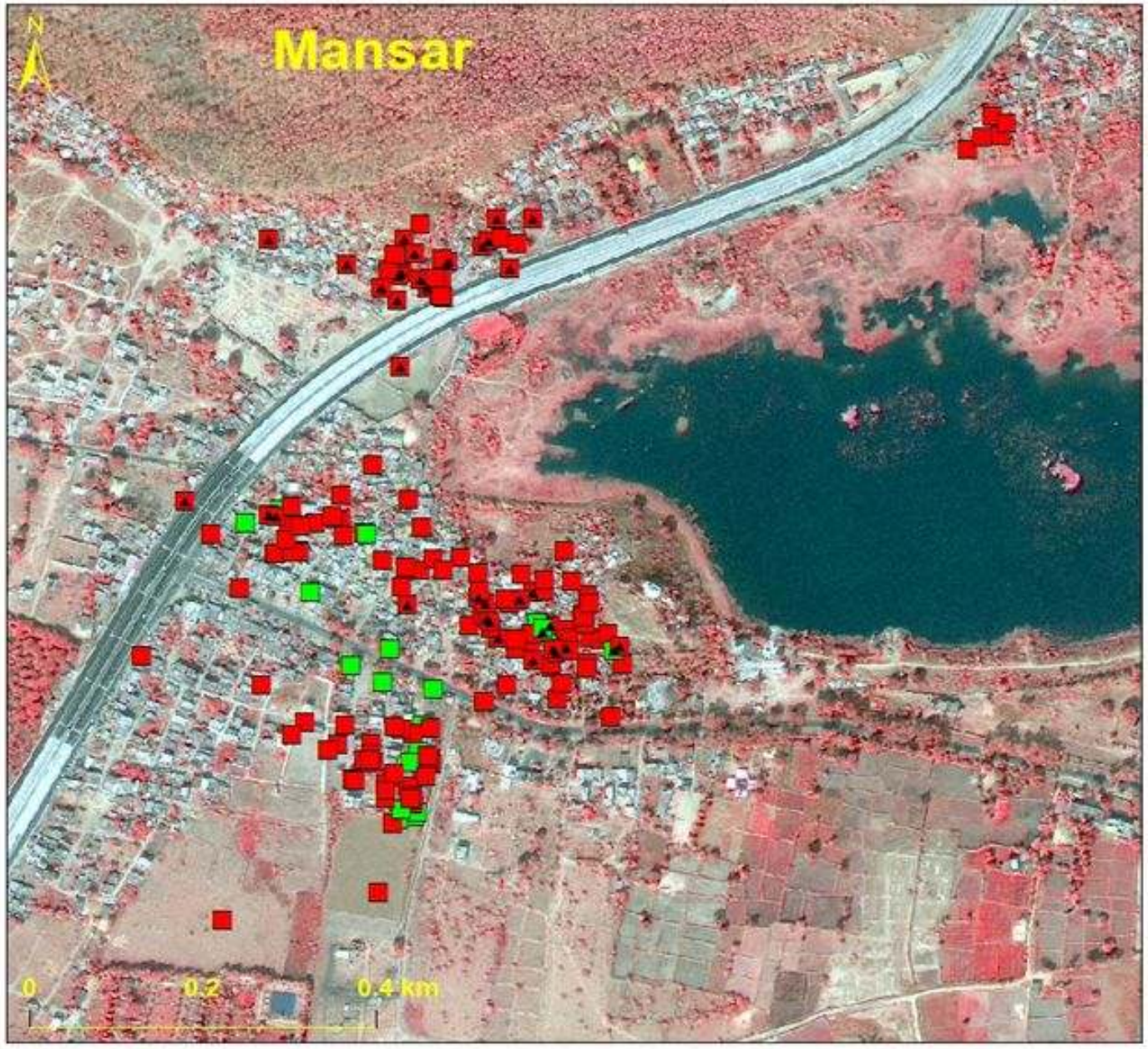


69% of the surveyed houses are ground floored. Followed by it, 20% are first floored.

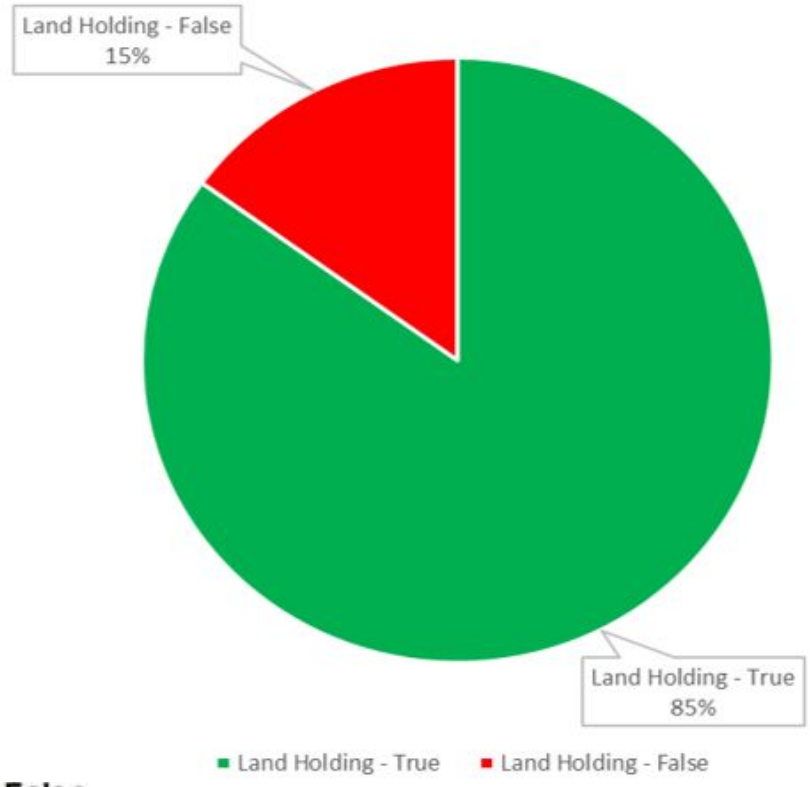
Housing

Existing conditions of houses

Source: RRSC-central,NRSC, ISRO, Nagpur



House Hold Survey data distribution based on Land Holding highlighting Kacha House



HH Survey Points

▲ Kachcha House

Land Holding

- **Land Holding - False**
- **Land Holding - True**

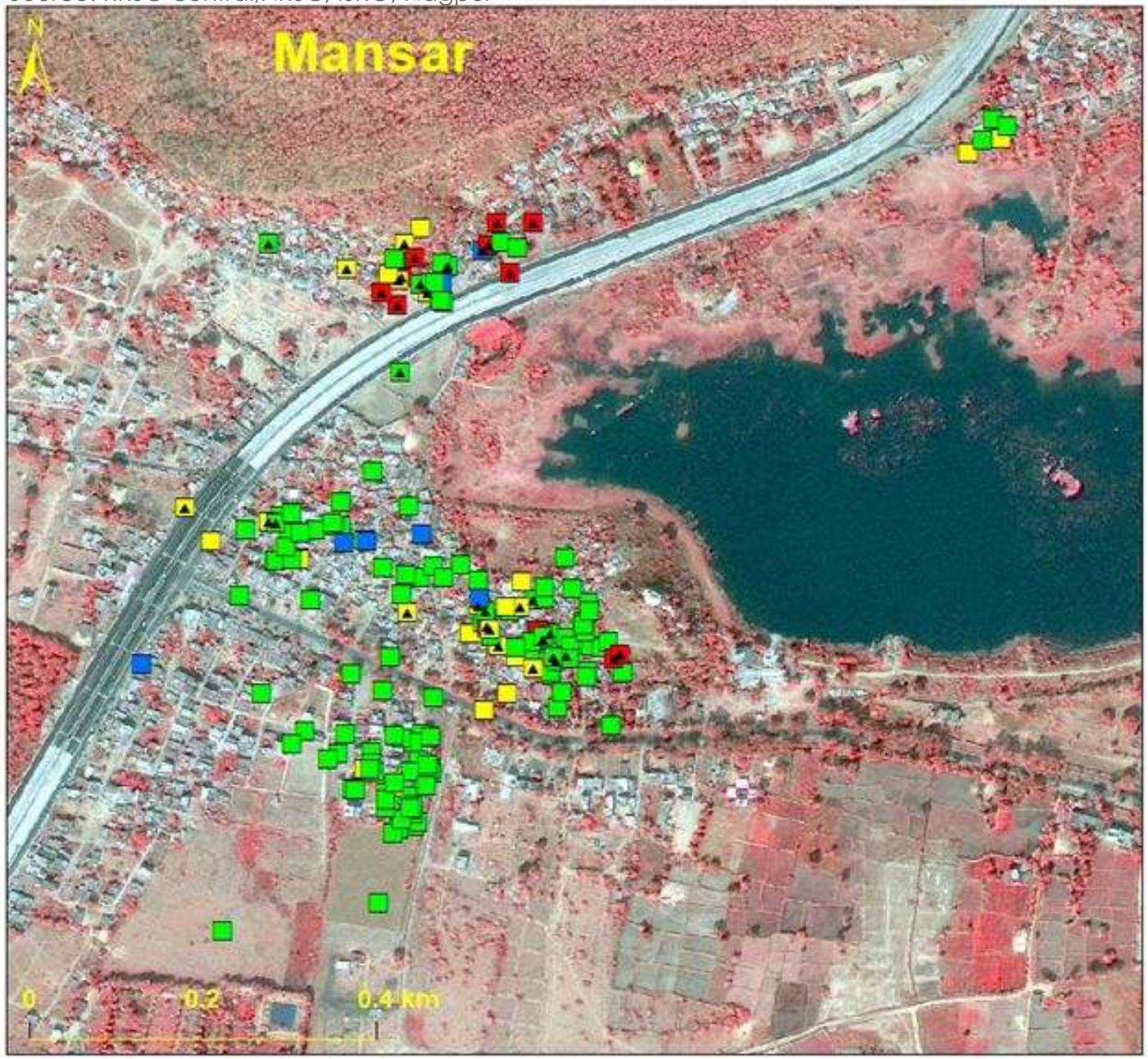
RRSCs, NRSC, ISRO

Total 85% of the surveyed houses are land holding rights.
The red squares with black triangles in the map indicates Kacha houses with no land holding rights.

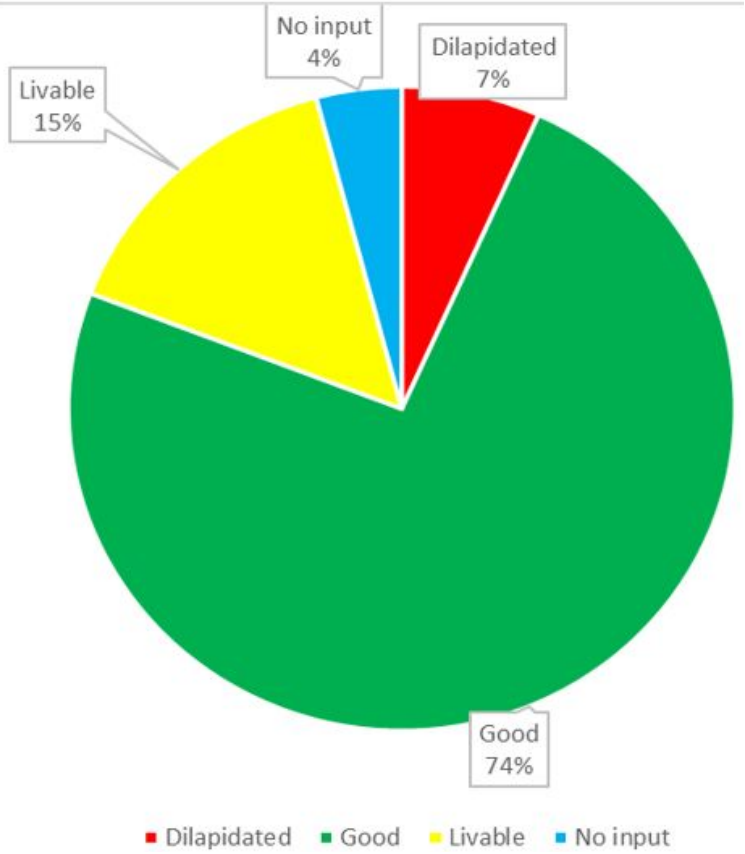
Housing

Existing conditions of houses

Source: RRSC-central,NRSC, ISRO, Nagpur



House Hold Survey data distribution based on House condition highlighting Kacha House



HH Survey Points

- Kachcha House

Condition

- Dilapidated
- Good
- Livable
- No input

RRSCs, NRSC, ISRO

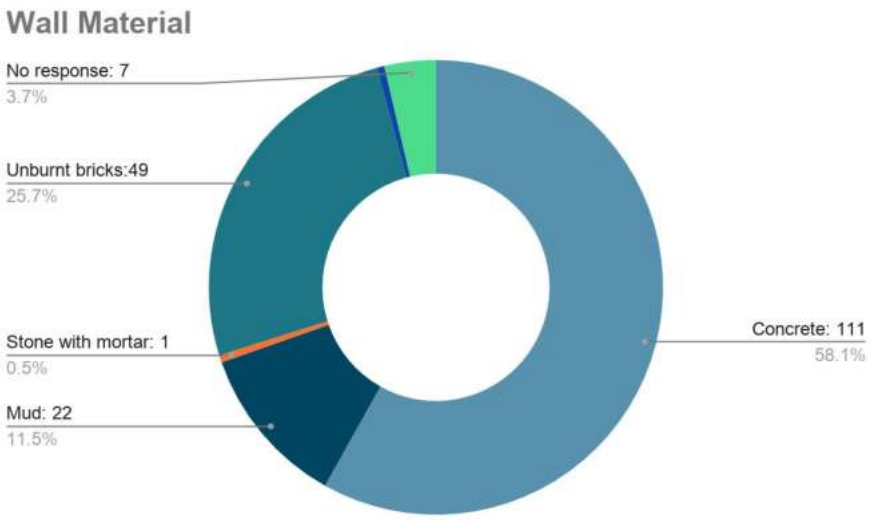
Most of the buildings are in good condition i.e. around 75%.

Only 6.8% are dilapidated.

Existing housing condition in Mansar by reconnaissance survey

Housing

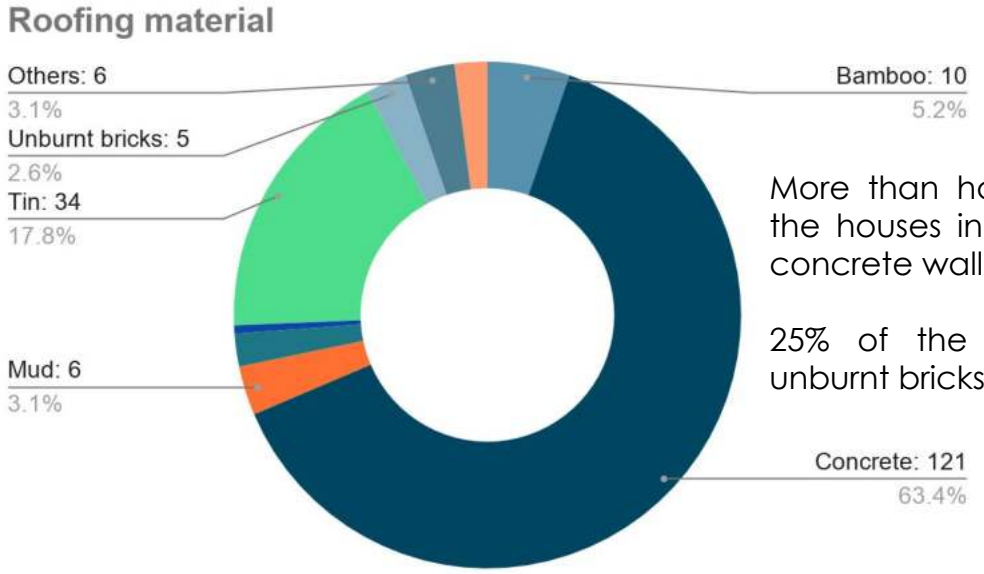
Existing conditions of houses



More than half (58.1%) of the houses in Mansar have concrete wall material.

25% of the houses have unburnt bricks for walls.

Mud walls are also existent which constitutes 11.5% .



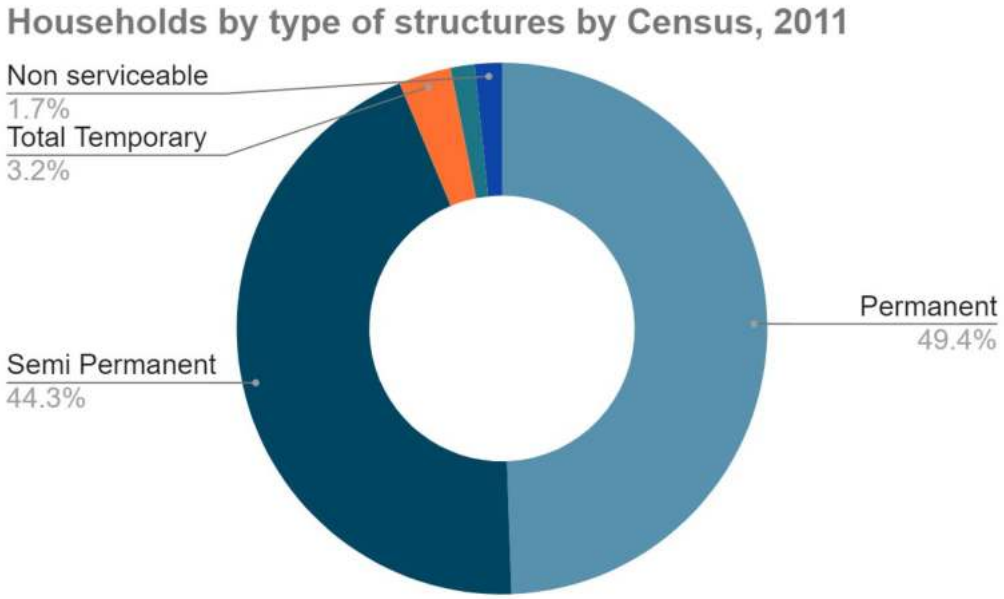
More than half (58.1%) of the houses in Mansar have concrete wall material.

25% of the houses have unburnt bricks for walls.

Pie chart showing Wall material used in Mansar village (HH survey)

Pie chart showing roof material used in Mansar village (HH Survey)

Total Population (2011) = 6035
Population projection (2031) = 10228
Population growth rate = 14.95%
Household size = 4
Existing households (2011) = 1519
Number of households projected (2031) = Projected Population / HH size = 10228/4 = **2557**
Total Households in “Good” condition = 828
Total Households in “Livable” condition = 618
Total households in “Dilapidated” condition = 73
Total temporary structures = 50
Non serviceable structures = 26



In order to upgrade the existing housing stock of Mansar, it is important to improve the dilapidated, non serviceable and Katcha structures.

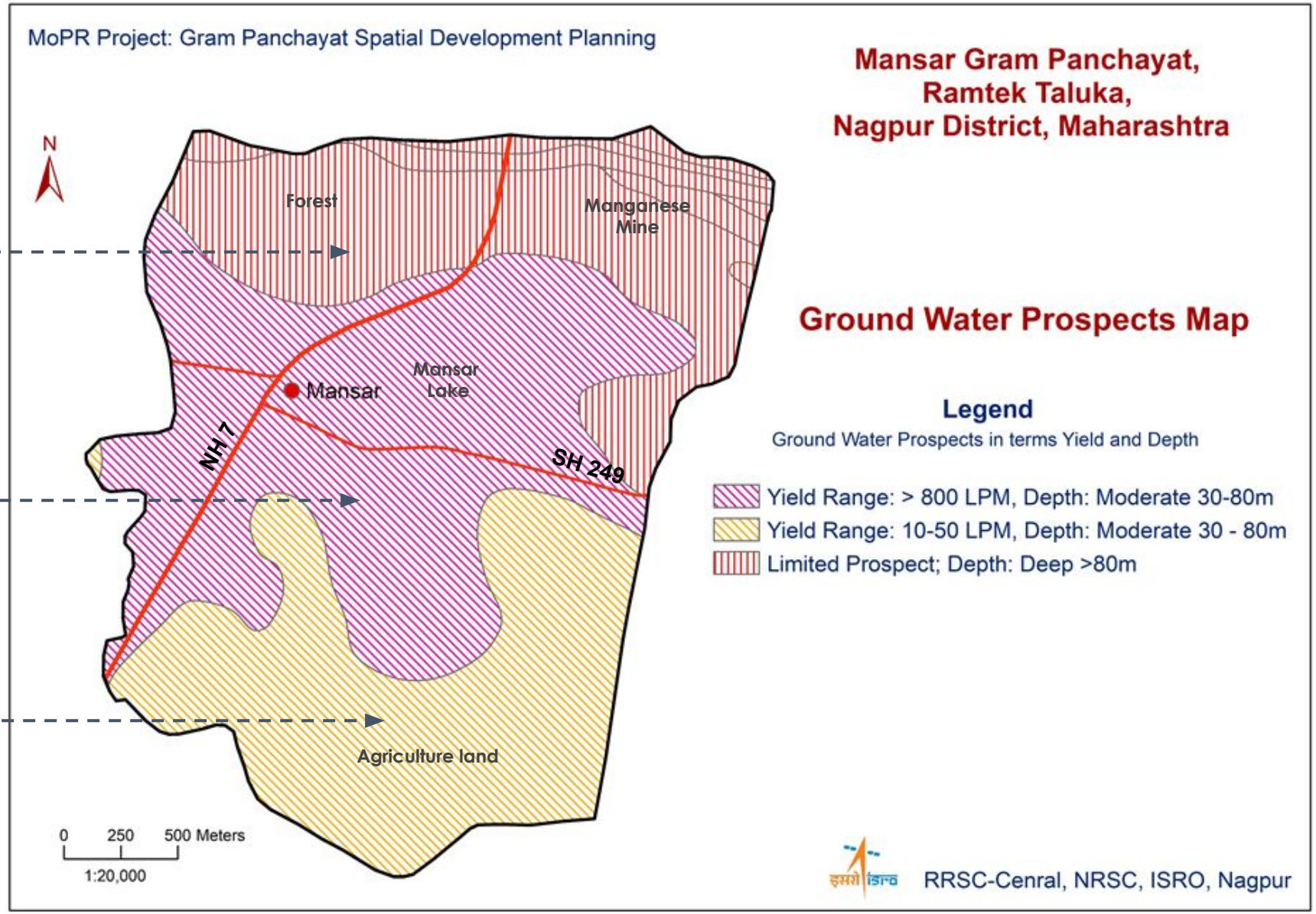
Physical Infrastructure

Source: RRSC-central,NRSC, ISRO, Nagpur

Area near forest and mine has limited prospect.

Area near Mansar lake and Habitation mask has High yield range of groundwater i.e., >800LPM

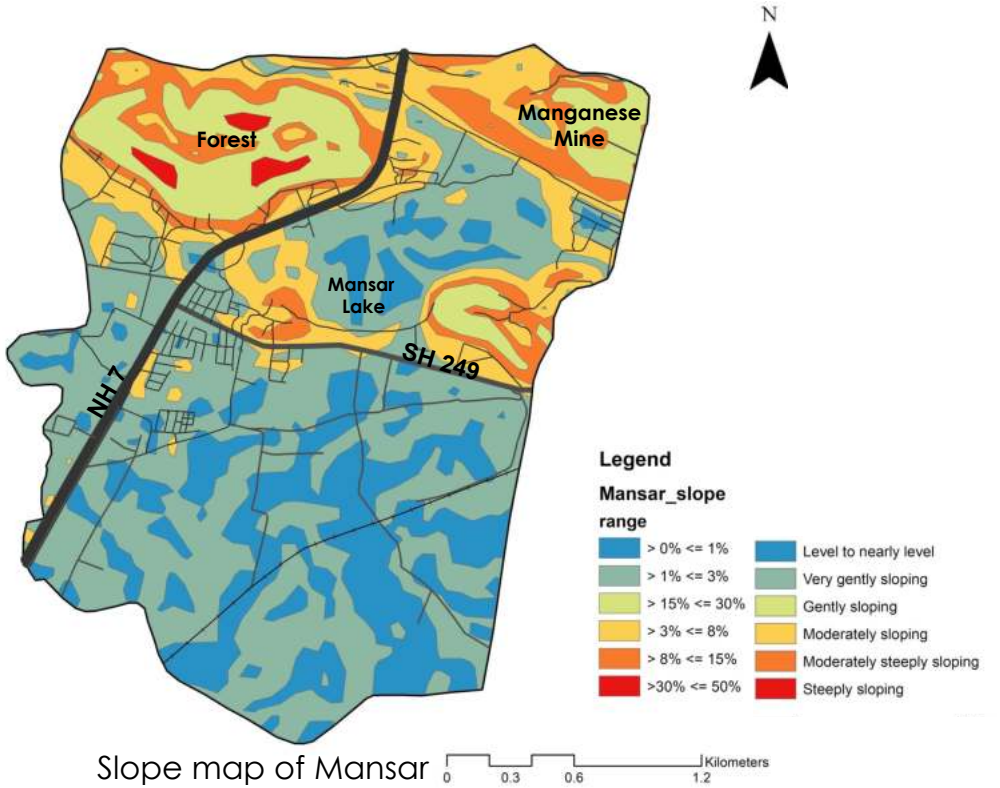
Area under agriculture land has yield range 10-50 LPM and moderate ground water depth i.e., 30-80m



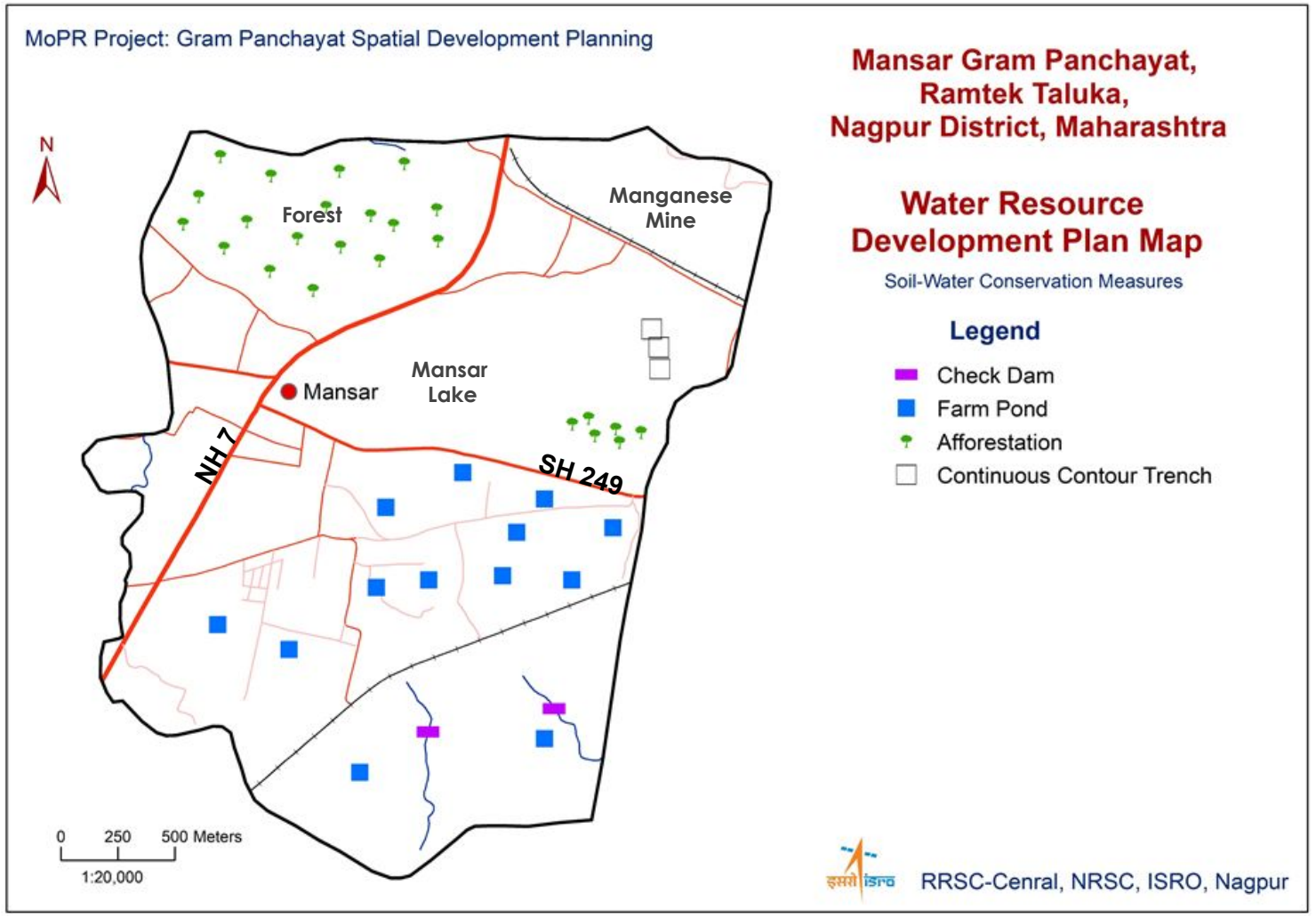
Water Supply

Water Resource Development Map

Source: RRSC-central,NRSC, ISRO, Nagpur



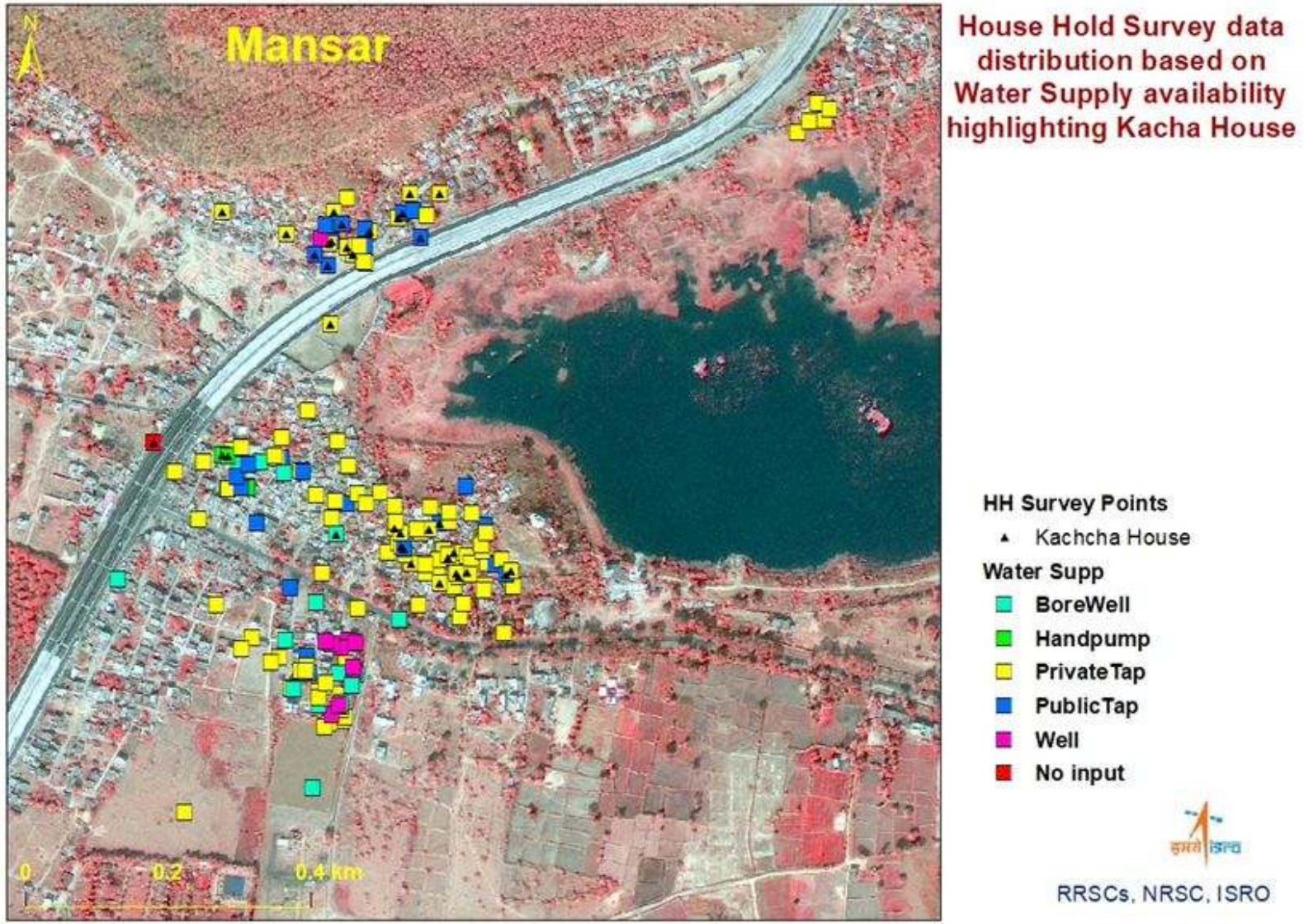
Slope map of Mansar

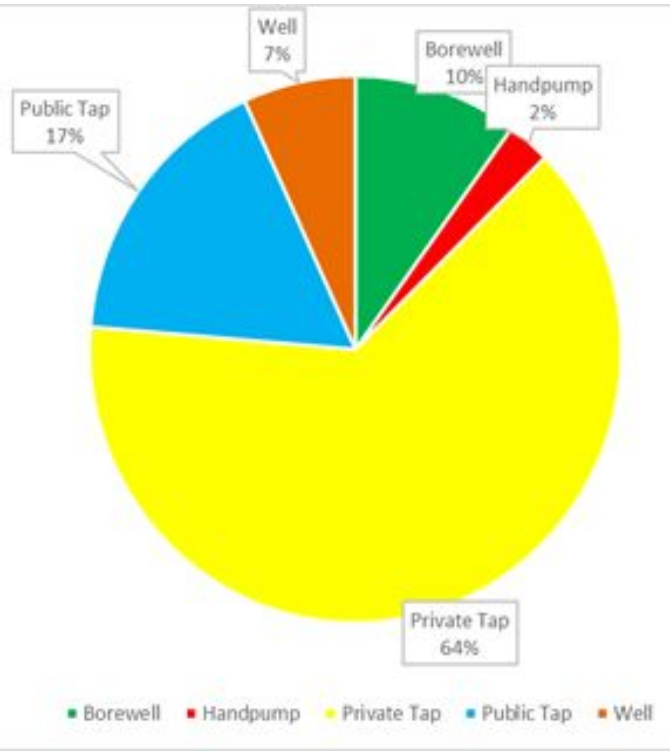


The Slope of Mansar village is from Forest area and Mine area towards the Mansar lake, Habitation mask and Agriculture land.
This can help in watershed management of the village.

Water Supply

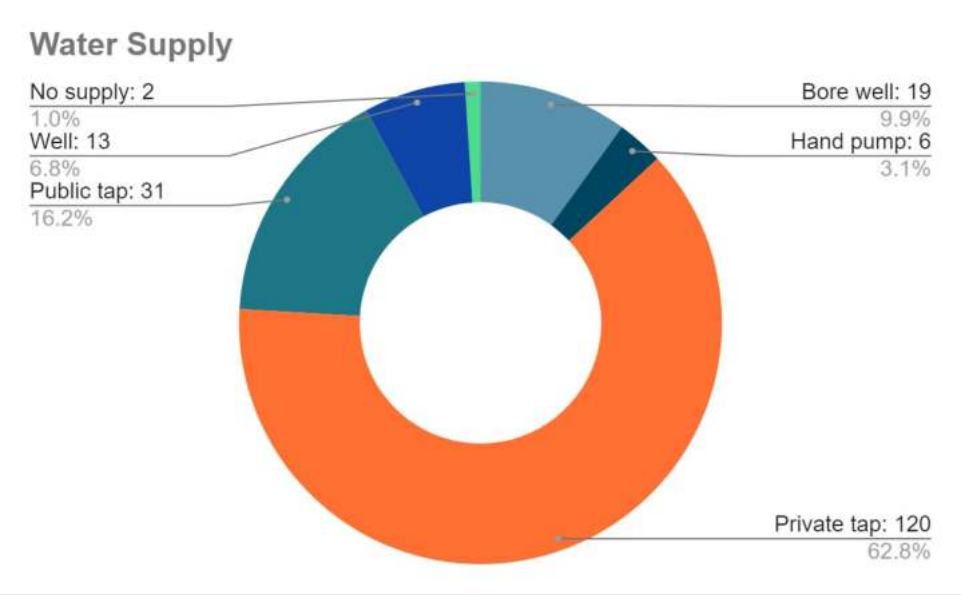
Household survey analysis



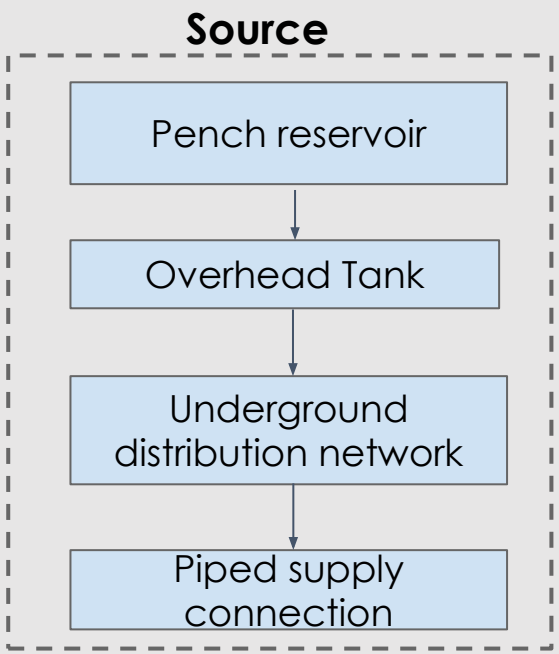


As per household survey, only 64% i.e., 120 households have private tap connections.
17% i.e., 32 households use to public taps.
10% i.e., 19 households have borewells.
7% i.e., 13 households have wells.
2-3 households use hand pump as a mode of water supply.

Water Supply



Pie chart showing source of water supply in Mansar village



Flowchart showing Source to supply connection at Mansar

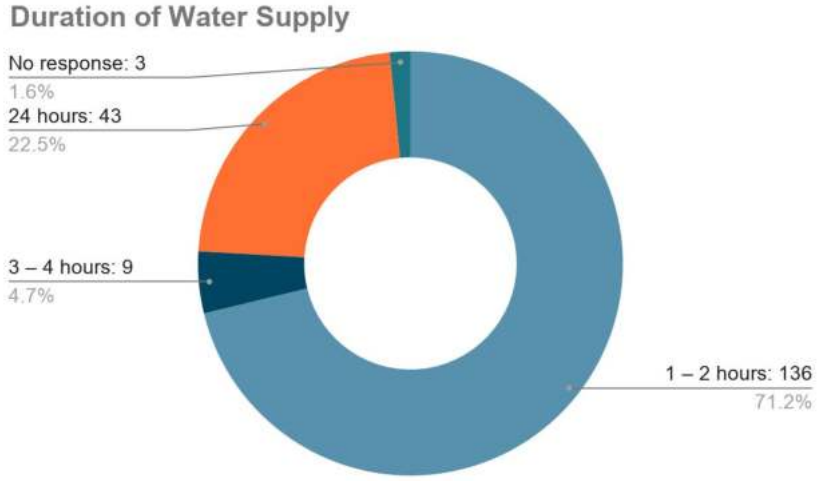
FUTURE DEMAND - WATER SUPPLY			
1	PER CAPITA WATER SUPPLY DEMAND	135	LPCD
2	WATER LOSSES	15	% ASSUMED
3	PER CAPITA WATER DEMAND (LPCD +%LOSS)	155.25	LPCD
4	PROJECTED POPULATION	11847	PERSON
	TOTAL DEMAND	1839246.75	LPD

Connection

- More than 60% households have private tap connections. Although the supply is for more than 2 hours daily.
- 17% households use water from their private wells or borewells.
- 16.2% households are dependent on public taps, whereas the distribution of public taps is uneven throughout the village.
- Few households are not having any kind of water supply near them or at their disposal. These households are dependent on neighbour's wells to satisfy their water demand.

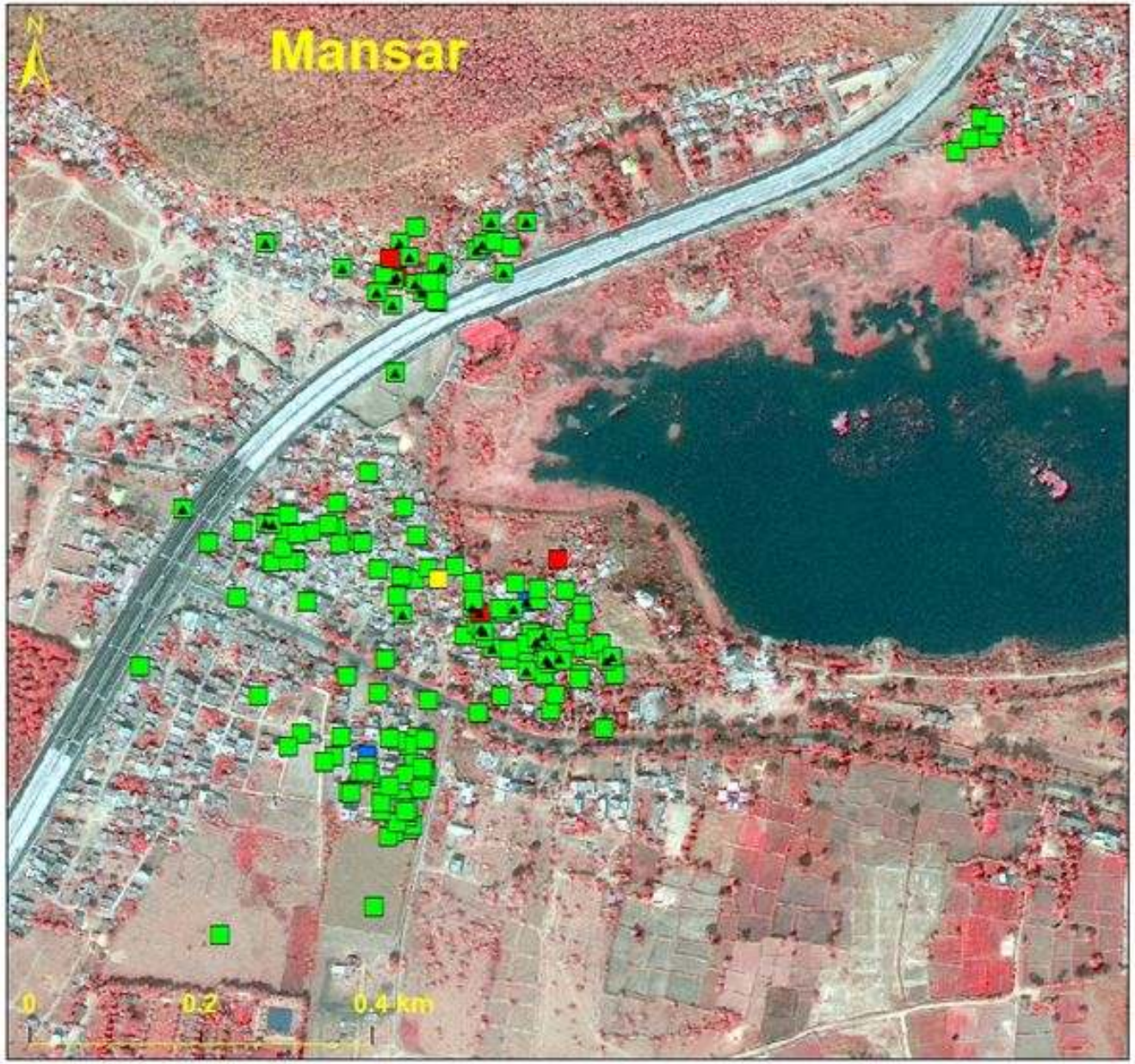
Quality

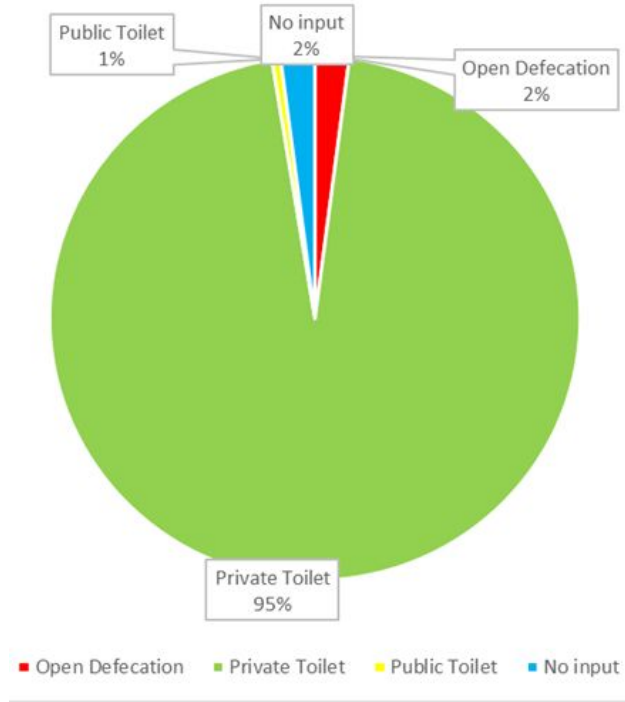
- since water supplied is filtered before distribution, water quality is quiet good



Toilet Facilities

Household survey analysis

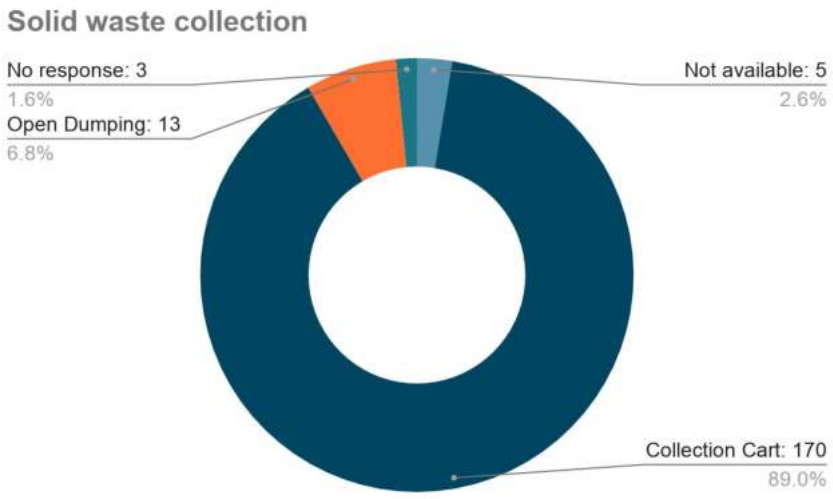




95% of the people own private toilet. Out of which 11% of the toilets are constructed under some scheme.

Solid Waste Management

CURRENT SCENARIO



Pie chart showing SWM in Mansar village

Collection
As per the surveys it turned out around 89% of households are have door to door collection.

Treatment
There is not treatment facility available for the collected waste.

Dumping
The waste collected is dumped in the open.

The waste collection efficiency is to be improved as there is still a gap in waste collection.

Also the issue of open dumping needs to be addressed to avoid and hazards to the environment as well as the inhabitants in the village area, including the livestock.

There are areas which still have no waste collection facility.

There is no treatment facility for the collected waste whatsoever. the collected waste is dumped in an open ground nearby the village. Thus a proper treatment facility like composting and recycling plant is necessary.

SWM is one of the key components of any sanitation initiative. In India especially in rural areas, waste is a severe threat to the public health concern and cleanliness. Though, the form of waste generated in rural areas is predominantly organic and biodegradable yet is becoming a major problem to the overall sustainability of the ecological balance.

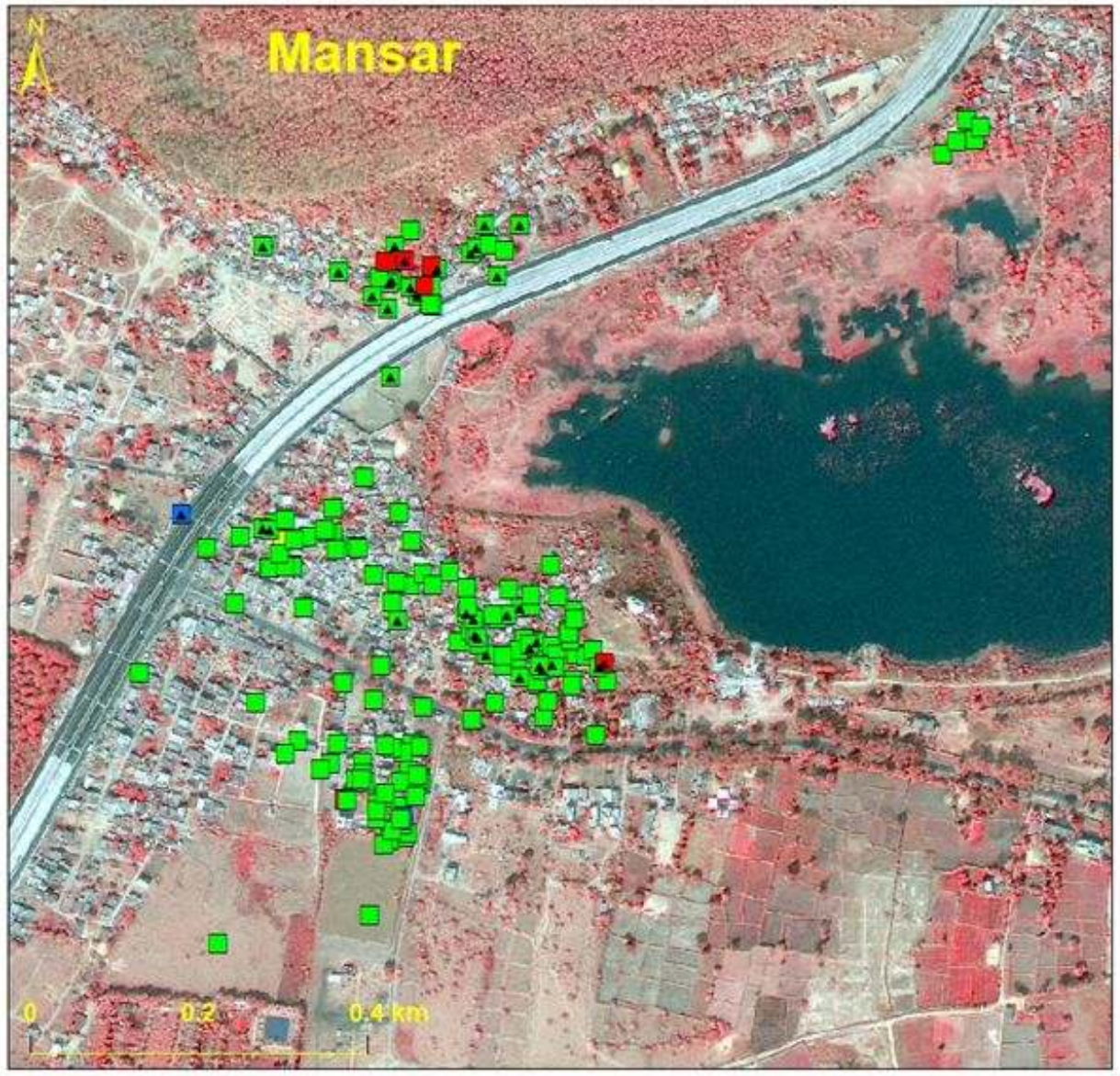
Generation of solid waste in rural areas ranges between 50 gm/cap /day and 250 gm / cap / day as mentioned below:

- Rural 150 to 250 gm/ cap/day.
- Remote/Tribal areas 50 to 150 gm/cap/day.

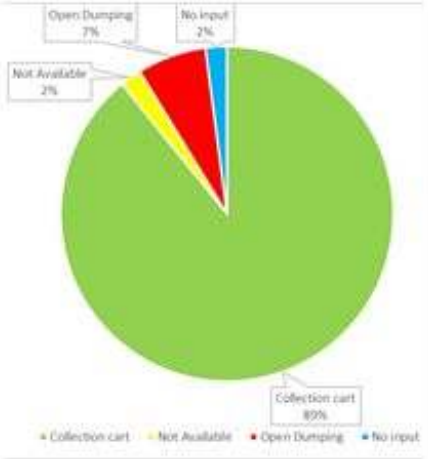
Projected Waste Generation for Population (Mansar)			
Year	2021	2031	2041
Population	8245	9864	11847
Waste Generation @ 0.175 kg/cap/day			
Waste Generation	1442.88	1726.20	2073.23

The waste management in rural areas can be initiated through sensitization and cooperation of people. The process of waste segregation and collection is to be encouraged for a collective disposal and treatment. Inorganic wastes can be recycled locally or can be collected to be sold off for recycling.

Solid Waste Management



House Hold Survey data distribution based on Solid waste disposal highlighting Kacha House



HH Survey Points
- Kachcha House

Solid Waste disposal
- CollectionCart
- NotAvailable
- OpenDumping
- No input

RRSCs, NRSC, ISRO

As per the survey done for a sample size of more than 150 Households, the results show that 89% of the area is accessible for waste collection cart.

A small area is still facing the collection issue and thus open dumping of waste is being practised.

To eliminate this practice, primarily collection of waste and then its proper treatment needs to be taken care of.

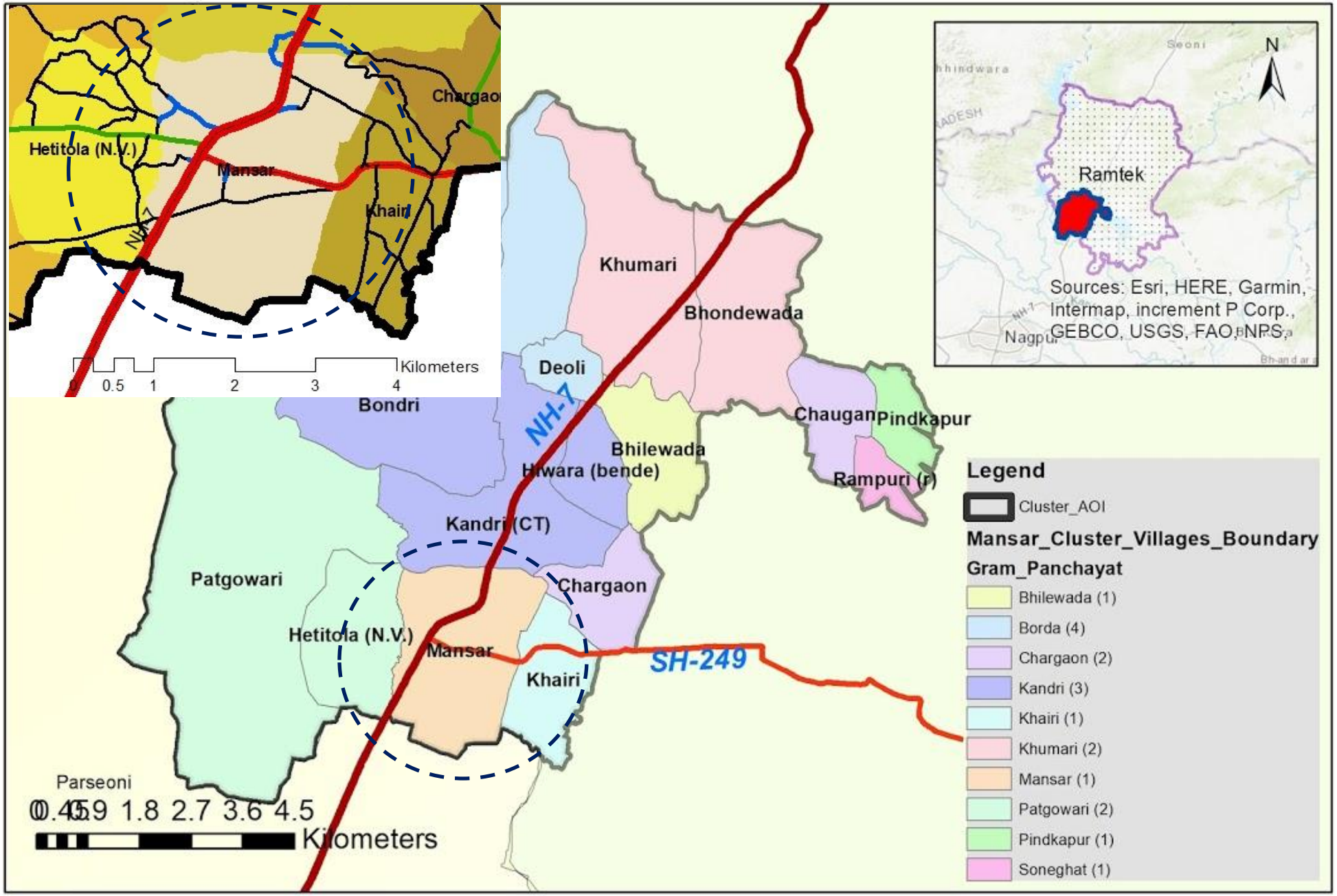
Transportation

Fundamental issues:

1. Sudden growth in certain areas makes it difficult to keep up with **maintenance**.
2. Lack of **funding for capacity improvements** to roads where traffic growth warrants improvements
3. **Inadequate public transportation** choices to accommodate travel demand growth or job access

Observations from field survey : More than 50% of transport needs are catered through personal 2-wheelers

Conclusion: Plans must address the issue of supporting economic growth and development



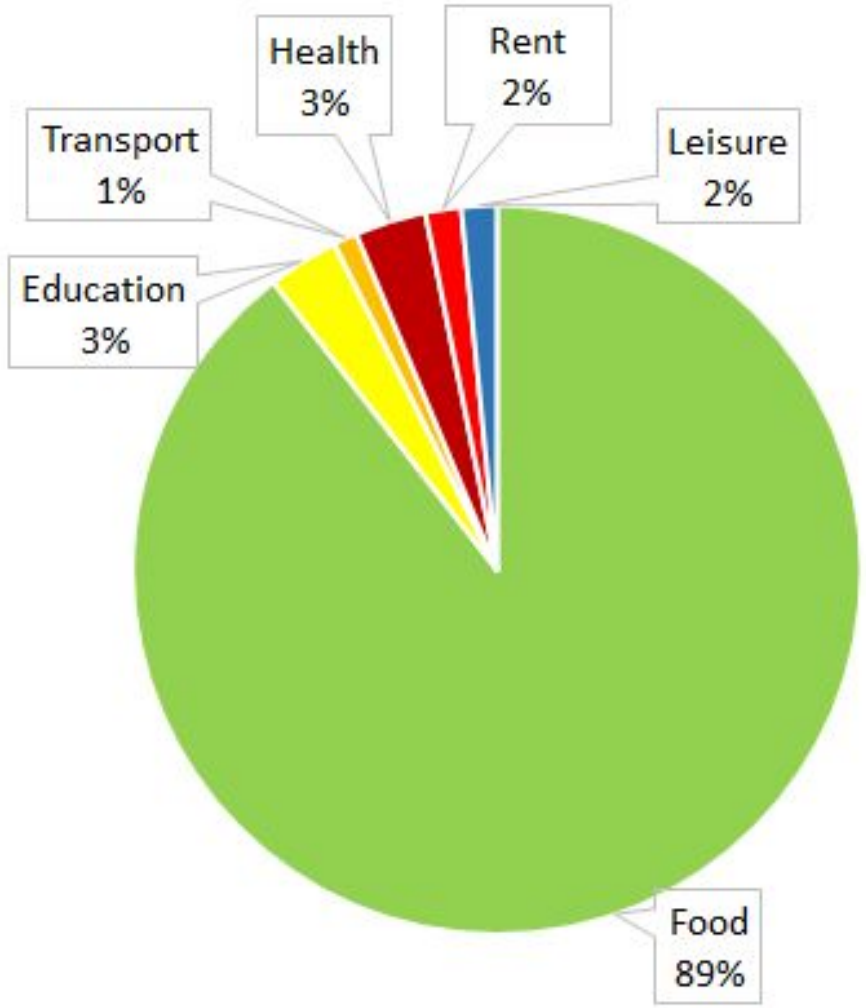
Social Infrastructure

Social Infrastructure

	Type of School	Standard	Existing	Desired	Deficiency	Gap %	Observations
Education	Pre-Primary/ Anganwadi	1 for 2500	8	3	-	0	
	Primary & Middle	1 for 5000	6	2	-	0	Has 2 primary and 4 middle schools.
	Secondary/ High	1 for 5000	3	2	-	0	
	Sr. Secondary	1 for 7500	1	1	-	0	
	Higher Ed.(Colleges)	1 for 10 lakh	0	0	-	0	Depends on Ramtek and Nagpur provide college facilities nearby (above 5km distance)
	School for challenged	1 for 45,000	0	0	-	0	Ramtek and Nagpur cover requirement of Mansar population.
Healthcare	PHS	1 for 5000	1	1	-	0	
	Dispensary	1 for 15,000	1	1	-	0	
	PHC	1 for 45,000	1	0	-	0	
	CHC	1 for 10 lakh	0	0	-	0	
	Maternity	1 for 45,000	1	0	-	0	
	Family welfare	1 for 50,000	1	0	-	0	
	Veterinary	1 for 50,000	0	0	-	0	
Socio- cultural : There is no shortage of facilities in Mansar.							
Nearby Police station- Ramtek; Nearby Fire station - Nagpur							

Social Infrastructure

Majority of the People more on food and less on transport.



Pie chart showing Monthly Expenditure of people in Mansar village

Agriculture

Agriculture

FOCUS AREA: Mansar

Identified Concerns:

- Ramtek Taluka has higher cropping intensity of 164.9 in comparison to Maharashtra state cropping intensity of 134.3
- But overall production is quite below the state level avg values.
- If proper resources and knowledge is made available to them, than their will be high chances of increase in overall production and boost in economy.

Taluka	Total No. of Villages	Scarcity Villages	Geographical Area	Net Swon Area	Gross Cropped Area	Cropping Intensity	Irrigated Area (Major, Medium & Minor) as given by Irrigation deptt.	% irrigation potential to gross cultivated area
Ramtek	157	151	114290	28015	46284	164.9	11980	34.03

Agriculture produce and irrigation status

Taluka: Ramtek					Unit: Kg/ha	
	2011-12	2012-13	2013-14	2014-15	2015-16	State Avg.
CROP- Tur	323.3	713.8	50	329.6	342.4	829
CROP- Soybean	891	790.5	202.5	222.5	204.2	1531
CROP- Cotton(Lint)	288.6	349.1	241.5	208.5	255.9	276
CROP- Wheat	1037.4	1064.5	619.8	937.4	473.5	1527
CROP- Gram	647.8	707.8	452	531.7	254.3	765
CROP- Rice	1797.4	1670.6	1376.5	733.8	1065.8	2333

Agriculture produce and state average comparison

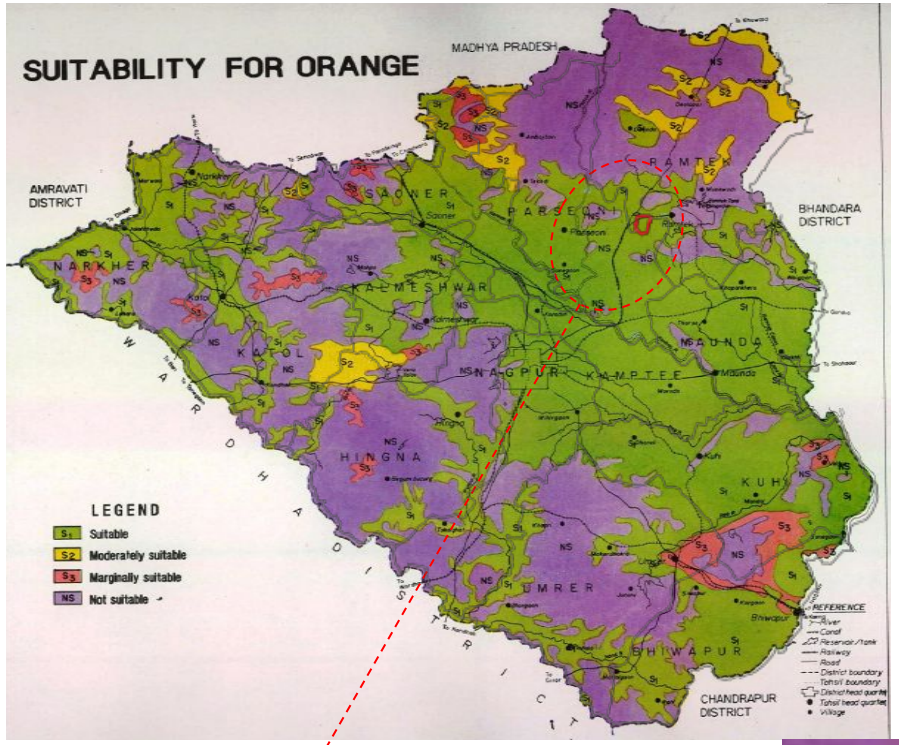
Taluka	Work Phy. (ha)	No. of Works	Amount Fin.
Ramtek	2175	1287	2546.93
1st Phase work of Jalyukta Shivar Abhiyan project plan of Nagpur dist. Annual year plan 2015-16			

Financial aid given and works proposed

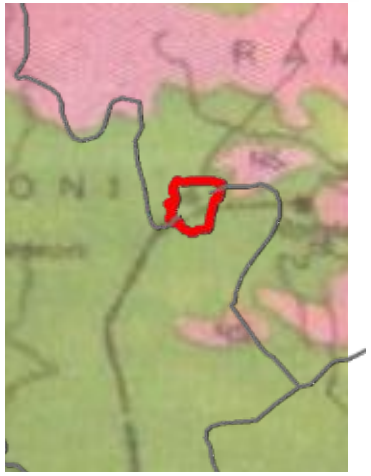
Source: Govt of Maharashtra, COMPREHENSIVE DISTRICT AGRICULTURE PLAN, C-DAP 2012-13 to 2016-17, District : Nagpur, Department of Agriculture and Allied Departments.

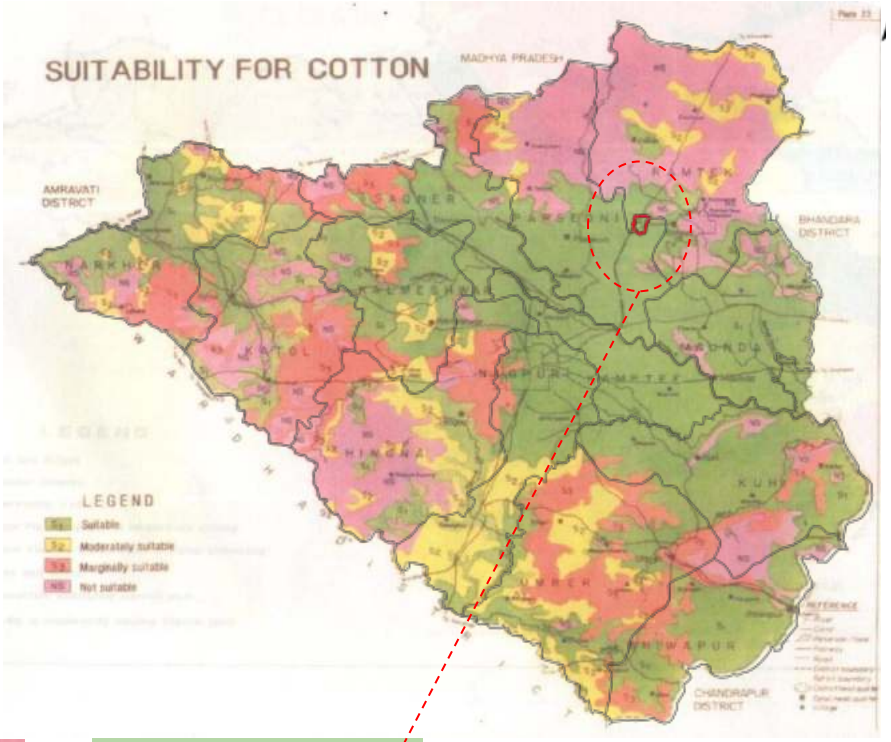
Agriculture

FOCUS AREA: Mansar



Mansar is favorable for Orange production.

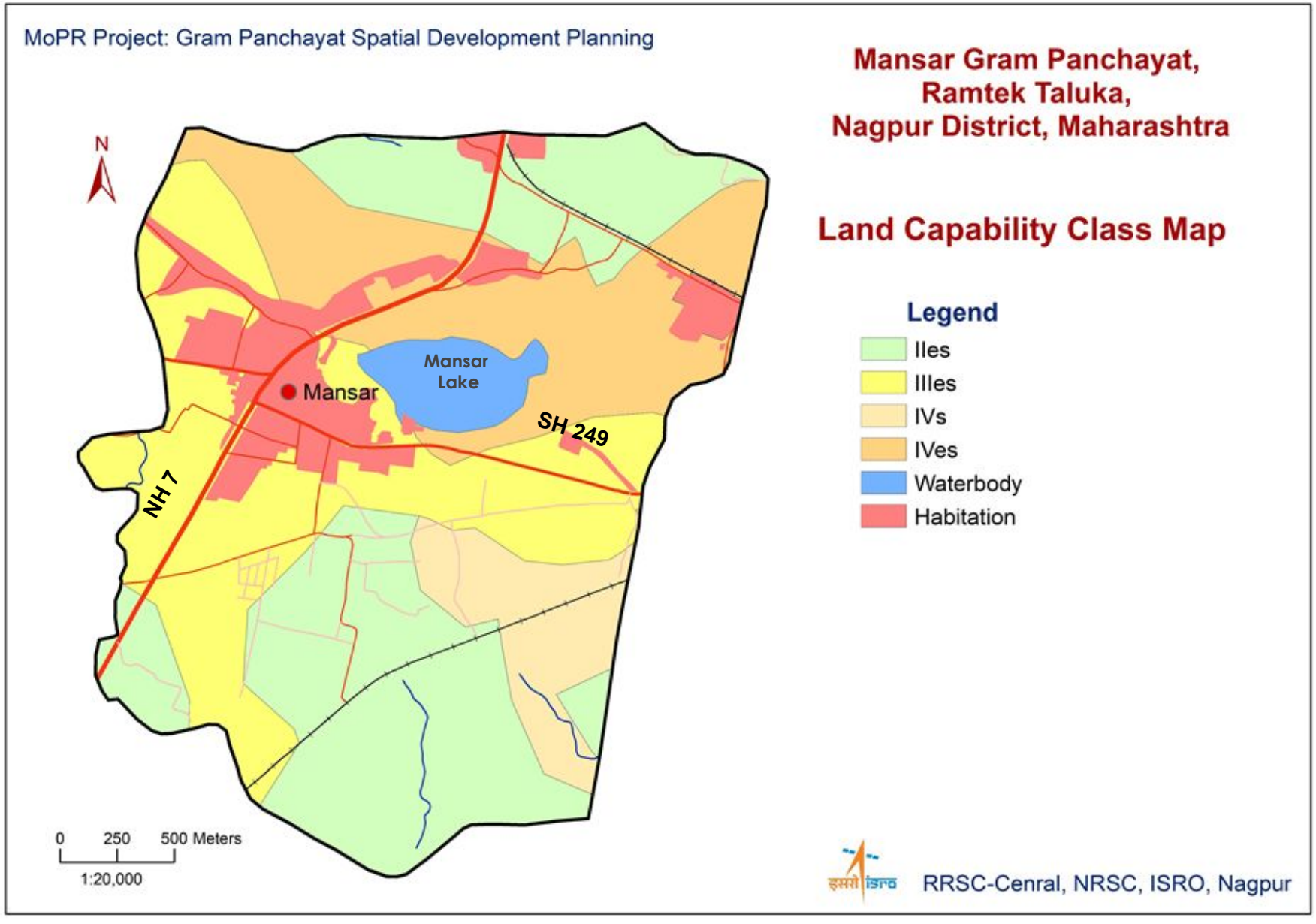




Mansar is favorable for cotton production.

Source: Govt of Maharashtra, COMPREHENSIVE DISTRICT AGRICULTURE PLAN, C-DAP 2012-13 to 2016-17, District : Nagpur, Department of Agriculture and Allied Departments.

Source: RRSC-central,NRSC, ISRO, Nagpur



Land Capability Class

Capability classes are groups of capability subclasses or capability units that have the same relative degree of hazard or limitation. The risks of soil damage or limitation in use become progressively greater from class I to class VIII.

Soil in class II have some limitations that reduce the choice of plants or require moderate conservation practices.

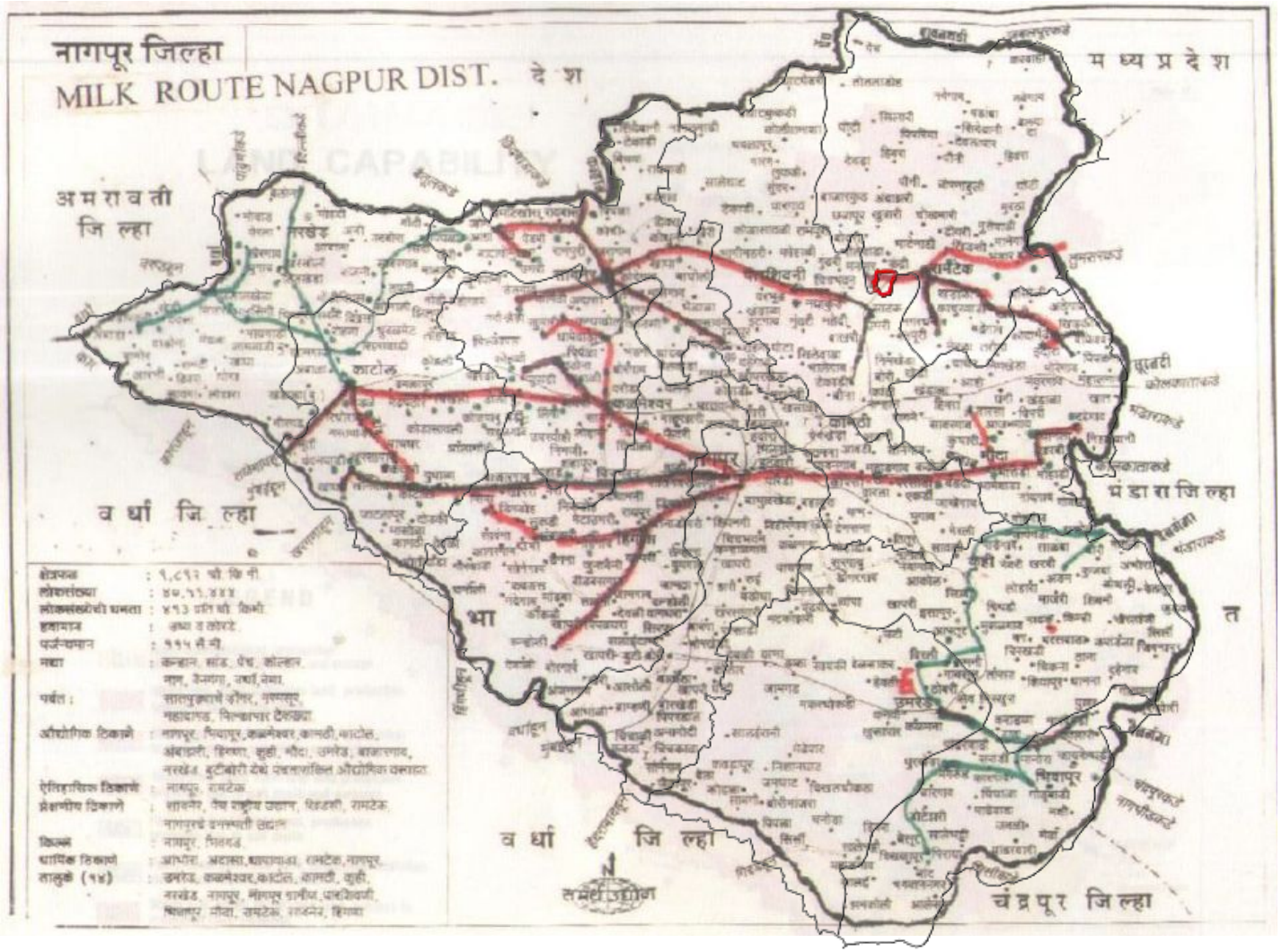
Soils in class III have severe limitations that reduce the choice of plants or require special conservation practices, or both.

Soils in class IV have very severe limitations that restrict the choice oí plants, require very careful management/ or both.

Soils in class VI have severe limitations that make them generally unsuited to cultivation and limit their use largely to pasture or range, woodland, or wildlife food and cover.

Agriculture

FOCUS AREA: Mansar



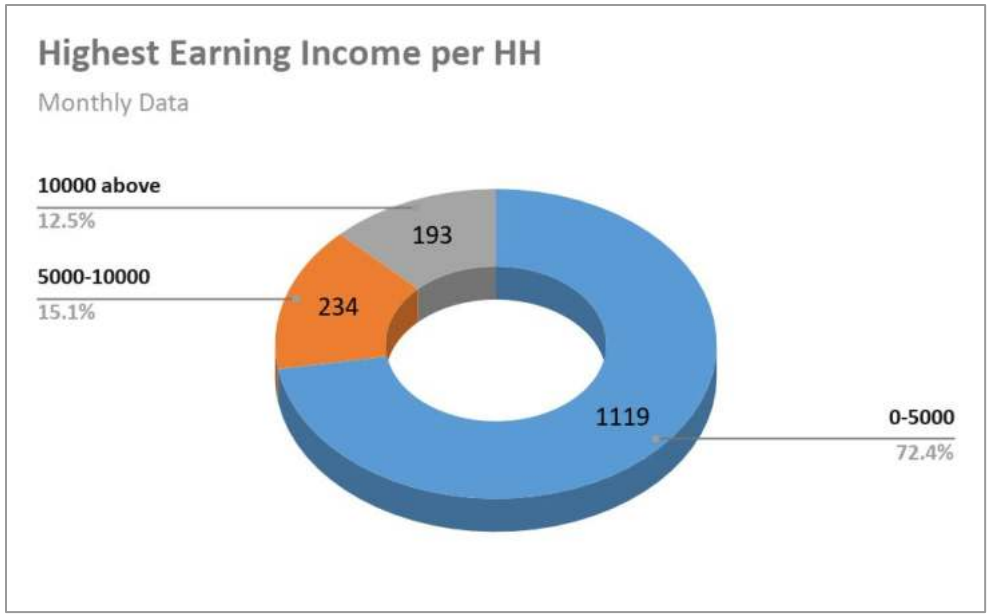
Sr.No	Name of organizations	With in district	To outside District	To outside state	Total Distribution
1	Dinshaws	84780	23270	35161	143211
2	Haldiram	66342	5567	5492	7740
3	Mahananda	10390	3474	86	13950
4	Vasudhara	53819	--	11270	67089
5	Milk Federation ,nagpur	1696	1398	--	3094
6	Cream line¼jursy½	6939	5248	328	12515
7	Tanuj dairy tech.	9270	--	--	9270
8	Milk Federation Bhandara	6564	--	--	6564
9	Mother Dairy	4424	--	--	4424
10	Parag milk food	14220	7886	--	22106
	Total	260444	46843	52337	359624

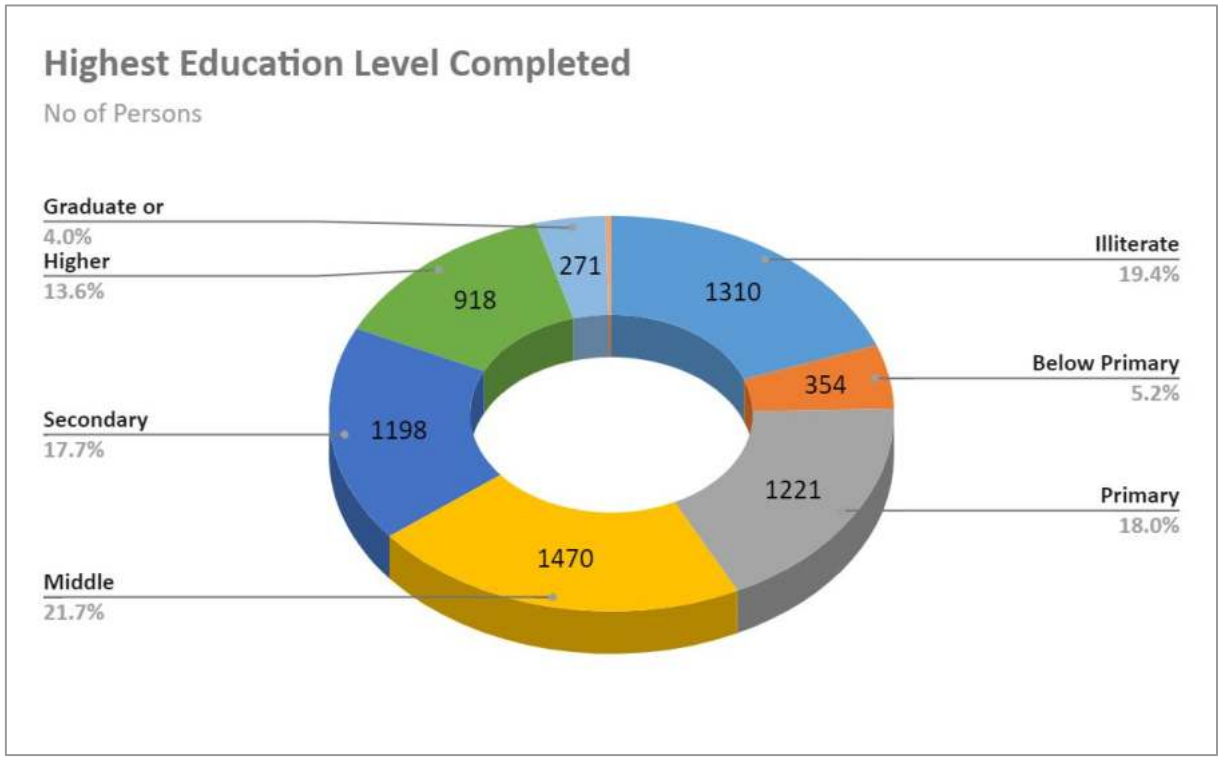
Daily production of			Daily requirement of		
Milk	Eggs	Meat	Milk	Eggs	Meat
4.25	4.12	0.552	6.12	5.64	0.571

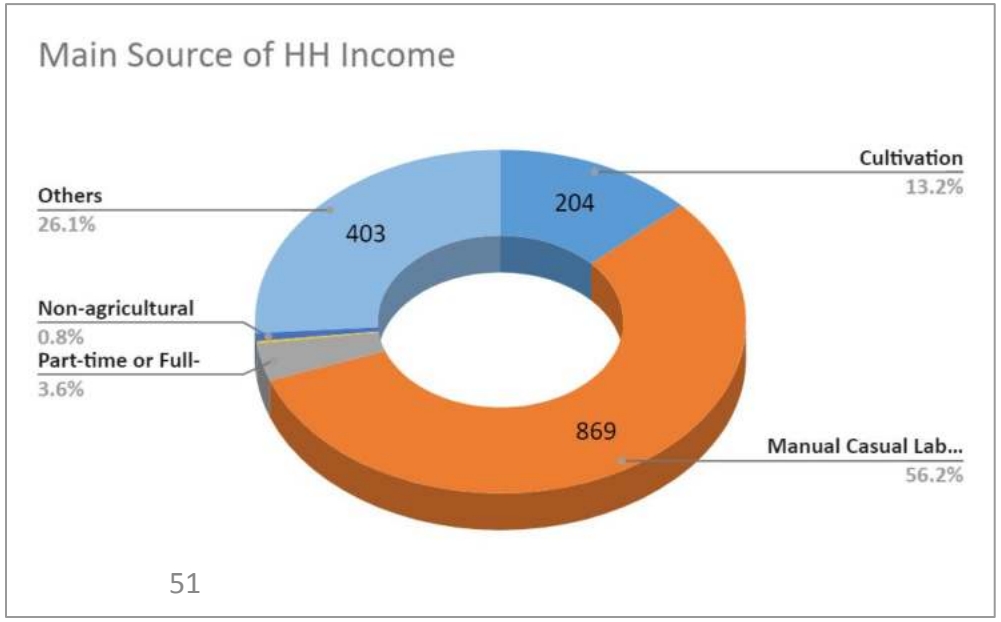
- The district is not self sufficient in milk requirement and about 150000 litre of milk/day is brought in to the district from outside.
- Distribution of milch animals
- Strengthening/ Modernization of existing Veterinary Hospital/Dispensaries.

Source: Govt of Maharashtra, COMPREHENSIVE DISTRICT AGRICULTURE PLAN, C-DAP 2012-13 to 2016-17, District : Nagpur, Department of Agriculture and Allied Departments.

Economy







Inferences -

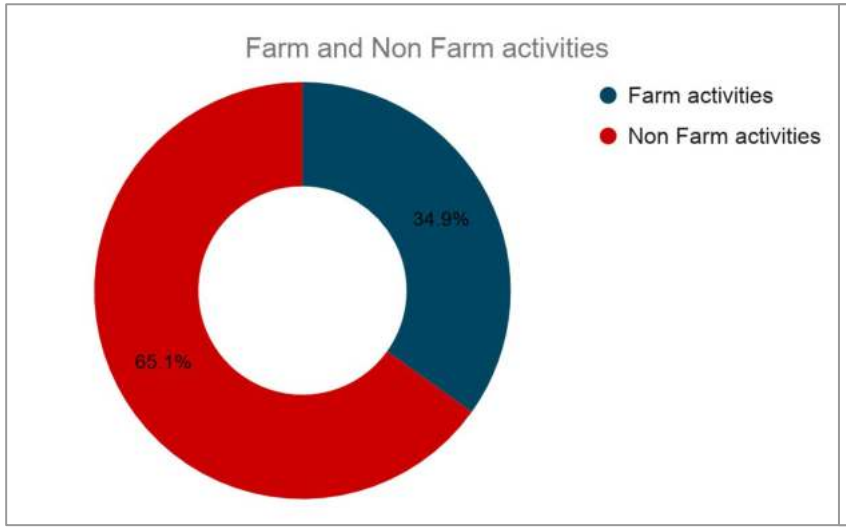
- Monthly income of 72% HH is less than 5,000.
- Majority of population is involved in manual casual labor works followed by cultivation and other activities.
- The livelihood opportunity is the major concern for the village
- Literacy rate, lack of opportunities for appropriate skill development and lack of higher education is the major reason

Economy

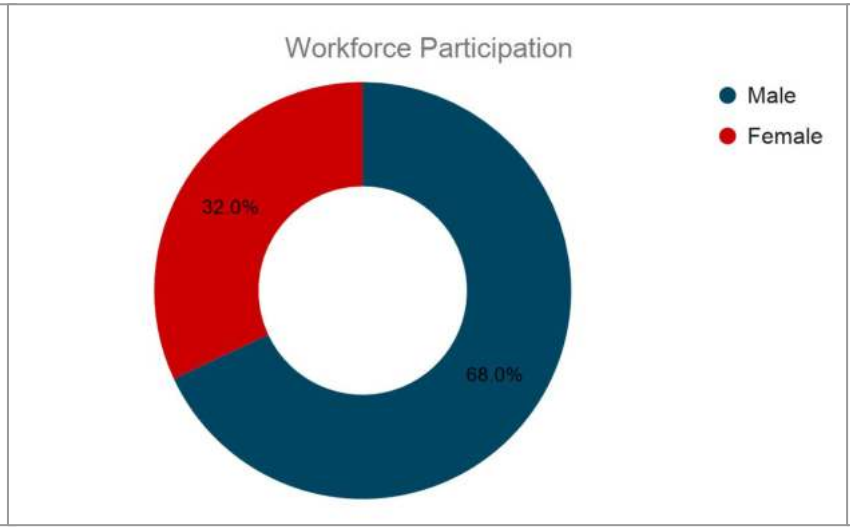
Details about the village, secondary and statistical data

Socio Economic and Caste Census, MoRD,

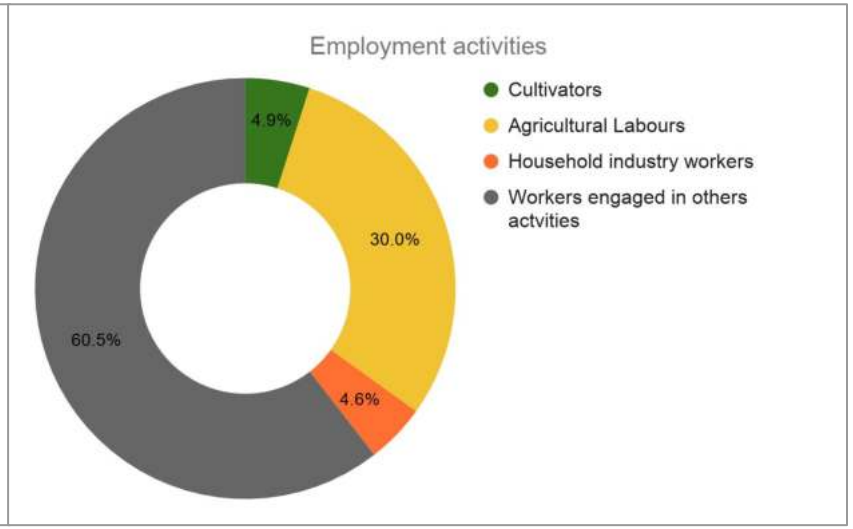
People employed in Farm and Non Farm activities



Work force Participation at Mansar



Employment activities



Total Workforce population: 2831

Around 35 % population (988) of Mansar is engaged in farm activities, while 65% of workforce(1873) in non- farm work activities.

In Mansar around 32 % (905) of women are part of the workforce.

Around 60% (1713) of the workforce is employed in other activities i.e industries and industrial related activities. This indicates the presence of industries in or around Mansar.

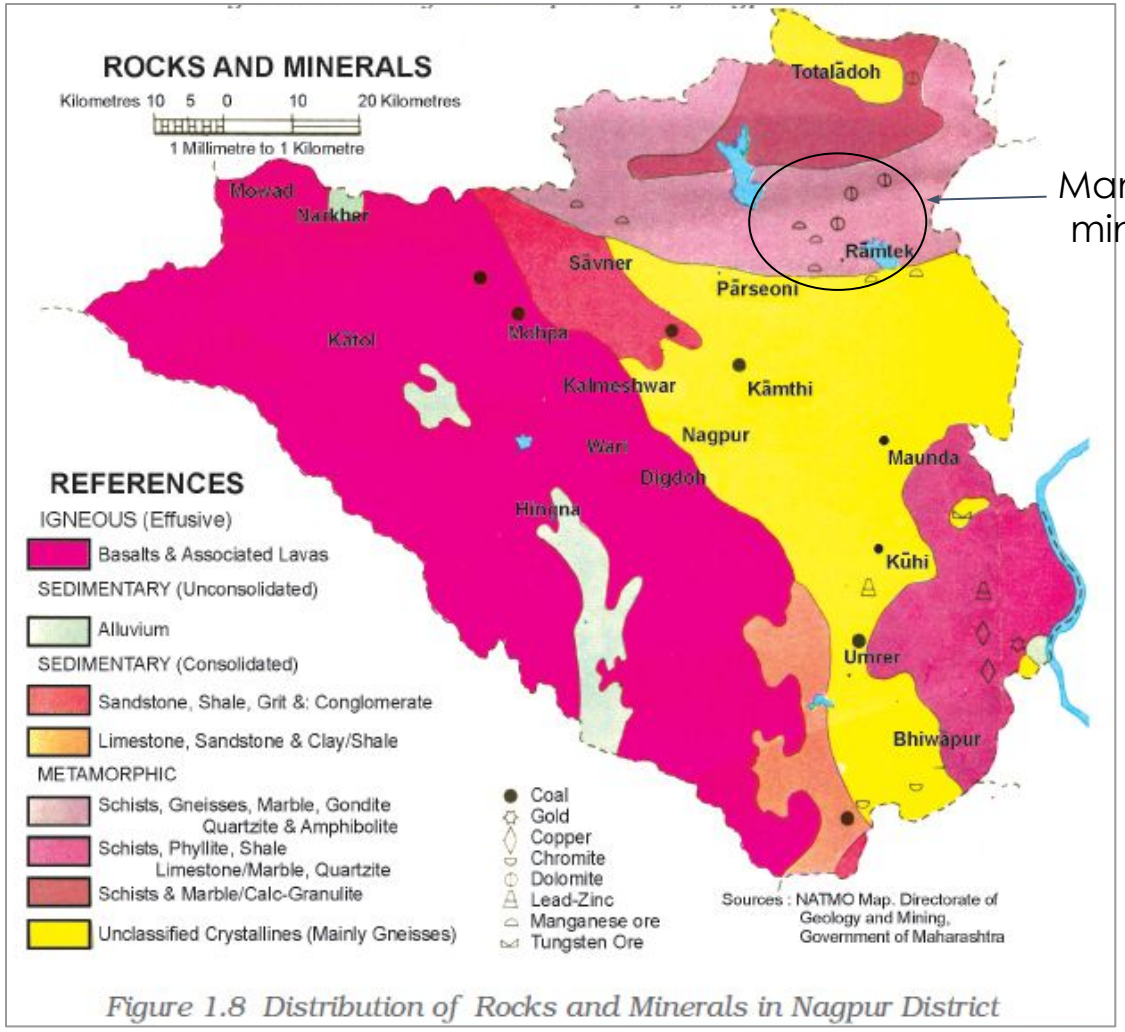


Figure 1.8 Distribution of Rocks and Minerals in Nagpur District

Manganese mineral ore

Manganese Mine at Mansar

- Type: **Underground Mine**
- Total area of lease land: 149.06 Hectare
- The annual production of Manganese Ore in Mine is 125000 T
- The 149.06 Ha ML consists of 5 leases located at Chargaon, Khairi, Mansar, Parsoda, Kandri.
- Total annual income: 119.29 crores
- Total annual contribution to the economy: 29.05 crores.
- Number of employees : 632

Mansar Mine

❖ **Programme for Local Youth near operating Mines.**

- **Source:** Corporate Social Responsibility Fund
- **Location:** Mansar
- **Programme details:** Educational & Training facilities

❖ **Pradhan Mantri Kaushal Vikas Yojana**

- **Source:** Ministry of Skill Development and Entrepreneurship
- **Location:** Mansar
- **Programme Details**: Educational services

N·S·D·C
National
Skill Development
Corporation

PMKVY
प्रधानमंत्री कौशल विकास योजना
PRADHAN MANTRI KAUSHAL VIKAS YOJANA

CSR
CORPORATE SOCIAL RESPONSIBILITY

- Agriculture and Tourism are the major employment generation sectors which can boost the overall economy of the village

- Though 42% of land is under agriculture but majority of population is involved in casual labour work. It indicates that provision should be given for skill development opportunities

- Issues affecting the Agricultural Growth:
  - Dependence on rains, Shortage of irrigation facilities for cultivation
  - Neglected agro processing units and services

- Irrigation potential of Village (Presently only 34%) has to be enhance to tap the potential of cultivable land.

- Mansar village can be developed as tourism destination to boost the economy.

Destination Promotion
(Source: Secondary data)

Tourism

Tourism Scenario

Every year around 2-5 lakhs people visit Nagpur during different times.
Mansar is significantly known as a halt point for the journey towards North-West of Nagpur.

Tourist places at Mansar (as per the appearance order from Nagpur towards Ramtek)

- **Park / Recreational Place**

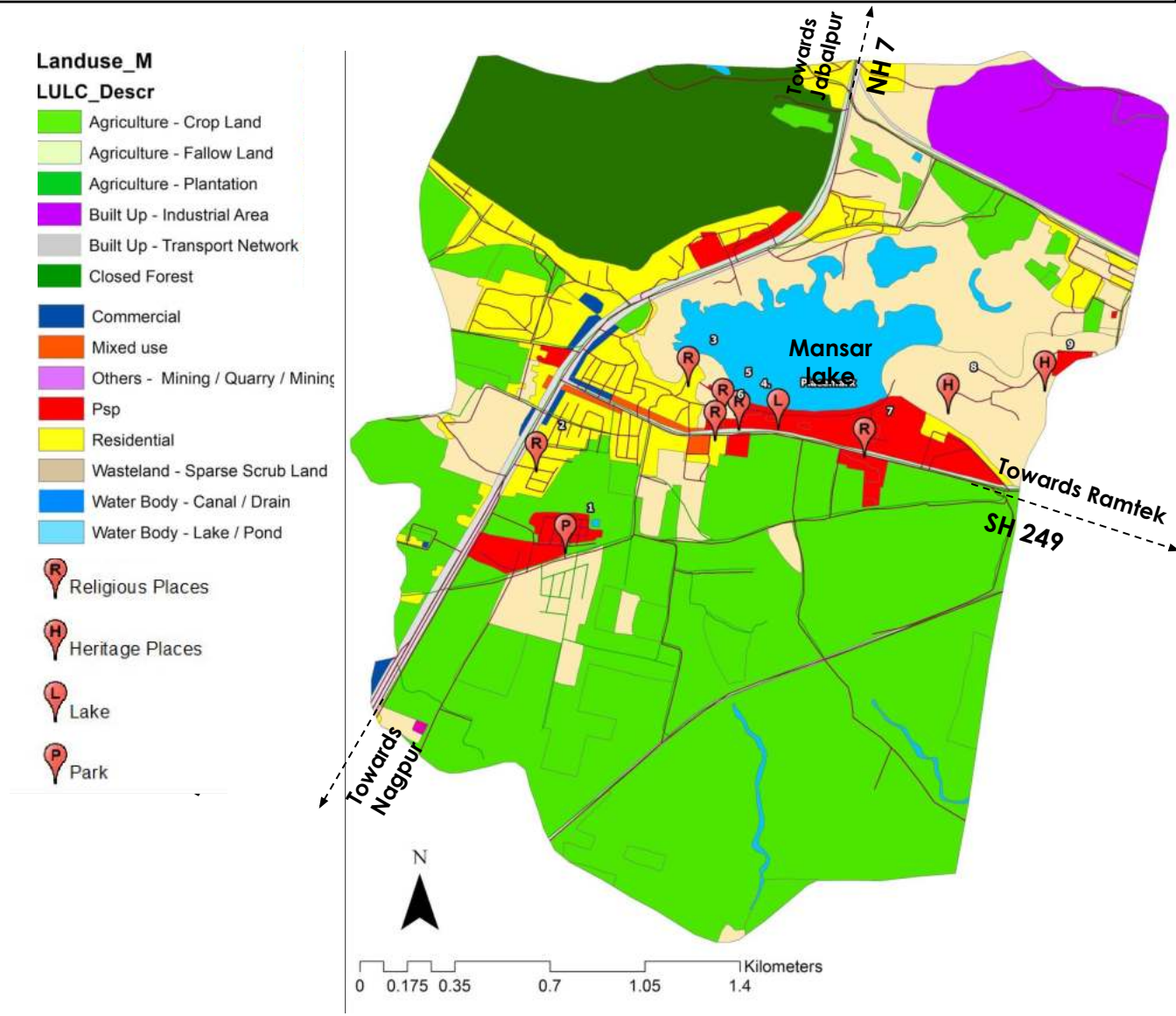
1. Ramdham cultural park

- **Religious / Cultural places**

2. Jama Masjid
3. Shila Aai Temple
4. Krishna Temple 1 (Mahanbhav Pantha Devasthan)
5. Krishna Temple 2 (Mahanbhav Pantha Devasthan)
6. Hanuman Temple
7. Buddhist Temple (Bodhisatva Nagarjuna Santha Temple) & & Museum

- **Heritage Structures**

8. Excavated Stupa over Hindimba hill
9. Excavated brick structure over Hindimba hill



Map showing Location of Tourist Places

Tourism Scenario

Prominent Tourist Places

1. **Krishna Temple (Mahanbhav Pantha Devasthan)**

- An ancient temple and important pilgrimage place, particularly for the people belonging to Mahanubhav cult.
- It is located near the Mansar Lake.
- Spiritual festival celebrated between the month of March and April.

2. **Buddhist Temple (Bodhisatva Buddha Vihar)**

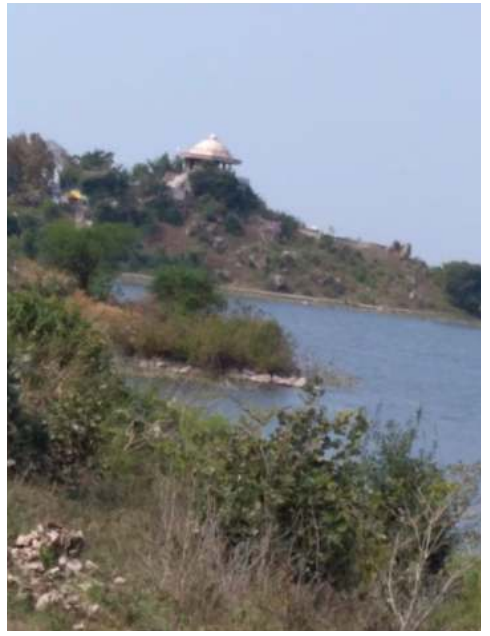
Important pilgrimage place in relation to the adjacent Buddhist stupa at A.S.I site.

3. **Bodhisatva Nagarjuna Museum**

Houses some Buddhist relics, located adjacent to the Bodhisatva Buddha Vihar.

4. **Excavated brick structure & Stupa over Hindimba hill**

An archaeological site consisting various excavated shrines, palace complex (identified as Pravarapura which was the capital of the Vakataka king Pravarasena II),artifacts and a Buddhist stupa.



Krishna Temple & Mansar Lake (left) & Krishna temple Stairs (right)
(Source: Secondary data)

Excavated Brick Structure (A.S.I site)
(Source: IncredibleIndia.org.in)

Tourism Scenario

Other places with potential to be a Tourist place

1. **Mansar Lake**

Located at the foothills of the Hidimba hills (A.S.I site). Currently undeveloped and used for fishing purposes.

Nearby tourist places

- **Khindsi Lake**

A beautiful lake located 11 km from Mansar surrounded by a forested hill with boating, water sports, and accommodations facility.

- **Ramtek Temple**

Ancient Ram temple located 13 km from Mansar inside an ancient fort built on a hilltop.

- **Ambala tank and temples**

Pilgrimage tank located 13 km from Mansar consisting of an array of temples surrounding it.

- **Poet Kalidas Memorial**

A sandstone structure 15 km from Mansar includes paintings portraying scenes from the plays of Kalidasa.

- **Pench National Park**

It is a Tiger reserve located 30 km from Mansar, spread across 1015 sq. km (758 sq.km in Madhya Pradesh and 257 sq. km in Maharashtra).

Mansar Lake
(Source: Secondary data)

Khindsi Lake
(Source: https://nagpur.gov.in)

Aerial view of Ramtek Temple
(Source: https://nagpur.gov.in)

Amabala Tank, Ramtek
(Source: Secondary data)

Pench National Park
(Source: www.penchnationalpark.com

Priority Defining

FOCUS AREA: MANSAR

Identified Concerns:

- Community space/ hall
- Education
- Employment
- General cleanliness (garbage and gutterline)
- Hospitals and medical treatment centers
- Housing
- Market expansion
- Open Spaces/ Gardens/ Grounds/ Parks
- Public toilets
- Public transport
- Roads & street lights
- Sewerage lines
- Water supply

PRIORITY DEFINING:

Priority 1: Education Provision for Higher education, English medium schools, Colleges, ITI, Vocational training centers, etc.

Priority 2: Employment Facilitation for industrial growth providing employment, entrepreneurship initiatives, etc.

Priority 3: Roads & street lights Provision of street lights, reflective signs for better vision, better road conditions, cleanliness, widening and maintenance of cement or tar roads.

Priority 4: Water supply Provision of taps, water lines, 24 Hour water supply of purified and clean water, etc.

Priority 5: Public toilets (especially near bus stops)

Priority 6: Hospitals and medical treatment centers Provision of hospitals, clinics and aid centers for residents as well as their cattle, better facilities for health infrastructure

Priority 7: Open Spaces/ Gardens/ Grounds/ Parks/ Community spaces/halls

SWOT Analysis

Strength:

- Accessibility
- Rich in terms of resources
- Well connected with National and State Highway
- Good electrical infrastructure.

Weakness:

- Infrastructure/services
- Poor healthcare
- Employment and Qualification Gap
- No provision for common toilets
- Waste disposal system
- Open drainage system.

Opportunities:

- Tourism
- Facilitation for setting up industries for employment generation.

Threat:

- Mining industry
- Frequent droughts and lightening issues

Identified Issues: Education, Employment, Water, Roads and Street lighting, Public spaces and toilets.

Organizational Structure

FOR MANSAR

Minister

↓

Minister of State

↓

Additional Chief Secretary

↓

Divisional Commissioner, Nagpur

↓

Chief Executive Officer, District Council, Nagpur

↓

Ramtek Taluka Group Development Officer

↓

Gram Panchayat, Mansar

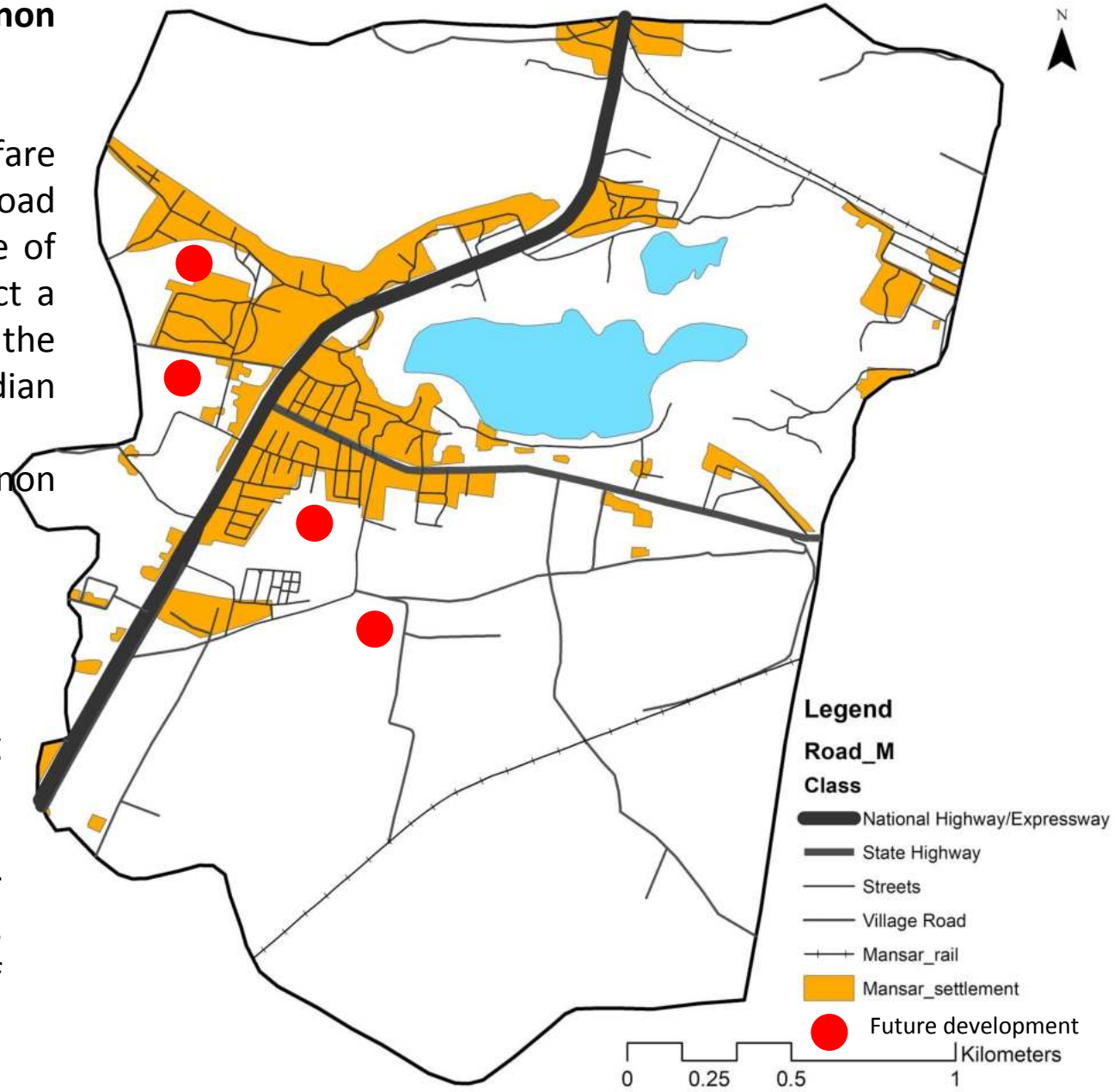
Proposals

Improving the existing housing stock of dilapidated and non serviceable kaccha houses.

Pradhan Mantri Gramin Awaas Yojana (PMGAY) is a social welfare programme to provide housing for the rural poor in India. The broad purpose of the scheme is to provide financial assistance to some of the weakest sections of society for them to upgrade or construct a house of respectable quality for their personal living.The vision of the government is to replace all temporary (kutchcha) houses from Indian villages.
Under this scheme, the upgradation of dilapidated and non serviceable kaccha houses can be undertaken.

Scope for future development of housing

As per the previous development trends, it is observed that the expansion of Mansar is along the National Highway (NH 7) passing through it from North to South and along the State Highway (SH 249).
The red dots in the following map shows the possible scope for future development. According to land capability studies, the soils at these place have severe limitations that reduce the choice of plants or require special conservation practices.



Solid Waste Management

Proposals

There are various ways to manage solid waste and a few of them are listed below along with the area required to set up such practice.

As per RADPFI, 1 hectare land can accommodate following capacity for the respective practices -

SWM Practice	Capacity (Tonnes)
Composting	84
Biomethanation	125
Gasification	50
Incineration	125
Landfill	Remaining

By the Year 2041, more than 2 MT of waste is to be managed and thus a waste management practice is to be followed in the cluster.

Composting:
Decomposition of organic waste is a natural process. Rural waste generation is largely organic in nature and can be put to an organized method of producing compost manure.
A composting site for biodegradable waste collected in the village can be accordingly built on a site away from the habitation as well as water body, close to the agricultural fields, where the manure generated can be put to use.

Biomethanation:
It is a process of anaerobic decomposition which results in the production of Methane.

Gasification/ Pyrolysis:
It is a thermochemical decomposition of organic material at high temperatures in the absence of oxygen.

Incineration: It is a waste treatment process involving combustion of organic substances. The thermal treatment of waste converts it into ash , gas and heat which in some cases can be used to generate electricity.

Recycling :
The non biodegradable waste generated of some value like , paper, plastic , metal can be sold off through the central recycling chain through scrap dealers.

Landfilling :
In spite of composting, re-use and recycling, some waste remains untreated/unmanaged which requires final disposal, either by incineration or by land filling.

Solid Waste Management

Proposals

1 Collection

100% waste collection with maximum segregation at source.

2 Transportation

Transportation from collection site to processing unit.

3 Recovery

Recovery of recyclable and reusable waste.

4 Recycling and transfer

Recycling, reusing and transferring waste to respective station

5 Processing and disposal

Processing organic and inorganic waste respectively and disposing to landfill

This five step waste management process should be followed irrespective of the processing technique being used.

Based upon the category of waste, the waste is to be processed for further action of disposal into the Landfill.

As per the guidelines for land requirement for the Waste Processing techniques, a multi purpose treatment plant should be set up which shall include the following processes :

1. Segregation Conveyor Belts
2. Organic Waste
   a. Composting
   b. Biomethanation
3. Inorganic Waste
   a. Incineration
4. Disposal at Landfill Site

Institutional Structure

Since SLWM is a component of Total Sanitation Campaign, the institutional structure that is in place for TSC is also responsible for SLWM. However, since this is a relatively new component, efforts will be required to build the capacity of stakeholders at the state and district levels to facilitate the GP in implementing a safe waste management program.

- SLWM resource team at state level: states should decide on technologies suitable to their areas.
- SLWM resource team at district level.
- Explore the need for qualified persons at GP for O&M and enable GP to make provisions.
- Involve Self Help Groups (SHGs), other community groups, and private sector / entrepreneurs for SLWM as a 'Village Level Sanitarian' (service provider)
- Enable basic monitoring/recording systems at GP level for indicators identified through Swachh Bharat Mission.

GP responsibility

At the village level, the GP should ideally have the overall responsibility for ensuring safe management of waste.

It should hold individual households and institutions in the village responsible for the management of their waste, through household, institutional or community waste management facilities

The GP, and households and institutions within it, should be responsible for the construction of SLWM facilities at village, household and institution levels, respectively.

GP-led O&M can include hiring workers and buying vehicles for collection and transportation of waste.

Waste management Strategies

1. Waste as a resource

   Waste can be converted into a different form which can then be productively used. The three 'R's of waste management – Reduce, Reuse, Recycle – emanate from this point of view.

2. Waste to Wealth

   The first priority of waste management should be to dispose the waste safely so that the threat to human health is reduced; economic value derived from the waste should be seen as an additional benefit.

3. Waste to Energy

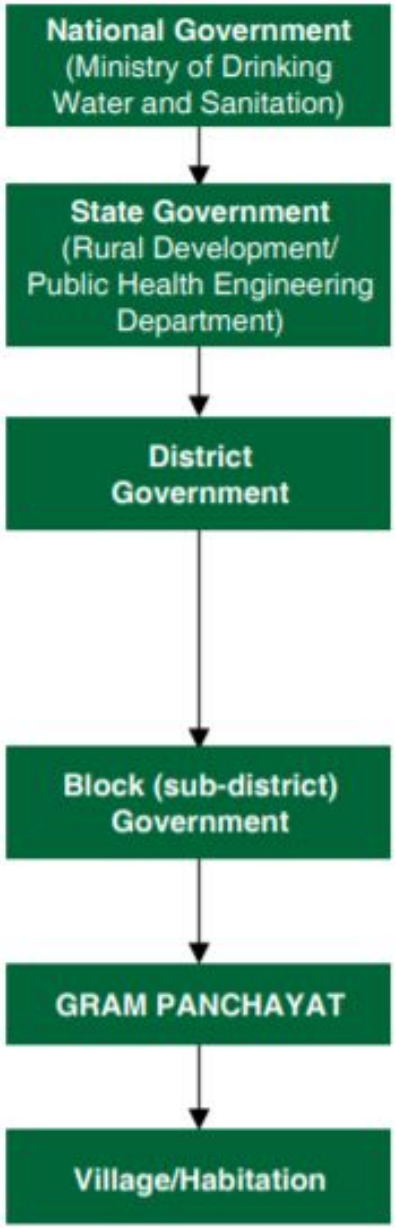
   Conversion of waste to energy in the form of biogas and eventually into electricity.

4. Participatory Approach

   Community participation and ownership, based on a felt need through a participatory process.

Solid Waste Management

Proposals



Provides guidelines and financing to the districts to implement TSC; monitors progress; awards NGP

Provides strategy; part hardware funding; support to districts for implementation; capacity building; communication; monitoring

Headed by Collector/Chief Executive Officer; has various departments such as Rural Water Supply, Education, Health, and so on; coordinates the program, facilitates financial, technical and capacity support

Sub-district level; headed by the Block Development Officer; field offices of various departments based here, reports to the district level

Responsible for involving the community in planning, implementation, and O&M

Provision of scientific storage facilities as the resources are falling short to support the cropping intensity of the village

Community Participation -

A general awareness programme on the schemes for the farmers and a training programme for the entrepreneurs for construction, maintenance and operation of rural godowns should be organized at village.

Skill development can be provided for following purposes in Agriculture Sector

- Awareness for Encouraging community irrigation
- Skill development for efficient water & crop management practises
- Marketing of agricultural produces
- Educational programmes for new agriculture technologies

Schemes for Skill Development:

Pradhan Mantri Kaushal Vikas Yojana (PMKVY)

- Under the PMKVY, the central government provides skill training courses in different industrial verticals through authorized training centers.

National Skill Development Corporation will be the governing authority and will take care of -

- Funding and incentivising
- Enabling support services
- Shaping/creating

PMKVY scheme provides variety of agriculture related courses.

The existing infrastructure of PMKVY in Mansar can be shared to nurture agricultural skill development.

To Enhance the physical access of water on the farm & water use efficiency to increase the overall crop yield in the cluster.

Broad strategies & areas of intervention -

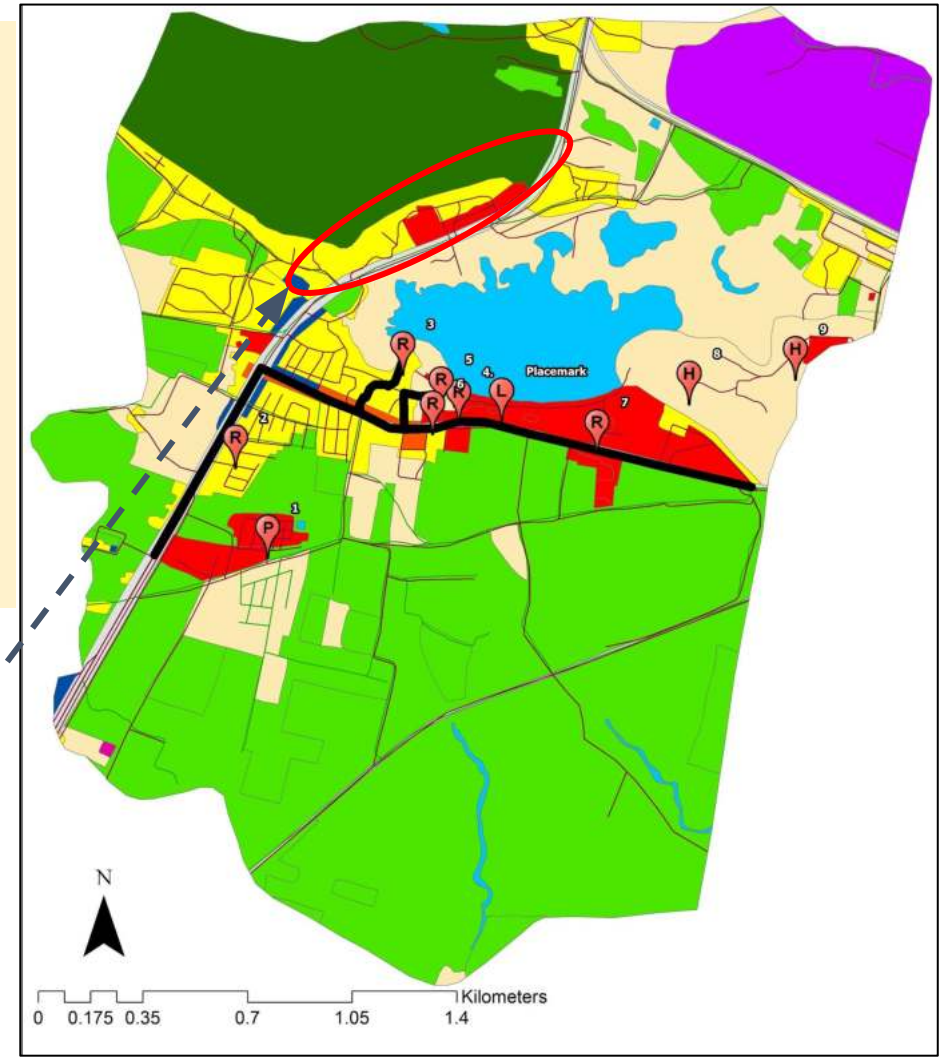
Sr. no	Strategies	Description	Beneficiaries
1	Construction of 'Farm Ponds'	Good rainfall, good run off is available, aid groundwater recharge	Individual Farmer/Farmer Group/Cooperative etc.
2	Provision of 'Drip or Sprinkler' irrigation system	Ensure efficient use of water & effective method for soil conservation (prevent salinization & erosion)	Individual Farmer/Farmer Group/Cooperative etc.
3	Provision of Water Lifting Devices (Diesel/Electric Pump Set) and delivery pipelines		

Scope of Development in Tourism

1. Restaurants
2. Recreation and entertainment
3. Accomodation
4. Transportation
5. Travel related services

Based on the scope, the dedicated land use development for Public Semi-public, Commercial, Recreation and transportation along the National Highway 7 should be provided.

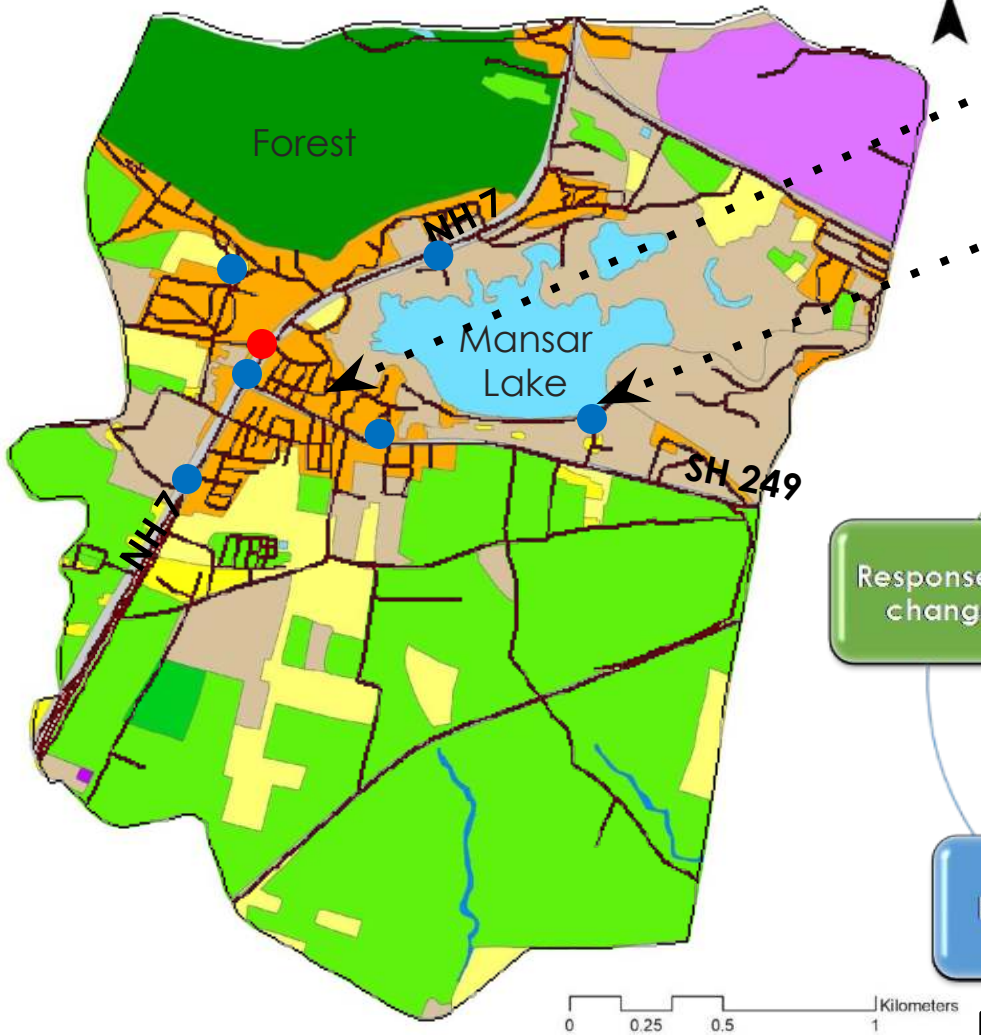
The given land area has potential to develop 'Mixed' land use to support tourism development as it has good proximity to the lake and located along the NH7.



Transportation

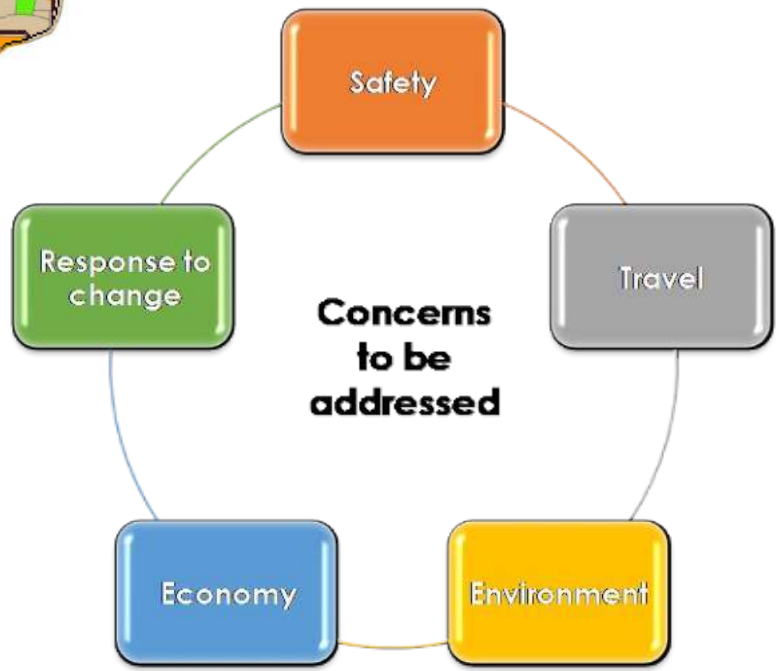
Proposals

Existing Land Use, Land Classification Map of Mansar



Maintaining existing pucca roads and strengthening the kuccha roads of the village

Proposed stops for connectivity and tourism.



Proposal Index:

- Intermediate Para Transit (IPT) Stops (400m.)
- Improved bus transit terminal

Road Width, Connectivity and Road Infrastructure:

Proposal –

1. Widening and strengthening of existing internal roads.
2. IPT and public bus terminals for better connectivity
3. Road maintenance program to be run
4. Provision of street lights, reflective signs and public toilets

Schemes –

Component: Inter-village connectivity
Scheme: Pradhan Mantri Gram Sadak Yojana (PMGSY)
Thrust area: Provision of connectivity to unconnected habitations and upgradation of existing road networks
Government: Central

Component: Village Street Lights
Scheme: Street Lights National Programme
Thrust area: Provision of smart and energy efficient LED Streetlights
Government: Central

Component: Public Transport
Scheme: Aajeevika Grameen Express Yojana (AGEY)
Thrust area: Provision of road transport services
Government: Central

Tourism Proposals at Destination level

Mansar is significantly known as a halt point, located at the junction of NH7 & SH249.
NH7 leads towards Pench National park: Tiger reserve) & SH249 leads towards Ramtek: a reilgious place.

Tourist places at Mansar (as per the appearance order from Nagpur towards Ramtek)

- **Park / Recreational Place**

1. Ramdham cultural park

- **Religious / Cultural places**

2. Jama Masjid
3. Shila Aai Temple
4. Krishna Temple 1 (Mahanbhav Pantha Devasthan)
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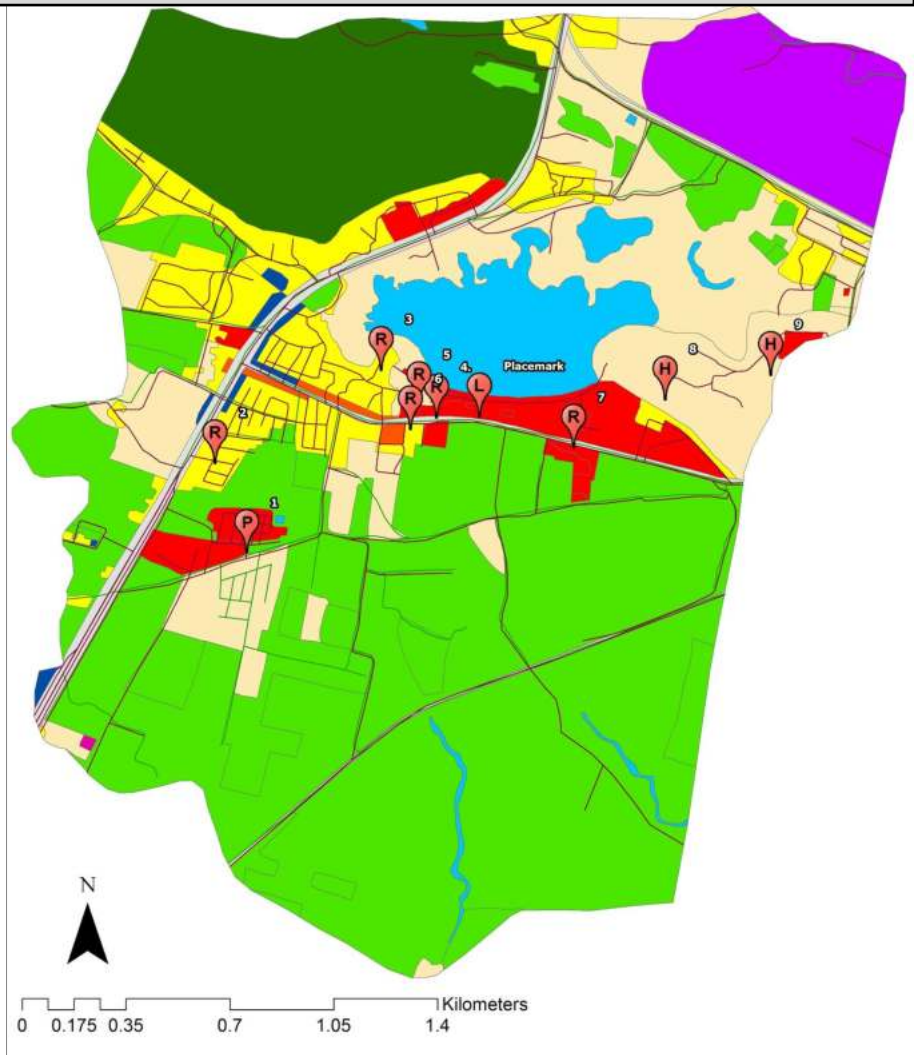
- **Heritage Structures**

8. Excavated Stupa over Hindimba hill
9. Excavated brick structure over Hindimba hill



Mansar Religious - Heritage Trail

Proposals

- Bus stops near Park along NH7 & near Religious places along SH249 supported by IPT infrastructure for last mile connectivity.
- Amenities like eateries, drinking water kiosk, public toilet, solid waste disposal facilities and locker rooms etc at all the destinations.

Tourism Proposals: Trail and Circuits

Tourism Trail

•The **trail** or route provides a themed and interpreted journey through the urban or rural landscape, creating links between sites, attractions and other **tourism** businesses.

- **Start Point: Ramdham Park (well known Spot)**
- **End Point: Excavated brick structure & Stupa over Hindimba hill**
- Trail length = 3.25 Km & **Total trail time**= **5.65 Hrs**

Tourism Circuits

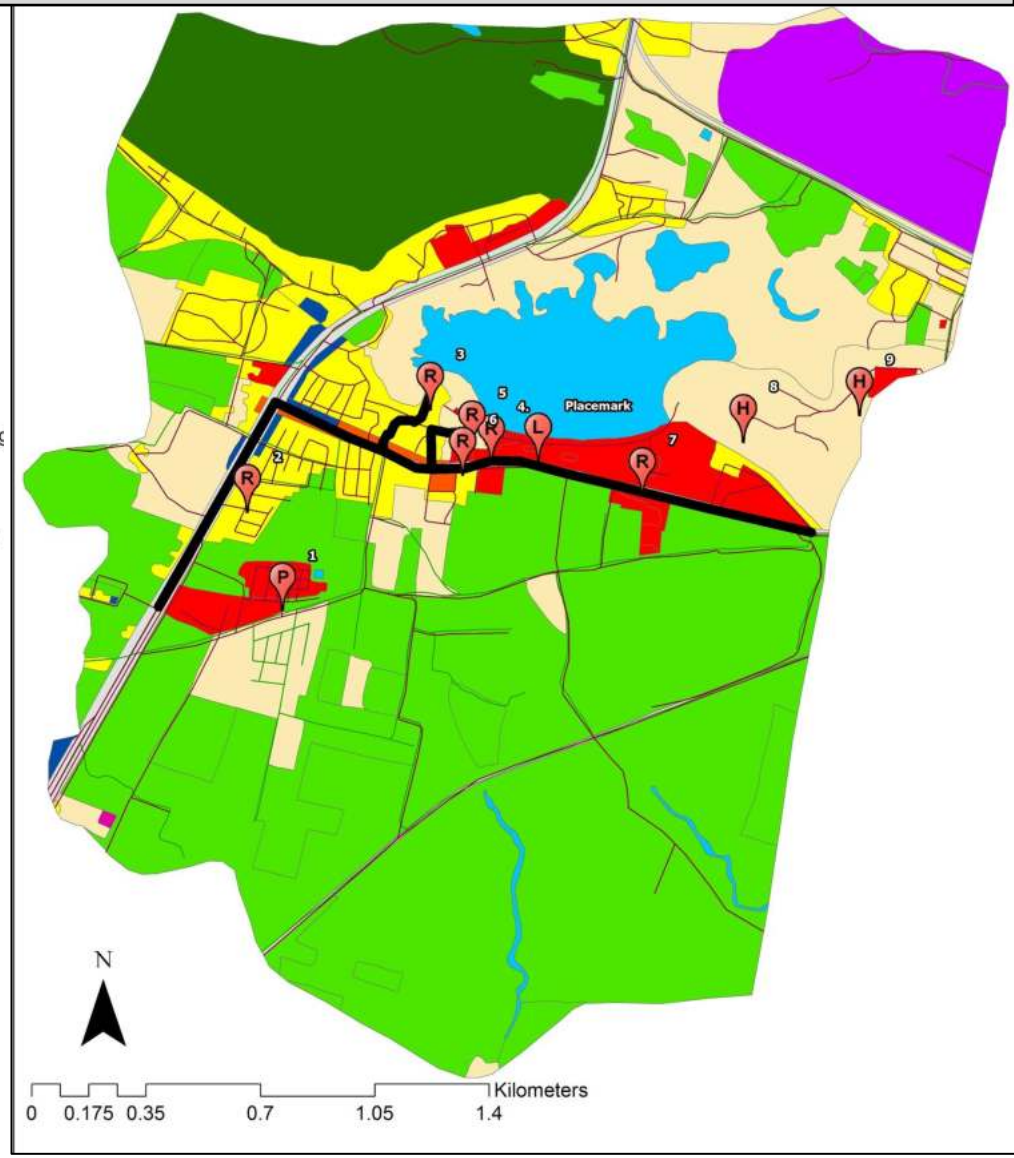
• A Tourist circuit is **a route on which at least three major tourist destinations are located** such that **none of these are in the same town, village or city**".

Nagpur-Mansar-Ramtek-Nagpur Religious circuit

- **Start & End Point:** Nagpur City via NH 7 & SH249
- **Destination Point: Ramtek**
- Circuit length = 55 Km (One way), 110 Km (Round trip)
- **Total Circuit time** = **10.48 Hrs approx. 11 Hrs**

Nagpur-Mansar-Pench-Nagpur Natural Heritage circuit

- **Start & End Point: Nagpur City via NH 7**
- **Destination Point: Pench National Park**
- Circuit length = 70 Km (One way), 140 Km (Round trip)
- **Total Circuit time= 7.33 Hrs approx. 7.5 Hrs**



Map showing Mansar Religious - Heritage Trail

Thank you