



THE ASSAM GAZETTE

অসাধাৰণ

EXTRAORDINARY

প্ৰাপ্ত কৰ্তৃত্বৰ দ্বাৰা প্ৰকাশিত

PUBLISHED BY THE AUTHORITY

নং 19 দিশপুৰ, বুধবাৰ, 11 জানুৱাৰী, 2023, 21 পুহ 1944 (শক)
No. 19 Dispur, Wednesday, 11th January, 2023, 21st Pausa, 1944 (S. E.)

GOVERNMENT OF ASSAM
ORDERS BY THE GOVERNOR
DEPARTMENT OF HOUSING & URBAN AFFAIRS.

NOTIFICATION

The 27th December, 2022

ECF No. 248146/2022/26.- In exercise of powers conferred by the Sub-Section (2) and (3) under Section (10) of the Assam Town and Country Planning Act, 1959 (as amended) read with Rule (6) of the Assam Town and Country Planning (Publication of Master Plan and Zoning Regulation) Rules, 1962, the Governor of Assam is pleased to publish the following notice regarding the publication of the Final Master Plan of Nagaon Master Plan area.

Notice for Publication of the Final Master Plan for Nagaon Master Plan area :

1. It is notified that the Final Master Plan for Nagaon Master Plan area is prepared by the Directorate of Town and Country Planning Assam and adopted by the State Government under Sub-Section (2) and (3) of Section (10) of the Assam Town and Country Planning Act, 1959 (as amended) read with Section (06) of the Assam Town and Country Planning (amended) Rules, 1962 for the area described in the schedule below is hereby published.
2. The Final Master Plan with all relevant papers and maps may be inspected free of cost during the office hours at the office of the Deputy Director, Town and Country Planning, Nagaon, office of the Chairman, Nagaon Municipal Board, office of the Chairman, Nagaon Development Authority and Nagaon Sadar Circle office. Copies of the Final Master Plan is also available in the office of the Director, Town and Country Planning Assam, Dispur, Guwahati-06 and office of the Deputy Director, Town and Country Planning, Nagaon for sale on payment.

SCHEDULE**A. SITUATION AND AREA**

DISTRICT	:	NAGAON
SUB-DIVISION	:	NAGAON
POLICE STATION	:	NAGAON
STATE	:	ASSAM
APPROXIMATE MASTER PLAN AREA	:	148 sq.km.
APPROXIMATE MUNICIPAL AREA	:	12.33 sq. Km.

B. REVENUE AREA INCULDED IN THE NAGAON MASTER PLAN

1. Nagaon Municipal Board
2. Other Revenue Area

Out Growth Area

Kachalukhowa (OG), Nartam Gaon (OG)

Census Towns

Dimaruguri (CT), Chota Haibor (CT), Morongial (CT)

Villages

Afutoli Bil (Afutoli), Alengi Satra, Auguri, Auniati Satra (Auniati), Bali Gaon, Bangthai, Bar Pathari Sutar Gaon, Barbheti, Barjoha, Bengena Ati, Phakali Pathar, Bhatikuri, Bhutai Gaon, Birah Bebejia, Dakhin Pat Satra, Dewdhar, Dimow, Diphalu, Etapara, Garikuri Bebejia (Gariguri Bebejia), Garmur Satra, Gatanga, Gederbori, Ghahi Gaon, Hatipara, Jalah Gaon, Jamuguri, Jarani, Karaiyani, Katani Gaon, Katimari Grant, Katimari Pathar, Kawaimari, Khuti Katia, Kujarbori, Kumar Gaon, Kumartup (Kamartup), Lao Gaon, Laogaon, Lathabori, Mahe Khosha, Mahrul, Majarati, Maz Pathari, Maz Putani, Mohmara, Morangial, Mori Kalong, Na-Bebejia, Nam Pathari, Niz-Gumutha Gaon, Niz-Jagial, Niz- Kachamari, Niz-Pathari, Palasoni, Pub Salmara, Pukhuri Par, Putani Gaon (Putani), Ranga Gara Huzz, Ranthali, Rupahi Gaon, Samua Gaon, Sensuwa, Siale Khowa, Silangani Gaon, Simaluguri, Singia Gaon, Takowbari, Telia Gaon, Telia Pahukata, Tukulai Bebejia (Tukulai), Uria Gaon, Uttar Petborha, Uzara Gaon (Uzra Gaon).

C. DESCRIPTION OF BOUNDARIES

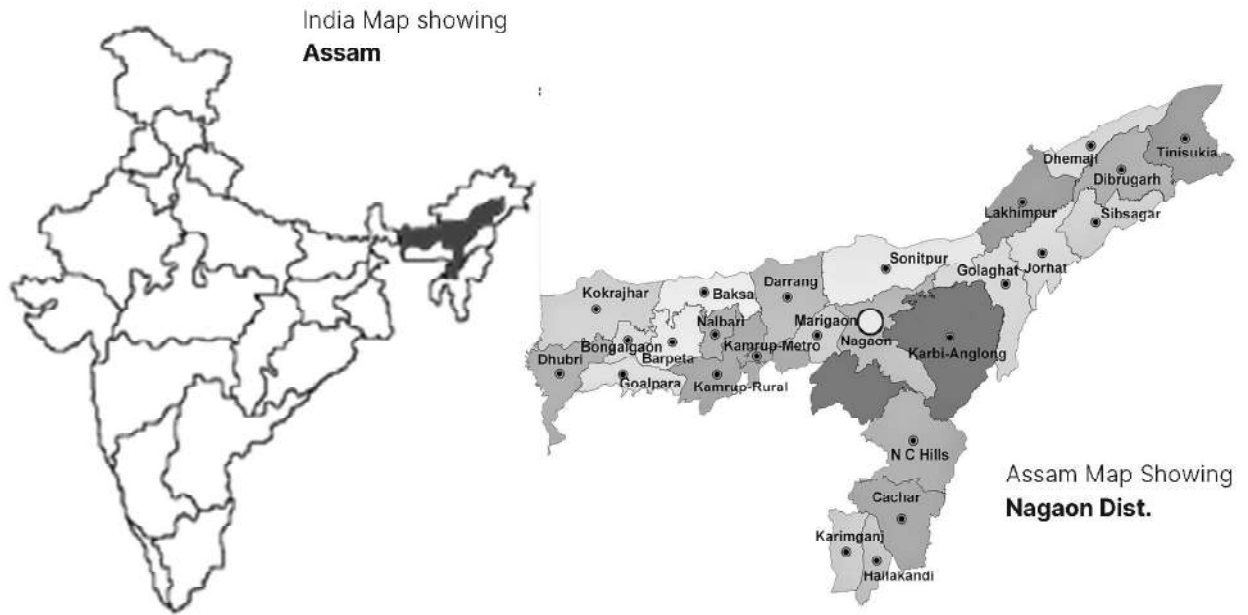
NORTH	:	Rupahi
SOUTH	:	Dhantala Grant
EAST	:	Nartam Gaon
WEST	:	Lathaboril Pub Salmara

KAVITHA PADMANABHAN,

Commissioner & Secretary to the Government of Assam,
Department of Housing & Urban Affairs,
Dispur, Guwahati-6.

1. INTRODUCTION TO MASTER PLAN AREA

1.1 REGIONAL SETTING



District Map Showing Nagaon Master Plan Area

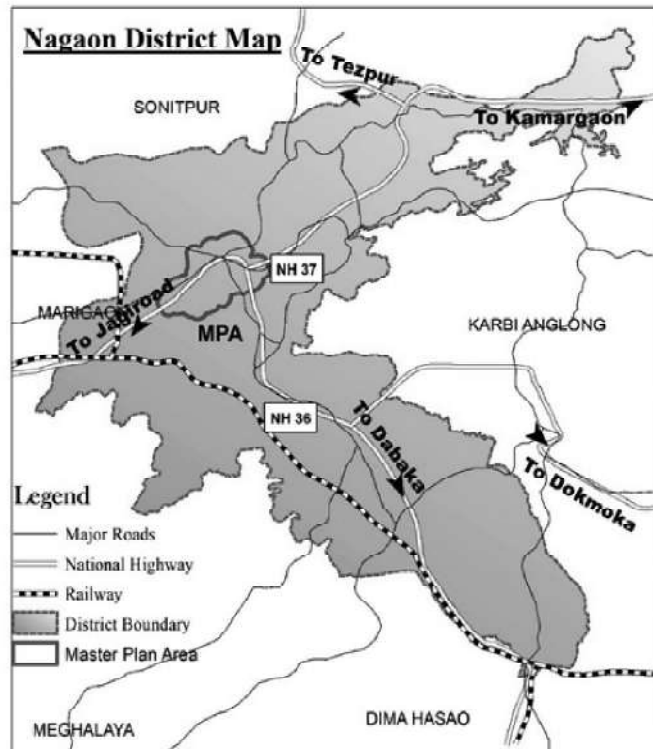


Figure 1 Location Map

1.1.1 ASSAM- AS A STATE

Assam is the second largest state among the seven sister states of North-Eastern Region of India. The other six states are (i) Arunachal Pradesh, (ii) Manipur (iii) Meghalaya, (iv) Mizoram, (v) Nagaland and (vi) Tripura. With a geographical area of about 78, 438 sq. kms, Assam accounts for one-third of the area of the North-Eastern region and 2.4 percent of the area of the country. The State has varied landforms, diverse flora and fauna and unique cultural traditions. Assam has a generally humid climate with a pleasant and long winter and brief summer. Temperatures vary from 18° C to 35° C in summer and from 7° C to 26° C in winter. Rainfall is heavy during the monsoon season from June to September and the average heavy rainfall is around 27 cm. (Source: India Meteorological Department).

The best tourist season is October

to April covering both winter and spring. The economy of Assam is largely dependent on the rivers Brahmaputra and Barak along with their tributaries. The river Brahmaputra, which is the largest river in India, flows through the entire length of the State. Both the rivers, while nourishing the state and aids its economic development, also cause much havoc during monsoons. The hills running east to west divide Assam into two distinct valleys – Brahmaputra and Barak Valleys. The Barail Mountain ranges as well as Rengma and Kambi hills lie between the valleys.

Assam is a State of breath-taking scenic beauty. Its rolling hills, dense forests, green valleys, large waterways and rich biodiversity make Assam one of the splendid tourist destinations in the world. The State is also having unique art and culture, fairs and festivals,

temples and monuments and handicrafts and handlooms. Forests cover almost one-fourth of the geographical area of the state. These forests, apart from being the home of a variety of animal and plant species and active biospheres, also provide excellent opportunities for nature tourism, wildlife and bird watching, jungle safaris and trekking. Assam has the rare distinction of possessing world natural heritage sites and beautiful national parks, tiger reserves and wildlife sanctuaries. There are five national parks and eleven wildlife sanctuaries in the state. Assam is a natural conglomeration of various ethnic tribes and groups, each having a distinct language, culture, songs, dances, and festivals. Rangoli Bihu festival, tea tourism festival, Brahmaputra beach festival, etc. Are being organized in the state as tourism events.



1.1.2 NAGAON DISTRICT

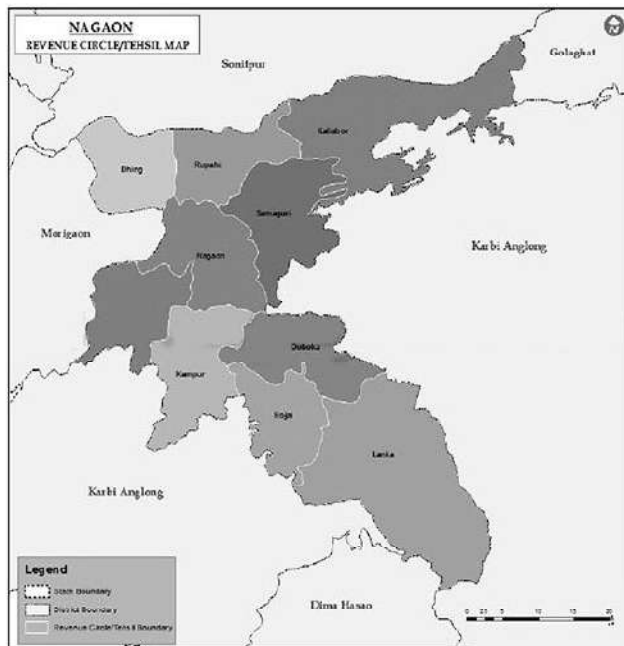


Figure 2 Nagaon District Map

Nagaon district is situated in the very heartland of Assam. It falls precisely at the center of the State Assam. The district is situated on the southern bank of the Brahmaputra and lies between 25° 45" and 26° 45" North latitudes and 91° 50" and 93° 20" East longitudes.

Nagaon district is situated in the very heartland of Assam. It falls precisely at the center of the State Assam. The district is situated on the southern bank of the Brahmaputra and lies between 25° 45" and 26° 45" North latitudes and 91° 50" and 93° 20" East longitudes.

Erstwhile Nagaon district comprised the present Nagaon and Morigaon districts and Morigaon was a subdivision of Nagaon district. In 1989, Morigaon subdivision was carved out and separate district was created. The district is bounded by Sonitpur district & the Brahmaputra River in the north, Karbi Anglong and North Cachar Hills in the south, Karbi Anglong and Golaghat district in the east and Marigaon district in the west. The district consists of

fertile alluvial plains and thickly forested hills.

The geographical area of the district spans 3993 Sq. Km. making it one of the largest districts of Assam. Its highlands include the Hatirnura parbat with an elevation of 186.5 m. the Barkandali with an altitude of 853 m and the Kamakhya parbat with an altitude of 244 m. The average altitude of the district is 60.6 m. Nagaon district is one amongst twenty Seven districts of the state of Assam. Nagaon, earlier spelt as Nowgong, is the district headquarters of Nagaon, and is situated 123 km east of Guwahati. Nagaon district is the rice bowl of Assam is located in the very heartland of Assam.

As of 2011 Census, Nagaon district is the most populous district of

Assam (out of 27) and one of the largest districts in area. The economy of the district is purely agrarian in terms of natural resources endowment. Agriculture is the backbone of its economy providing livelihood to about 78% of the total population. Rice is the staple food of the inhabitants and paddy is the principal crop of the district. Floods, however, are a major impediment in the development of this sector. The climate is in general Monsoon type. The cold season is from December to February. Floods create havoc usually from June to October. The monsoon lasts from April to May. The post monsoon season lasts from October to November. The average rainfall is about 1760 mm.

1.1.3 NAGAON CITY

Nagaon is situated in the central portion of Assam State and is represented by a vast plain with small hills on northern, southern, and eastern part. Nagaon is the headquarter of the Nagaon district. It is bounded by Dhing & Rupahi town on the north, towards south lies Kampur and Raha town, towards its west lies the Marigaon district, while on the east lies the Samaguri town. The city is governed by Municipal Board which comes under Nagaon Urban Agglomeration. It is currently the 4th largest city of Assam in terms of both population and area covered after Guwahati, Silchar and Dibrugarh.

Nagaon is the closest city before reaching the tourist attractions like Kaziranga National Park, declared as World Heritage Site by UNESCO-IUCN and Bordowa, adjacent to the city, also referred to as Batadrava. It is the birthplace of the revered Vaishnavite saint of Assam Shandardev.

Moreover, Nagaon is also the socio-cultural centre of Assam. Numerous plays are performed conveying religious and social messages. These plays are popularly known as Ankia Nats and staging is known as Bhaona. The Bhaona is a traditional form of entertainment.

Nagaon town is a very important centre of handloom production. Considering its importance, govt. has established a Handloom Production Centre at Jajori. It is also famous for handcrafting traditional Assamese ornaments.

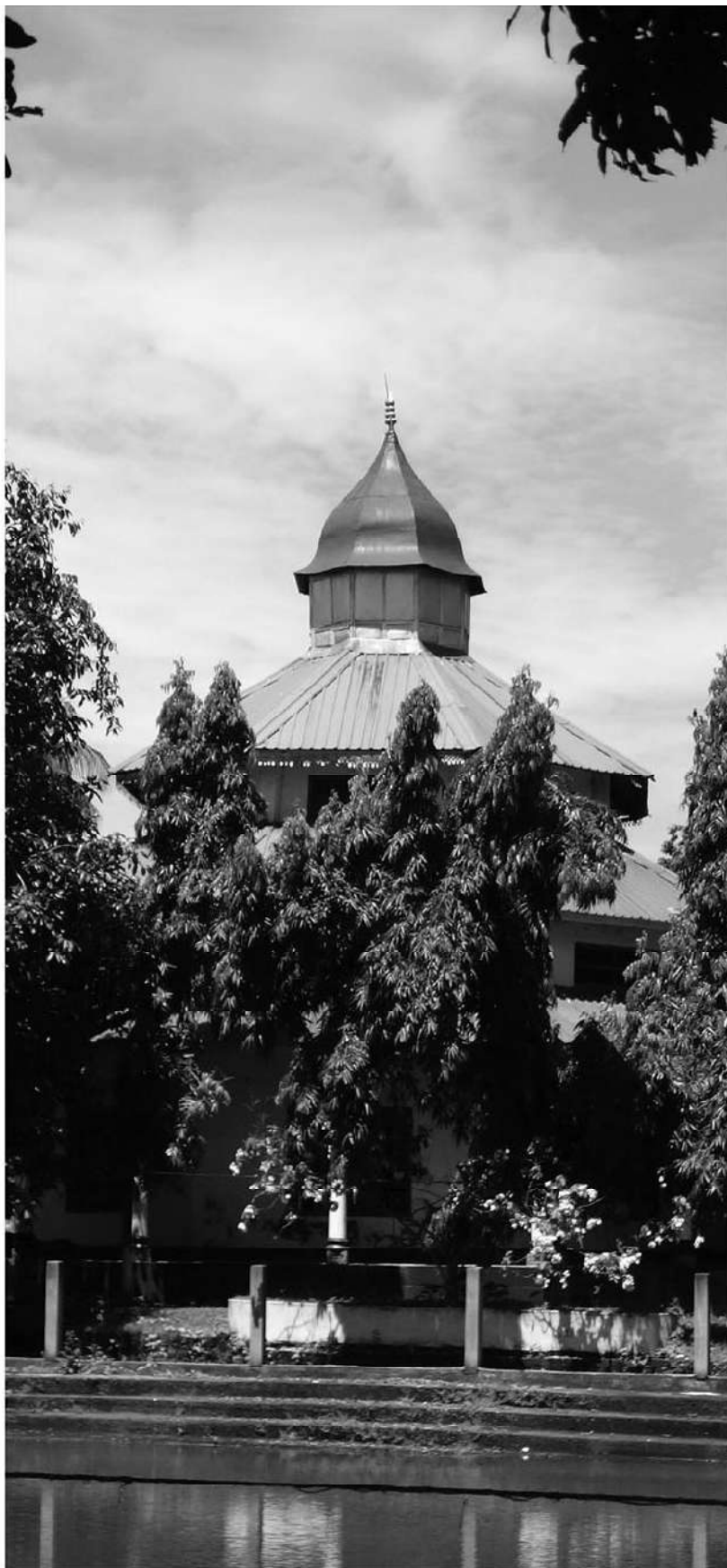


Figure 3: Bordowa Than

1.2 CONSTITUENTS OF PLANNING AREA

District boundary area is 2287 sq.km. where total population is 1892550. The delineated New GIS based Nagaon Master Plan area is a part of Nagaon District.

Table 1 Administrative divisions of Nagaon District

Sr. No	Administrative division of Nagaon District	Type Number
1	No. of Civil Subdivisions	2 (Nagaon, Kaliabor)
2	No. of Municipal Boards	4 (Nagaon, Dhing, Raha, Kampur)
3	Revenue Circle	7
4	Legislative Assembly Constituencies	8
5	No. of Development Block	13
6	No. of Gram Panchayat	169
7	No. of Inhabited Villages	960
8	No. of Community Information Centre	18
9	National Highways Passing through the district	N.H.-36 & N.H.-37

(Source: Nagaon District Portal, Govt. of Assam, www.nagaon.gov.in)

1.2.1 AREA INCLUSION IN NAGAON MPA

The planning area of GIS Based Master Plan consists of 1 revenue circles namely Nagaon. The Nagaon city consists of 26 Wards and 2 Out Growths area which falls under Nagaon revenue circle. The Nagaon Master Plan Area covers this Nagaon city, 2 Outgrowth areas, 3 Census Towns and 76 villages from rural area. The delineated area has 4 boundaries. Rupahi on North, Dhantala Grant on South, Lathabori/Pub Salmara on West and Nartum gaon on East.



Table 2 Municipal Board/ Outgrowth/ Contiguous Area and Revenue Circle

Sr.No	Name of ULB/Outgrowth/Census Town	Name of ULB/Outgrowth/Census Town
1	Nagao Municipal Board	Nagaon
2	Kachalukhowa (OG)	Nagaon
3	Nartam Gaon (OG)	Nagaon
4	Dimaruguri (CT)	Nagaon
5	Chota Halbor (CI)	Nagaon
6	Morongial (CT)	Nagaon

1.2.2 MUNICIPAL WARDS

Table 3 Municipal Ward Area year wise

Ward No.	Area (Sq.Km.)		
	1991	2001	2011
1	0.20	0.20	0.20
2	0.23	0.23	0.23
3	0.51	0.51	0.51
4	0.27	0.27	0.27
5	0.34	0.34	0.34
6	0.43	0.43	0.43
7	0.37	0.37	0.37
8	0.49	0.49	0.49
9	0.35	0.35	0.35
10	0.41	0.41	0.41
11	0.59	0.59	0.59
12	0.33	0.33	0.33
13	0.15	0.15	0.15
14	0.20	0.20	0.20
15	0.41	0.41	0.41
16	0.33	0.33	0.33
17	0.43	0.43	0.43
18	0.06	0.06	0.06
19	0.64	0.64	0.64
20	1.38	1.38	1.38
21	0.47	0.47	0.47
22	0.74	0.74	0.74
23	1.34	1.34	1.34
24	0.74	0.74	0.74
25	0.38	0.38	0.38
26	0.54	0.54	0.54
Total	12.33	12.33	12.33

(Source: Nagaon Municipal Board and Census 2011)

1.2.3 VILLAGES UNDER NAGAON MPA

Table 4 Villages of Nagaon Revenue Circle

List of Villages under Nagaon MPA							
Sr. No.	Village Name	Mouza	Area (sq.km.)	Sr. No.	Village Name	Mouza	Area (sq.km.)
1	Afutoli Bil (Afutoli)	Kandali	0.31	39	Lao Gaon	Kachamari	1.49
2	Alengi Satra	Kachamari	1.51	40	Laogaon	Kachamari	1.41
3	Auguri	Kachamari	1.99	41	Lathabori	Hatisung	0.19
4	Auniati Satra (Auniati)	Singia Putani	0.88	42	Mahe Khosha	Kachamari	0.15
5	Bali Gaon	Pakhimaria	0.04	43	Mahrul	Niz Sahar	1.54
6	Bangthai	Kachamari	2.55	44	Majarati	Niz Sahar	2.37
7	Bar Pathari Sutar Gaon	Pakhimaria	3.15	45	Maz Pathari	Niz Sahar	2.67
8	Barbheti	Kachamari	2.05	46	Maz Putani	Niz Sahar	2.72
9	Barjoha	Pakhimaria	2.41	47	Mohmara	Pakhimaria	1.43
10	Bengena Ati	Niz Sahar	2.34	48	Morangial	Pakhimaria	0.3
11	Phakali Pathar	Kachamari	1.54	49	Mori Kalong	Niz Sahar	1.95
12	Bhatikuri	Zagial	3.74	50	Na-Bebejia	Pakhimaria	3.01
13	Bhutai Gaon	Niz Sahar	2.98	51	Nam Pathari	Niz Sahar	1.39
14	Birah Bebejia	Kachamari	1.99	52	Niz-Gumutha Gaon	Singia Putani	0.55
15	Dakhin Pat Satra	Pakhimaria	0.90	53	Niz-Jagial	Pakhimaria	3.03
16	Dewdhar	Pakhimaria	2.95	54	Niz-Kachamari	Kachamari	1.76
17	Dimow	Kachamari	2.89	55	Niz-Pathari	Pakhimaria	2.02
18	Diphalu	Niz Sahar	3.17	56	Palasoni	Niz Sahar	1.62
19	Etapara	Kachamari	2.20	57	Pub Salmara	Zagial	0.35
20	Garikuri Bebejia (Gariguri Bebejia)	Kachamari	1.28	58	Pukhuri Par	Kachamari	1.97
21	Garmur Satra	Chalchali	0.70	59	Putani Gaon (Putani)	Singia Putani	0.22
22	Gatanga	Saidaria	0.32	60	Ranga Gara Huzz	Kachamari	1.53
23	Gederbori	Hatisung	1.78	61	Ranthali	Pakhimaria	2.28
24	Ghahi Gaon	Pakhimaria	1.46	62	Ranthali	Pakhimaria	0.1
25	Hatipara	Pakhimaria	2.14	63	Rupahi Gaon	Kachamari	0.41
26	Jalah Gaon	Pakhimaria	0.24	64	Samua Gaon	Hatisung	0.16
27	Jamuguri	Hatisung	1.77	65	Sensuwa	Kachamari	2.05
28	Jamuguri	Kachamari	2.38	66	Siale Khowa	Niz Sahar	2.16
29	Jarani	Pakhimaria	1.51	67	Silangani Gaon	Kachamari	0.86
30	Karaiyani	Singia Putani	1.50	68	Simaluguri	Kachamari	2.92
31	Katani Gaon	Singia Putani	0.87	69	Singia Gaon	Singia Putani	1.81
32	Katimari Grant	Kachamari	1.68	70	Takowbari	Kachamari	0.2
33	Katimari Pathar	Kachamari	1.74	71	Telia Gaon	Niz Sahar	3.23
34	Kawaimari	Kachamari	2.34	72	Telia Pahukata	Niz Sahar	4.06
35	Khuti Katia	Kachamari	1.58	73	Tukulai Bebejia (Tukulai)	Kachamari	2.03
36	Kujarbori	Hatisung	1.81	74	Uria Gaon	Singia Putani	2.99
37	Kumar Gaon	Kachamari	1.38	75	Uttar Petborha	Zagial	2.18
38	Kumartup (Kamartup)	Pakhimaria	1.03	76	Uzara Gaon (Uzra Gaon)	Pakhimaria	0.99
TOTAL AREA							128.5

(Source: Compiled by Consultant)

1.2.4 OUT GROWTHS AND CENSUS TOWNS

Table 5 Area of Census Towns

Sr.No.	Description	Area (sq.km)
1	Kachalukhowa (OG)	0.92
2	Nartam Gaon (OG)	0.66
3	Chota Haibor (CT)	0.83
4	Dimaruguri (CT)	2.55
5	Morongial (CT)	2.21
	TOTAL AREA	7.17

(Source: Compiled by Consultant)

1.2.5 TOTAL MASTER PLAN AREA

Table 6 New GIS Based Master Plan Area for 2045

Sr.No.	New GIS based Nagaon Master Plan Area	Area (Sq.km)
1	Nagaon Municipal Board (26 Wards)	12.33
2	2 Out Growths	1.58
3	3 Census Towns	5.59
4	76 Villages	128.5
	TOTAL AREA	148

(Source: Compiled by Consultant)

NOGAON MASTER PLANE AREA. 2045

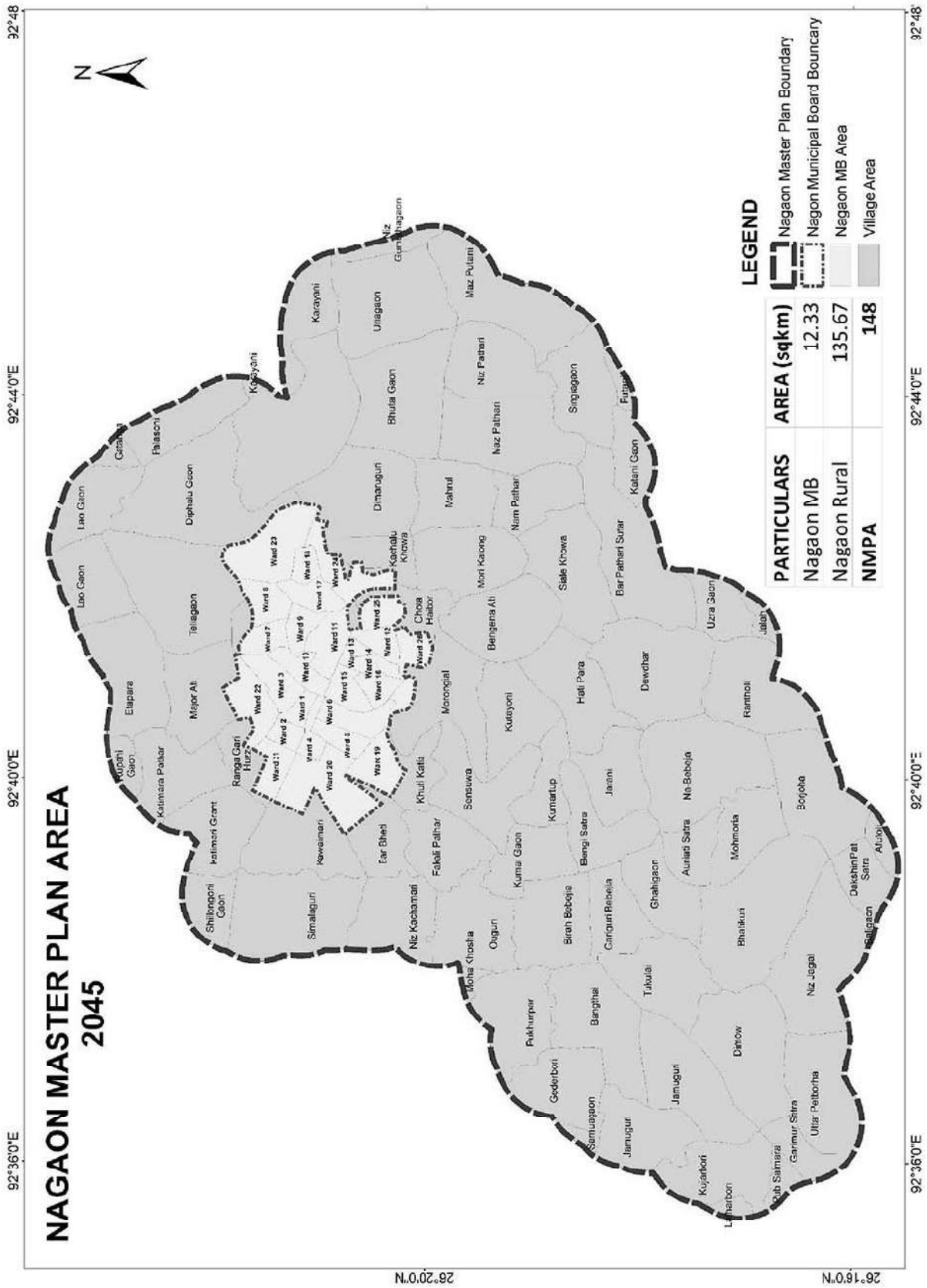


Figure 4 Nagaon Master Plan area 2045

1.3 CONNECTIVITY

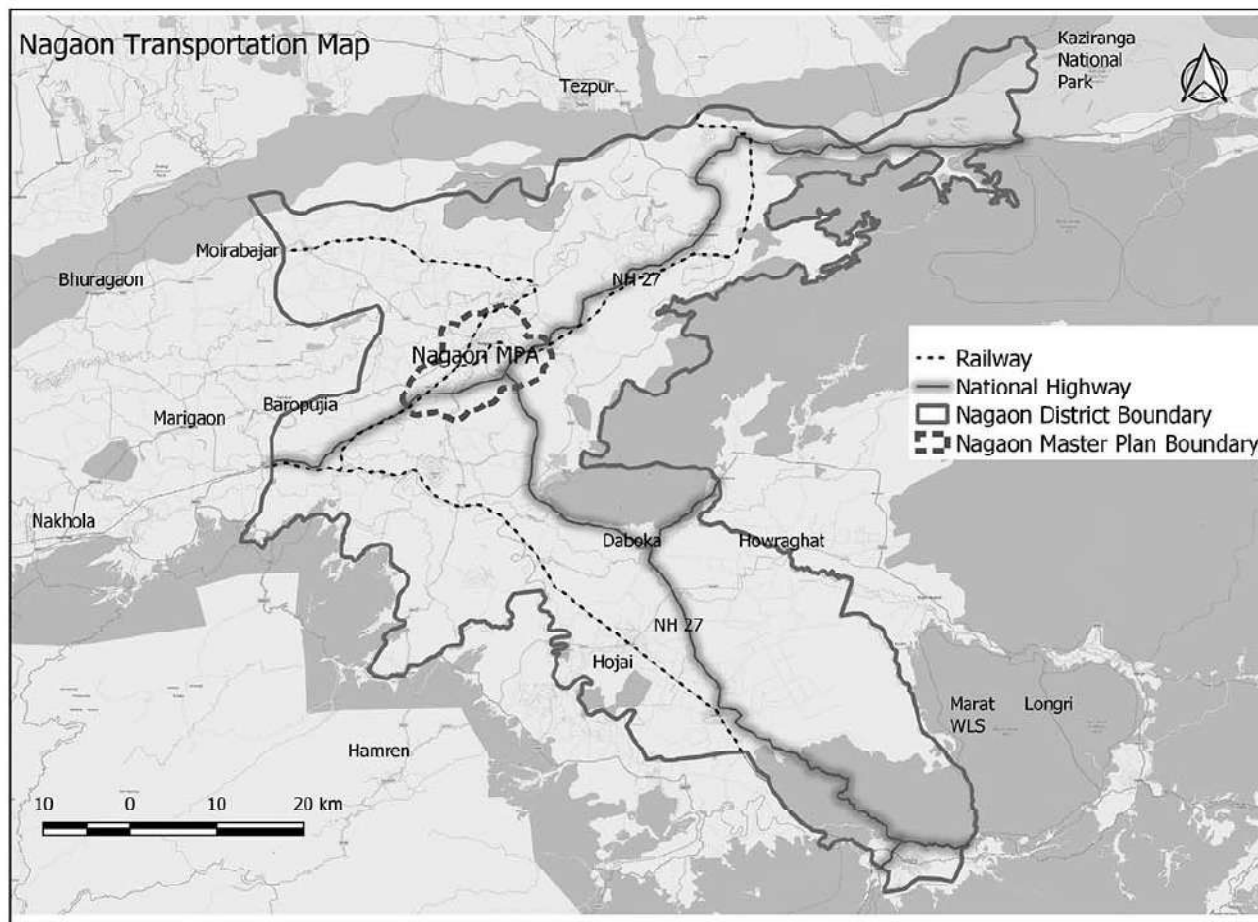


Figure 5: Connectivity Map of Nagaon

1.3.1 BY ROAD

Nagaon is well connected to North Eastern major cities like Guwahati (120 km), Jorhat (190 km), Tezpur (90 km) through National Highways - NH 36, NH 37 and State Highways.

1.3.2 BY RAIL

Nagaon is connected by Indian Railways network. There are several trains playing between Guwahati and Nagaon. Important railway stations of the town are Nagaon and Haiborgaon.

1.3.3 BY AIR

The nearest airport is Salonibari Airport, Tezpur located at a distance of 80 km. Lokapriya Gopinath Bordoloi International Airport, Guwahati (130 km) has good flight connectivity with all major destinations throughout the country.

NOGAON MASTER PLANE AREA 2045

VILLAGE MAP

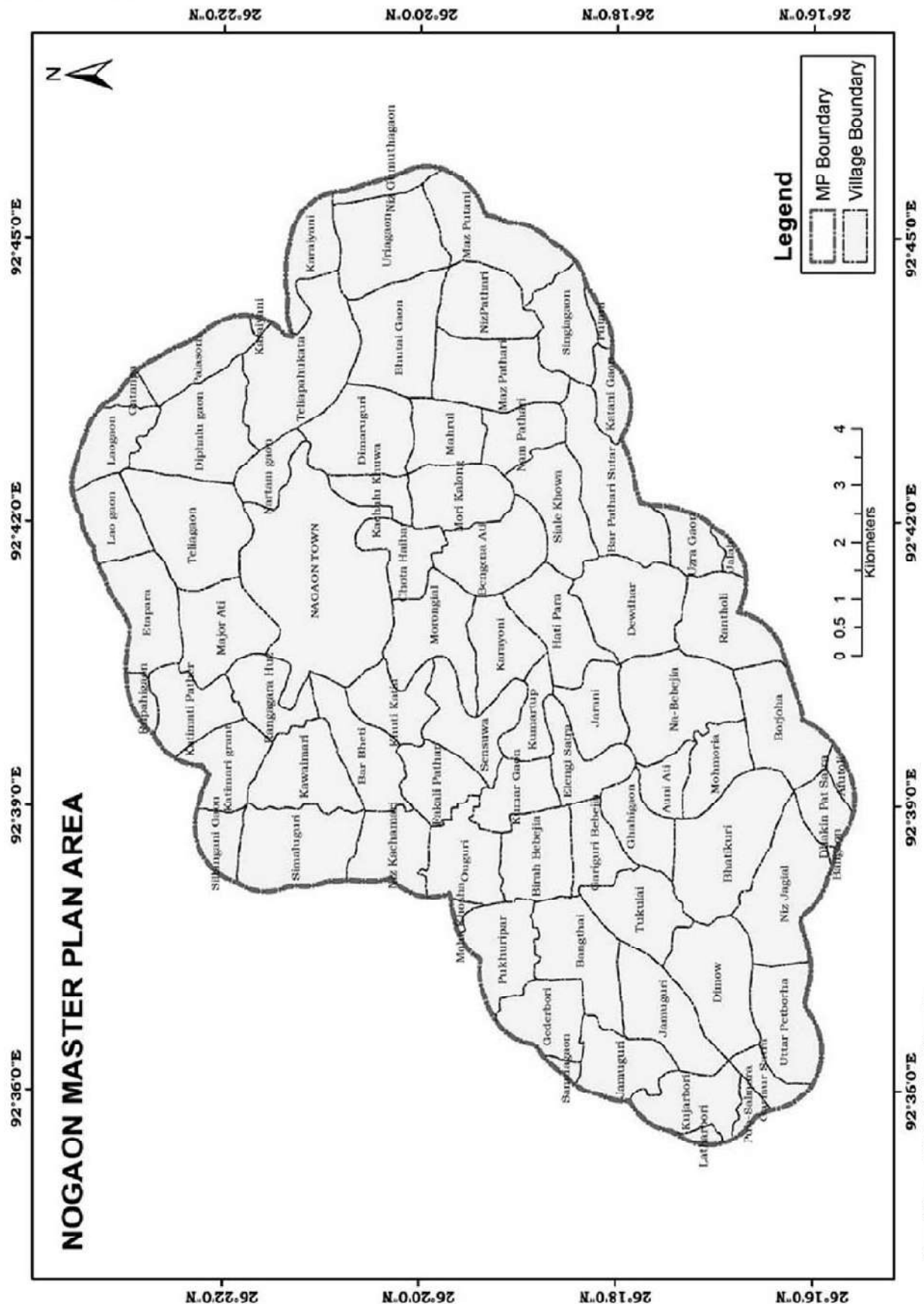


Figure 6 Nogaon Master Plan Area Village Map

1.4 HISTORY OF THE TOWN & SURROUNDING

Till 1826, Nagaon was under the Burmese rule. It came under the Burmese rule after the Yandaboo treaty was ratified. Nagaon was carved out as a separate administrative district of Nagaon town, on the bank of the Kolong River as the district headquarters in the year 1832. It took couple of years before the British finally settled on the present sit in 1839.

It became a municipality in the year 1893. Known earlier as Khagorijan, as there was a canal in the middle of the district which extended from north-east to south-west for several kilometers. This canal was surrounded by reeds which were locally known as Khagaries and the district was named after these Khagaries. The eastern, western and southern fringes of the newly organized district were once ruled by different small feudal kings or their agents such as the king of Kamrupa, the Jaintias, the Kacharis, the Bara-Bhuyans, the Koches, the Ahoms, etc.

The residual effects of the rule of the Bhuyans were imaginatively utilized and reorganized by Momai Tamuli Barbarooah, an intrepid officer of the Ahom King Pratap Singha in the first half of the Seventeenth Century. He established new villages and settlement. This new settlement was therefore called Nagaon. The word 'Na' means new and 'Gaon' means village. From this time, the place was renamed as Nagaon in place of Khagarijan and gradually it developed into a flourishing town.



1.4.1 BRIEF HISTORY OF DEVELOPMENT OF TOWN

The chronicles of the development of town is classified into four, namely, ancient Nagaon, pre-independence, during partition and post-independence is given below in the tabular form:

Table 7 Chronical history of development of Nagaon

Year	Details
1872 (Ancient Nagaon)	<ul style="list-style-type: none"> Assam was part of the Bengal province. Due to Moamaria rebellion in 1769-99 and the Burmese invasion in 1824-26 period, people had deserted the region though the vast tracts of fertile lands were covered with heavy jungles.
Pre-independence	<ul style="list-style-type: none"> People came from the neighboring as well as from the remote areas. There was a good relation between Punjab and Assam from 15th-18th century. The educated section of the Bengali people for the newly created jobs in Railway department. Tea-garden labourers came from Orissa, Bihar and Andhra Pradesh. Vast fertile lands attracted the immigrant cultivators while in search of grazing lands, specially, Nepalis. Marwari people came mainly for business purposes. Large number of East Bengal farmers and people from Sylhet came to settle on this vast fertile region.
During partition	<ul style="list-style-type: none"> Due to the creation of West and East Pakistan, there was the migration of people, both Hindus and Muslims. A large number of Muslims especially from Sylhet continued coming to the south-western part of the Nagaon through the Assam-Bengal and Eastern-Bengal Railways.
Post-independence	<ul style="list-style-type: none"> Due to the Liberation Movement in East Pakistan, heavy influx of people came to settle in Nagaon. Central Jail got established in 1950. District Library was setup in 1955. Establishment of Assam Homeopathy Medical College and Hospital in 1968. In 1983, the district witnessed the Nellie massacre (The movement, led by All Assam Students Union (AASU), against illegal immigrants, mostly Bangladeshi. It ended in August 1985 following the Assam Accord, which was signed by leaders of AASU and the Government of India.) Marigaon and Hojai districts got spilt from Nagaon in 1989 and 2015, respectively.



1.5 PHYSIOGRAPHY

1.5.1 TEMPERATURE

The area experiences hot sub-tropical humid climate. The climate is moderately cold and foggy during winter with very much humidity in the air at the time of summer. A hot and humid pre-monsoon from March to mid-May, a prolonged southwest monsoon or rainy season from mid-May to September, a pleasant post-monsoon from October to November and a pleasant winter from December to

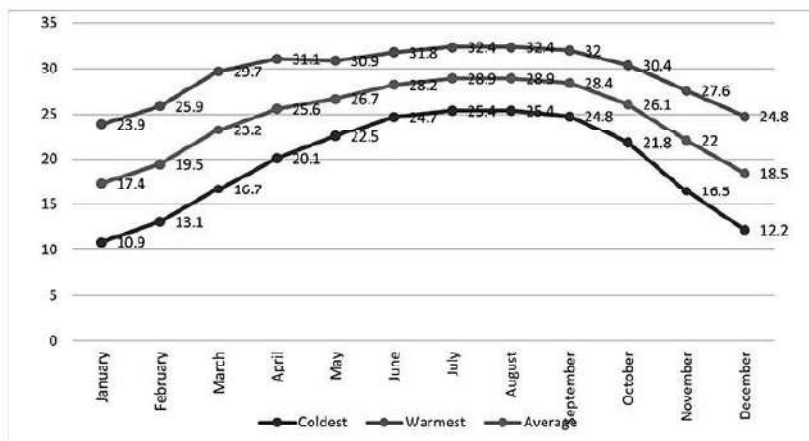


Figure 7: Temperature variation in Nagaon

(Source: Statistical Handbook of Assam, 2012)

February are the characteristics of the general climate. Skies are heavily clouded during April and May, with north easterlies and easterlies winds. Cyclonic storms and depressions which originate in the Bay of Bengal and move into Assam, including Nagaon during May and June. Thunderstorms also occur during the period March to October, their frequency being highest in April.

The mean daily maximum temperature during winter is about 25°C and minimum is 11°C. The mean daily maximum temperature during summer is 34°C. The warmest month of the year is July, with an average temperature of 28.9 °C. January has the lowest average temperature of the year. It is 17.4 °C.

1.5.2 RAINFALL

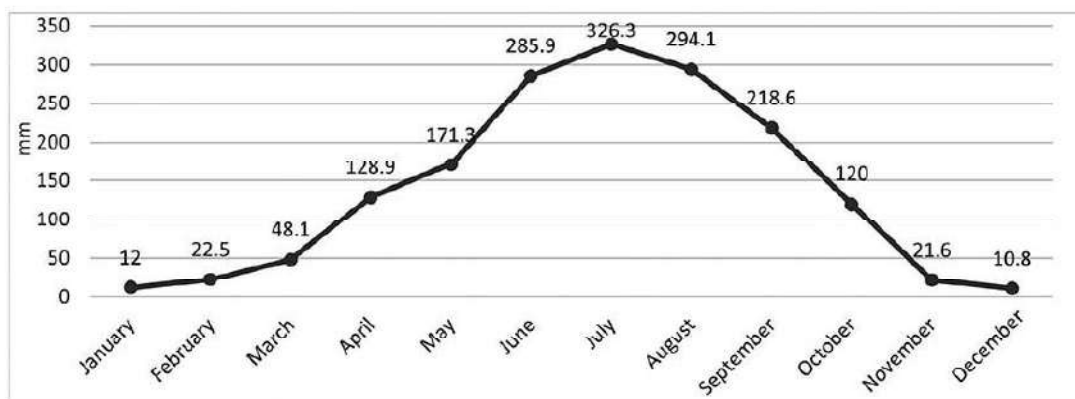


Figure 8: Mean annual rainfall (in mm) in Nagaon

(Source: Statistical Handbook of Assam, 2012)

A major portion of the annual rainfalls received during the period June to September, July being the rainiest month of the year. The driest month is December, with 8 mm of rainfall. With an average of 325 mm, the most precipitation falls in July. The average annual rainfall is 1541 mm. The relative humidity varies from month to month and increases from 76% to 84% during the South west monsoon and is about 77% in rest of the year. The humidity varies throughout the year but seldom drops down below 67%.

1.5.3 TOPOGRAPHY

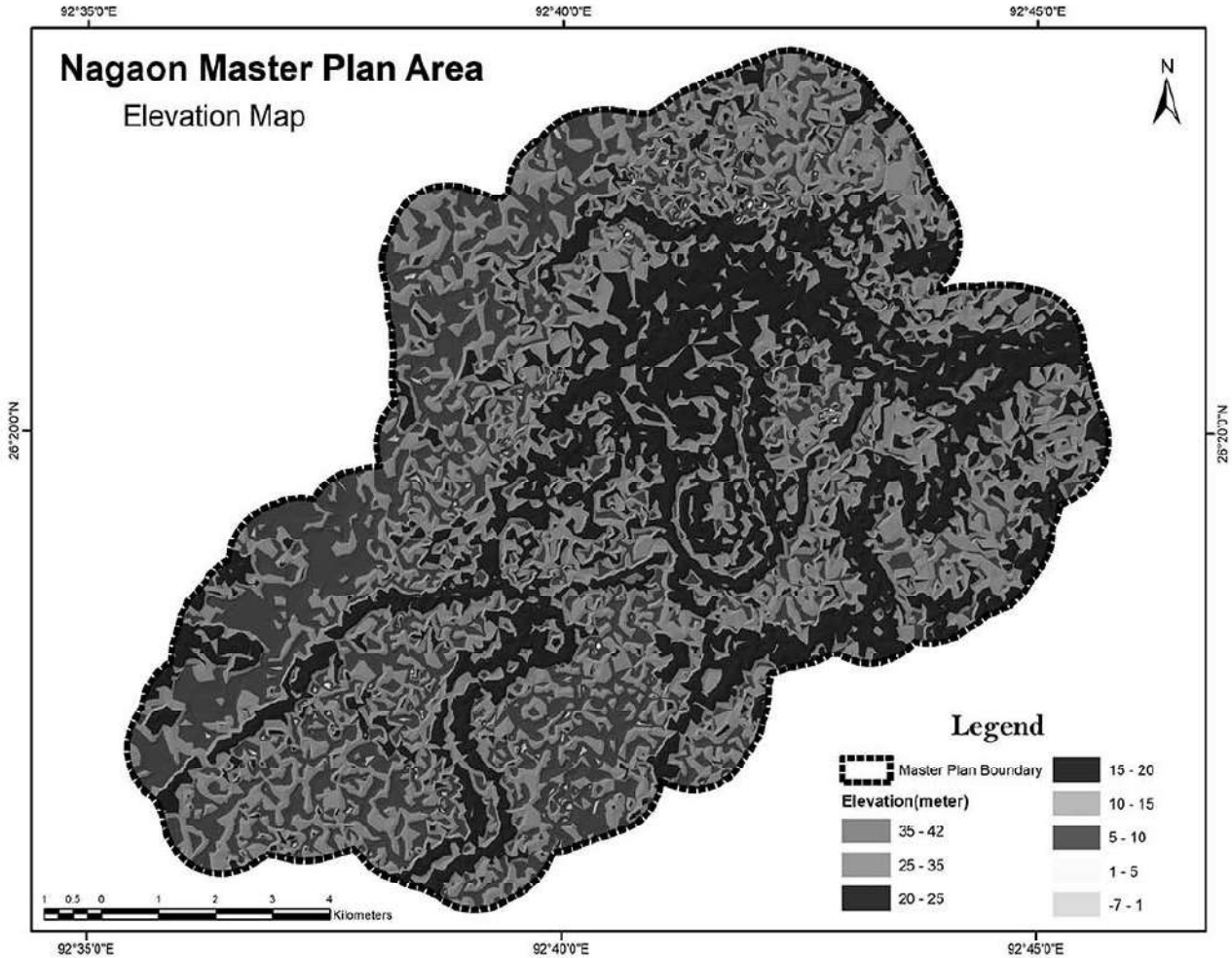


Figure 9: Digital elevation map Nagaon

The topography of Nagaon is not very different from its other north eastern neighbours. The topography of Nagaon is almost flat. The major river is the Kolong which divides the town into two halves - Haibargaon and Nagaon. Haibargaon slopes down towards the west and then to the south west towards Sonai. There are several bils, marshy lands and swamps. Marikalong is one of the major bils of the town. These wetlands were former channels of the Kolong

river. Nagaon topography slopes down first towards the south east and then southwards to the bils and then towards Kolong.

The hill slopes are steep creating narrow and deep gorges through which major rivers Kolong and various small streams flow.

Elevation of Nagaon MPA varies from 5 m to 22 m. The maximum elevation ranges from 20 to 25 meters above Mean Sea Level (MSL).

1.5.4 GEOMORPHIC FEATURES AND LANDFORMS

The major geomorphic units in the district are - i. Denudational hills, ii. Piedmont zone, iii. Flood plain deposits with Charland and Swampy areas.

i Denudational Hills:

It occupies eastern and southern part of the district comprising parts of Karbi angling hills and N.C.hills. They are NE-SW trending rugged topographic highs standing out due to differentiated erosion. The hilly terrain is covered by thick mantle of lateritic deposit and is densely forested.

ii. Piedmont Zones:

These zones occur at the contact of the denudational hills and plains. They are high land forms deposited adjacent to hill slopes by fluvial action. They consist of assorted admixture of cobbles, pebbles, sand and a matrix of clay.

iii. Flood Plain deposits:

Flood Plain deposit occupy a major part of the district with huge thickness of unconsolidated alluvial sediment deposited by the mighty Brahmaputra

and its tributaries. The Kopili River on the south and the Kalong River on the north-east have deposited the sediment during floods.

iv. Charland:

Charland is relatively low lying area along the river Brahmaputra within the recent flood plain. The area is characterized by fertile land with sandy and silty loam. The Charland is formed due to oscillation of the river water which is either washed away by subsequent floods or strengthened by further deposition.

v. Swampy areas:

Swampy areas are low lying areas or the natural depressions created due to change of river courses as abandoned channels or meander lakes. They are locally known as beels and are found abundantly in the district.



1.5.5 DRAINAGE

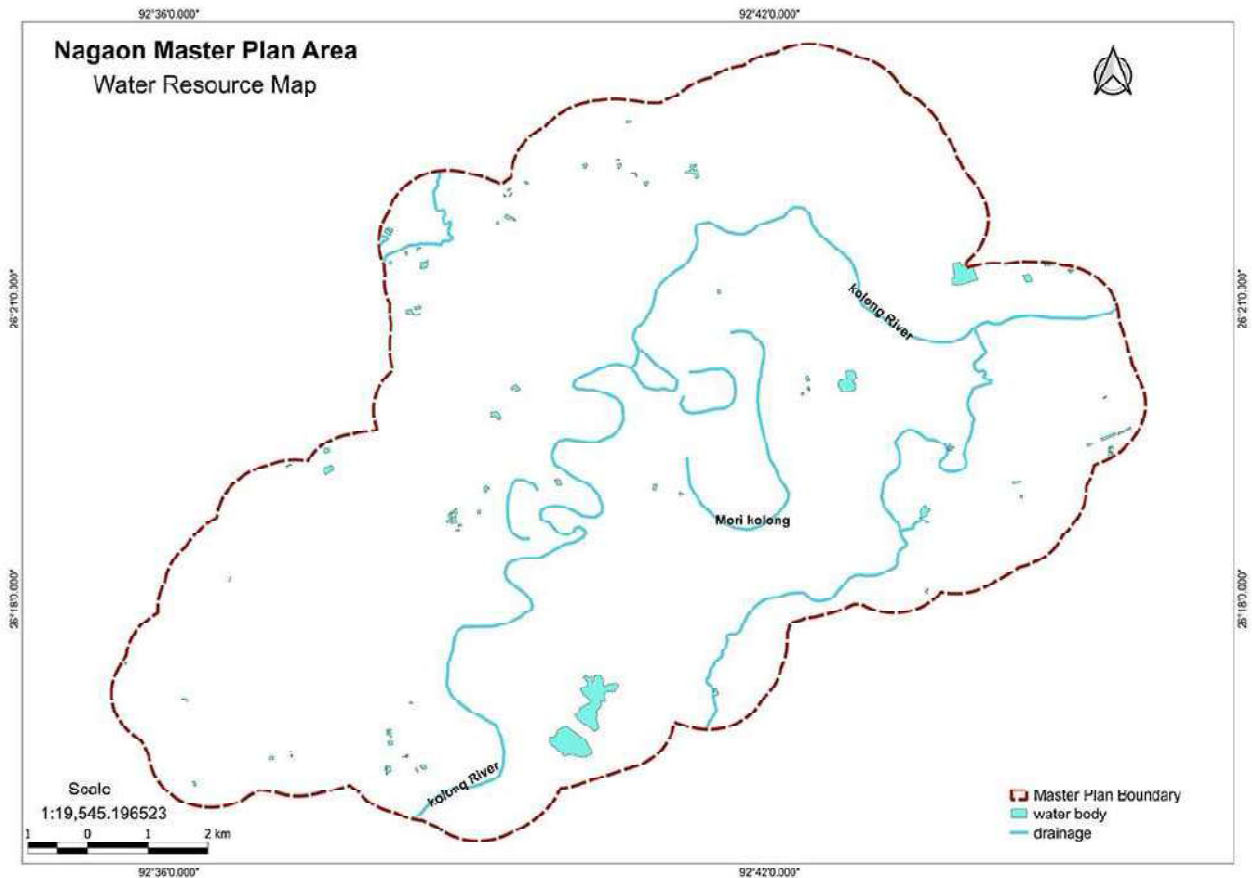


Figure 10: Water Resource map Nagaon master plan area

The main river is the Brahmaputra flowing on the northern part of the district from east to west with its tributaries Kopili, Kalong and Sonai rivers. Among these, Kopili is the major river originating in the hills of Karbi Anglong to the south and flows on north-westerly direction and meet with Diyang River near Dhing. It follows north-westerly direction from Dhing to the same north-westerly trend up to Kampur and deflects towards west.

Kalong, the tributary of Kopili joins the later near Jagiroad. Together with Morigaon district, it has the

shape of a broken dish. The north and the south are uplands. The general slope of the district is towards the west. The eastern, north eastern and the south eastern parts are hilly terrains.

The major river is the Kalong which divides the town into two halves - I laibargaon and Nagaon. I laibargaon slopes down towards the west and then to the south west towards the Sonai. Nagaon slopes down first towards the south east and then southwards to the beels and then towards Kalong.

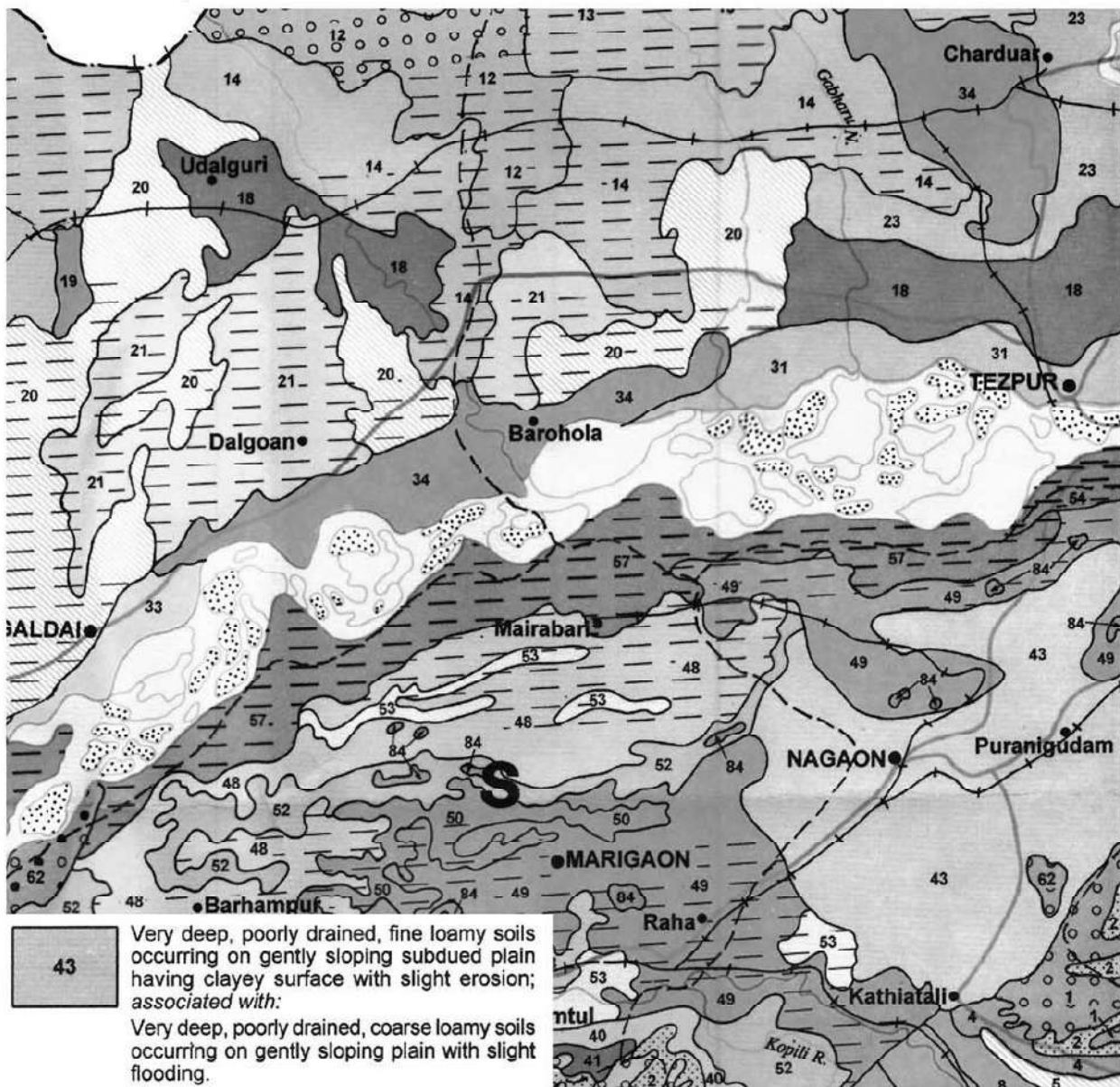
1.5.6 SOIL

The alluvial soil is mostly loamy and consists of a mixture of clay and sand in varying proportions, ranging from pure sand on the banks of the Brahmaputra to sticky clay which is considered unfit for cultivation. Marshy soil is chiefly found in the low lying areas. These are black in colour. The red soil generally occupies the hill slopes and foot hills. Occasionally lateritic soil is also found near about Lumding.

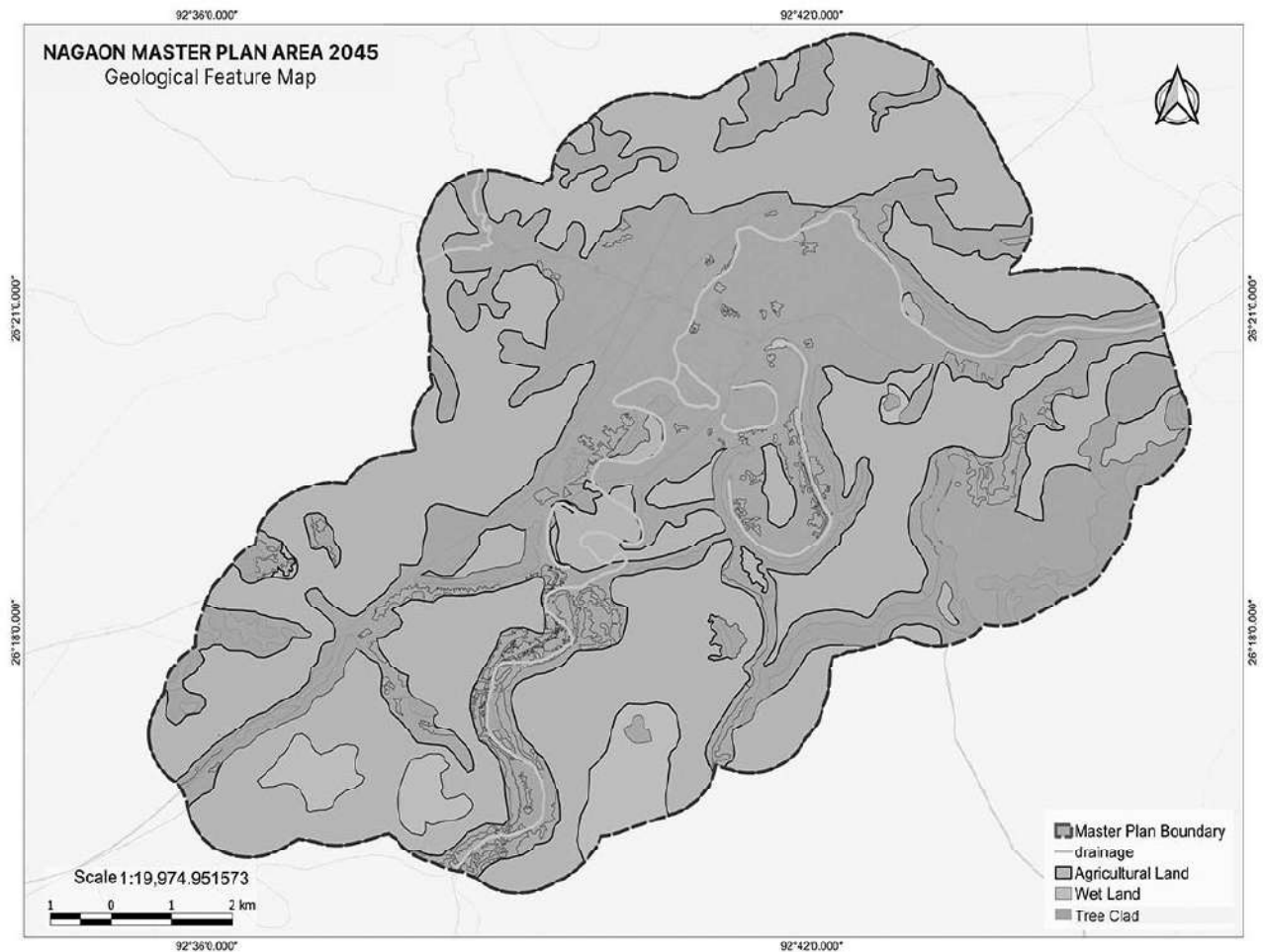
The plain areas bordering Brahmaputra River are occupied by alluvial sediments belonging to Quaternary ages. Based on such criteria such as sedimentation, soil characteristics and geomorphic features, the Quaternary sediments can be grouped into two subdivisions, viz.

1. Older Alluvium, and
2. Younger alluvium.

The Older alluvium by virtue of its relative maturity is composed of somewhat oxidized sediments comprising yellow and the reddish brown colour sand, silt and clay in contrast to the light colour, less compact Younger alluvium sediment. The Older alluvium always occupies the higher grounds than the adjacent Younger alluvium but takes the proper stratigraphy position underlying the Younger alluvium sediments in the plain areas.



1.5.7 GEOLOGY



Geologically the Nagaon is underlain by rocks of Precambrian age consisting of granites and gneisses, rocks belonging to Barail and Surma series of Tertiary age and Quaternary alluvium. Since the Archaean and Precambrian granites and gneisses form the basement or are found as inselbergs projecting out the plains alluvial stretch. They are not of much significance from ground water point of view. The younger Tertiary formations are found confined to Lumding, Lanka and Hojai areas and in the east and north east. The rocks comprise massive and compact sandstones and shales.

Nagaon is occupied by Consolidated Formations belonging to Pre-Cambrian Groups of rocks, Semi-consolidated Formations of Tertiary age and overlain by Unconsolidated Alluvial sediments of Quaternary age. The Pre-Cambrian rocks occupy about 3 % and the semi-consolidated Tertiary Group is an about 5 % of the TGA of the district. The Unconsolidated Alluvial sediments occupy about 90% of the total area and dominant in the district.

1.6 LAND USE MAP 2001

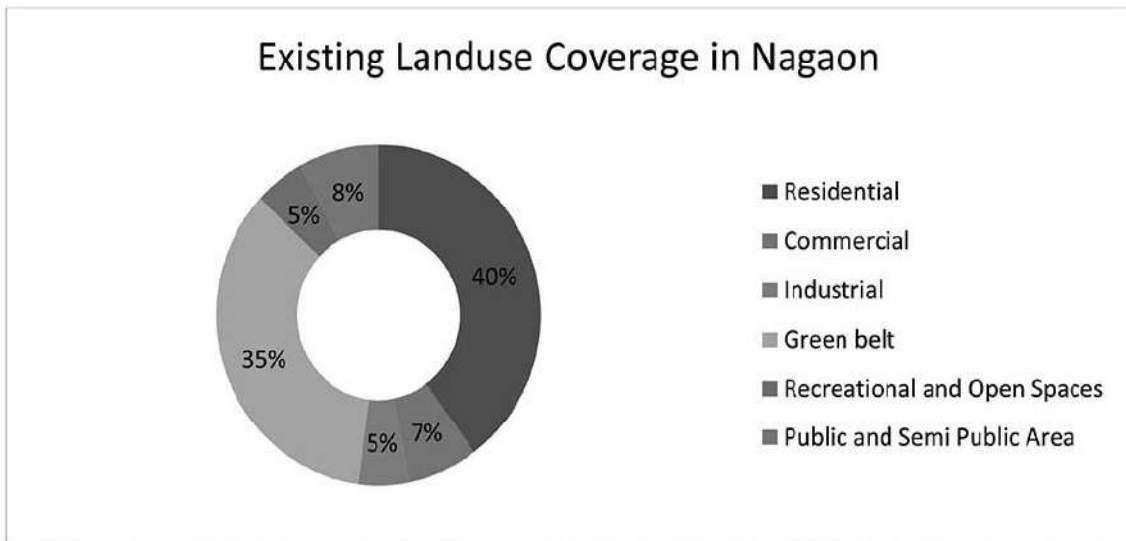


Figure 11: Landuse as per Zoning Plan, 2001

(Source: Nagaon Zoning Plan, 2001)

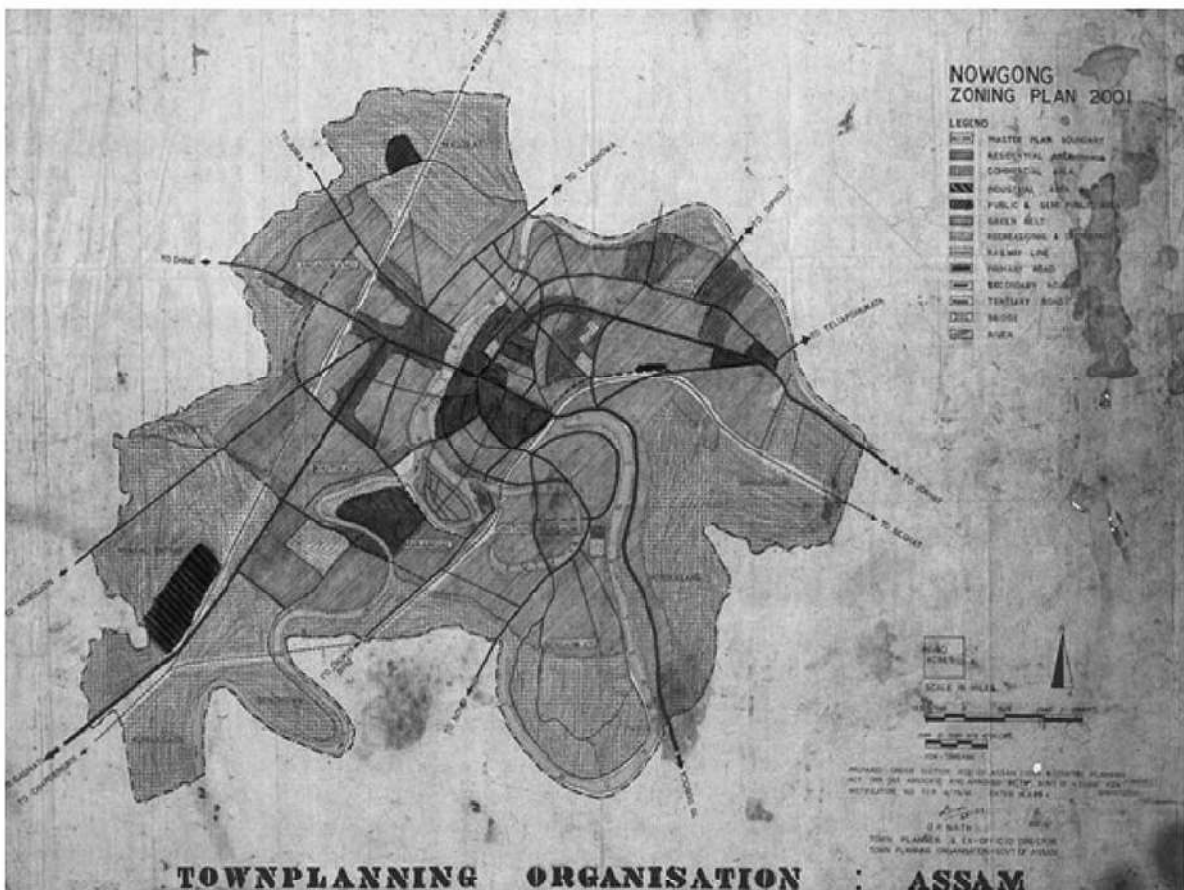


Figure 12: Nagaon Zoning Plan, 2001

(Source: Nagaon Zoning Plan, 2001)

1.7 URBAN LOCAL BODY

1.7.1 NAGAON MUNICIPAL BOARD

Nagaon Municipal Board was established on 1st Jan, 1894 after a permission Letter No. 9019, dated 06/12/1893 was awarded to Nagaon Town by the Government of Assam to establish a municipal board for providing the basic civic facilities to the inhabitants of this rapidly growing town. The municipal board was established and run-in accordance with the provisions laid down in the Assam Municipal Act of 1956 and subsidiary rules framed there under by the Government from time to time. It is the oldest of the

two municipalities of the district, the other one being the Dhing Municipal Board. Nagaon city comes under the administration of Nagaon Municipal Board. There are 26 wards in the city, 2 Outgrowths (OG), namely, Kachalukhowa (ward no. 27) and Nartam Gaon (ward no. 28). The outgrowth is a viable unit such as a village, clearly identifiable in terms of its boundaries and location. It possesses the urban features in terms of infrastructure and amenities such as pucca roads, electricity, taps, drainage

system for disposal of wastewater etc. educational institutions, post offices, medical facilities, banks etc. The chairman is the head of the administration and presides over the meetings of the Board. The board consists of the Chairman, Vice-Chairman and 26 Ward Commissioners who are elected representatives of the 26 wards of the town. The Chief-Executive-Officer (CEO) oversees and administers the plan and execution of the various day-to-day activities of the board.

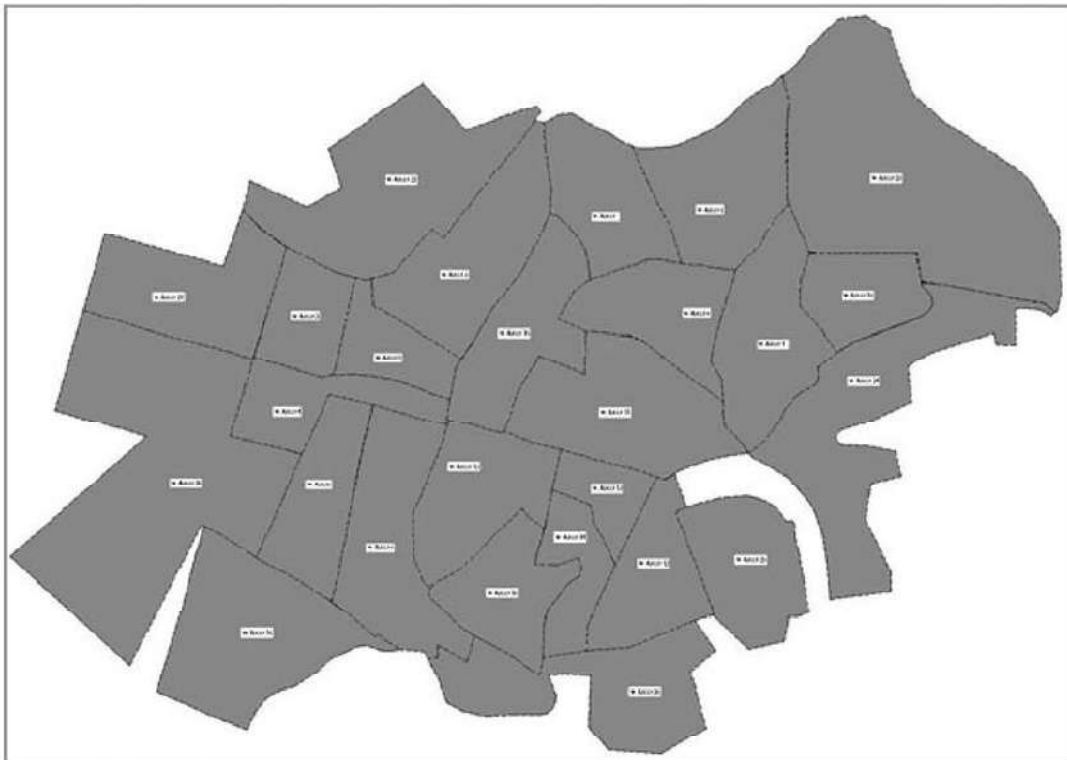


Figure 13 Municipal ward map Nagaon

At present the Nagaon Municipal Board consists of 26 nos. of wards with a population of 1,17,722 nos. (approx. as per 2011 census) with 59,651 nos. male and 58,071 nos. female inhabitants. The density of population is 12,769 persons/sq.km. with population growth of 0.93% and literacy rate being 89.15%. The area covered by the Nagaon Municipal Board is 9.22 sq.km. with total road length of 125 kms (approx) and drain length of 110 kms (approx). The slum population is 10,804 which is 9.17% of the total population. The Board is entrusted with the maintenance of roads and drainage system, streetlight, medical and public

Health facilities and providing water supply in collaboration with PHED to the inhabitants of Nagaon town. Besides, it has also established and maintains some recreation parks, libraries, community halls and arranges the facilities for functioning of public market areas etc. It also maintains a sanitary branch to ensure proper hygienic conditions in the town and performs necessary activities related to sewerage management and solid waste management. Towards this end the board is engaged in door-to-door collection and disposal of garbage. The board is also engaged in slum improvement

and among other activities has established community toilets.

The solid waste generated stands at 39 TPD with an average collection of 33 TPD by Nagaon Municipal Board. 85% of total households are covered by door-to-door collection of garbage.

The Municipality has various sources of revenue and also receives annual grants from the Government. It levies taxes on holdings, rickshaws, carts, cycles, stalls, open spaces, markets, cinema houses besides receiving taxes on houses, land, water, and sanitation.

Nagaon Municipal Board looks after:

- The maintenance of drainage system, streetlight, sanitation, medical and public health facilities.
- To keep the records of births and deaths.
- Maintains and establish some schools, libraries, community halls and arranges the facilities for marketing etc.
- The Municipality receives annual grants from the Government and levies taxes on holdings, rickshaws, carts, cycles, stalls, open spaces, markets, cinema houses besides receiving taxes on houses, land etc.



1.8 DEVELOPABLE AND NON-DEVELOPABLE AREA



A broad aspect of land which falls under Defence installations, government administration area, hazard prone zone, forests, reserve forest or if it falls under eco-sensitive zone, should be treated as non-developable zone. Nagaon has hills, forest, rivers, etc. which is a part of its ecosystem. Some parts of forest /reserve forest areas are in/around the city. Such areas could be identified and addressed if they are developable or non-developable areas of the city.

Developable area which falls under the category of developable byelaws, should be easily accessible by best possible mode of transport. It should have potential to house the basic services/amenities required for the occupants.

Table B non-Developable zone

	Eco-sensitive	Beels	Marikolong
		Rivers	Kolong
Non-developable Zone	Defense land/installations		Airport Land
			Railway Land
	Administration area		Land under the state and central government of India.
	Hazard Prone Area		Shoulder of rivers, and water bodies.

Printout for RISO

1.9 URBAN MORPHOLOGY AND EVOLUTION

Table 9: Urban evolution and Description

Year	City population	Urban cover Area (sq. km)	Description
2001	108786	10	Decadal growth rate sudden low growth scenario was observed throughout the Nagaon Municipality region for year 2001. In this time the city area is only covered selected region shows in red colour. It is mainly situated in North part of MPA.
2011	121628	15	The Nagaon MB area observed stabilization in 2001-11 period with a moderate increase in population up to the decadal growth rate of 11.80%. Urban area expanded from core city region, as like urban fringe area. It also grew up linear manners.
2020	--	28	In there the expanded area shows in green color and it mainly grew up the road and river side that's why we can call it linear urban growth.

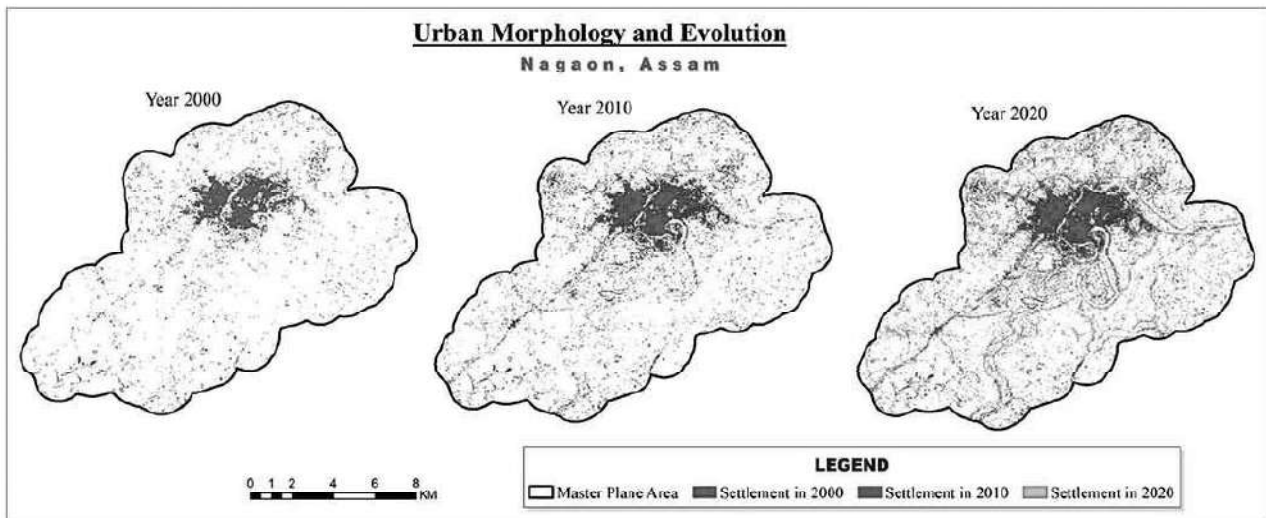


Figure 14: Urban morphology and evolution map of Nagaon city



1.10 NEED FOR THE MASTER PLAN

A town/city and its surrounding areas are composed of land, buildings, people, utilities and transportation and communication facilities, drainage, markets etc. A Master Plan is a statutory instrument for controlling, directing and promoting the sound and rational development or redevelopment of an urban area and its adjoin areas within a view to achieving maximum economic, social and aesthetic benefits. The Master Plan generally indicates the manner in which the use of land in the respective area is to be regulated and it also indicates the manner in which the development

of land therein is to be carried out. A Master Plan is a scheme of arrangement of these, i.e. the Master Plan consists of co-ordinated plans of major streets, transportation facilities, parks, recreation facilities, educational facilities, health facilities, tourist facilities, commercial and industrial areas – all arranged in such a way which would function most efficiently and economically and also enhance the aesthetic beauty not only of the urban area but also the village area at the same time. It is also an important tool for guiding and regulating the future growth of the town.

The Master Plan provides vision, direction and a defined achievable future for the Town by establishing specific goals and strategies for land use; community appearance and design; housing and neighbourhoods; jobs and economic vitality; transportation; public services and facilities; natural resource protection; open space and recreation; history, arts and culture; and regional coordination. It is also the basis for taking day to day decisions on land use conversion that follow an optimistic and hopeful long-term vision.



The preparation of Master Plan is a continuous process and needs revision/modification from time to time to incorporate the unforeseen development, technical innovations etc. The first Master Plan of Nagaon was prepared long back in the year 1977 and revised it in the year 2007 and will be applicable upto the year 2021. As such it is necessary to revise the Nagaon Master Plan by adopting new GIS based technology under the scheme of AMRUT (Atal Mission for Rejuvenation and Urban Transformation) to provide better guidelines for the balanced development of the existing area as well as incorporated new areas in the Master Plan.



2. DEMOGRAPHY

2.1 INTRODUCTION

The scientific or more specifically statistical study of population, its size, density, distribution and growth are known as demography.

The study of population and its relating characteristics are the basic factor for long range planning works in a town or a city. The study of change in the population and its distribution and composition are also enables to force the growth of the urban area. The important demographic aspects like housing facilities, urban infrastructure development both for present and future should be thoroughly studied during the preparation of any development plan.



2.2 POPULATION CHARACTERISTICS

Table 10: Existing population of Masterplan Area 2011

Sr.No.	Master Plan Area 2045	Population (2011)	(%)
1	Nagaon Municipal Board (26 Wards)	1,17,722	39.41
2	2 Out Growths	3,906	1.32
3	3 Census Towns	26,868	8.99
4	76 Rural Villages	1,50,184	50.28
TOTAL Population		2,98,680	100



Demography is the study of human population such as size, growth, density, distribution and vital statistics. It helps to understand population dynamics by investigating three main demographic processes in Nagaon. Demography contributes in understanding changes in populations, including how people inhabited Nagaon and growth taking place.

understanding of a population dynamics provide the basis for decision-making, policy development and planning. Social and economic development processes and outcomes are depended upon the detailed study of population characteristic of any planning area.

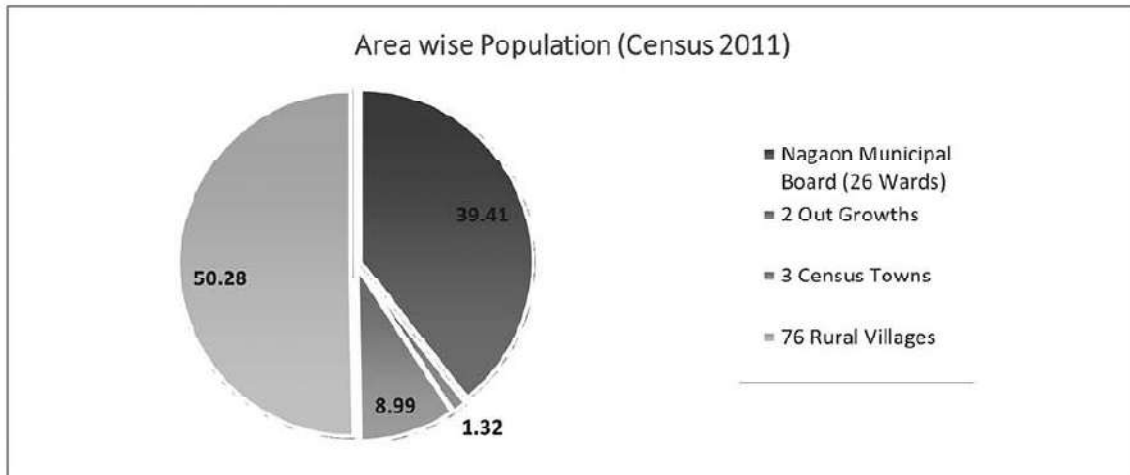


Figure 15: Population distribution of Nagaon MPA, 2011

The total existing population of Nagaon Planning Area is 2,98,680 out of which population of MB Area is 1,17,722, which is about 39.41% of the total population. 2 outgrowth area possesses 3,906 population which becomes 1.32% of total. 3 Census Towns contribute to 26,868 of about 8.99 % and the Rural area contain a population of 1,50,184 which is about 50.28 % of the total planning area population.



2.3 POPULATION GROWTH TREND IN NMB+OG AREA

Nagaon town came into existence in 1893 and since then the town has been growing in size and as well as the growth of population also has been increased year after year. At present Nagaon city consist of 26 nos. of wards.

Table 11: Trend of population growth of Nagaon city.

Year	Population	Increment	Decadal Growth Rate (%)
1911	5423	5423	5423
1921	6885	6885	6885
1931	10431	10431	10431
1941	12972	12972	12972
1951	28257	28257	28257
1961	38600	38600	38600
1971	56537	56537	56537
1981	No census for Assam		
1991	93350	93350	93350
2001	108786	108786	108786
2011	121628	121628	121628

(Source: Census of India 2011)



The current population of the city as per census 2011 is 1,21,628 and it is estimated to reach about 1,57,127 by 2031. According to the survey carried out by NMB in 2010-11. The slum population is about 29,193 which occupied 27.02 percent of the total population of the city. The average density of population in the city is about 85 person/Hectare. To better understand the growth of the population of the city, the growth can be traced back from 1901.

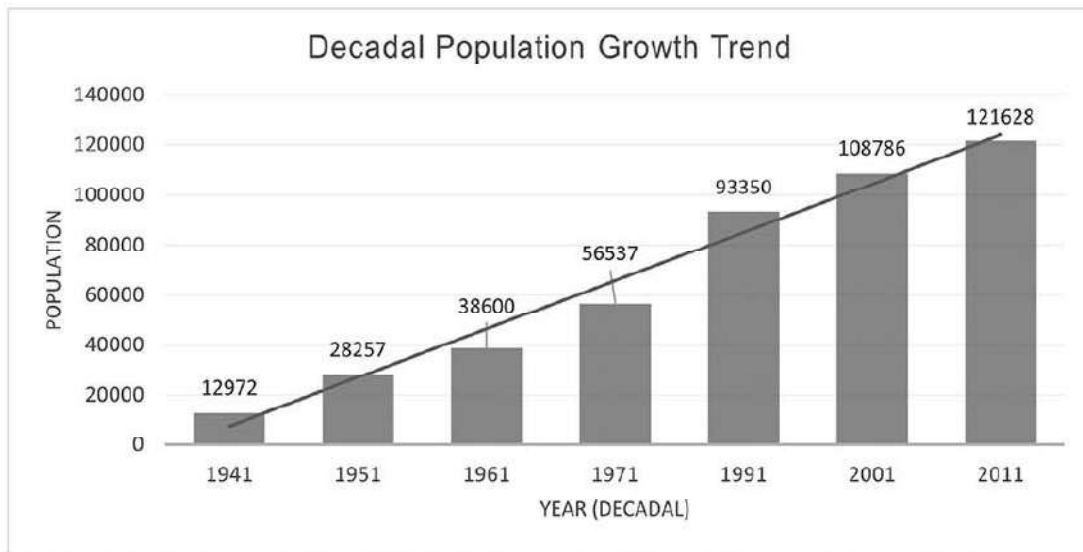


Figure 16: Population growth trend of last six decades

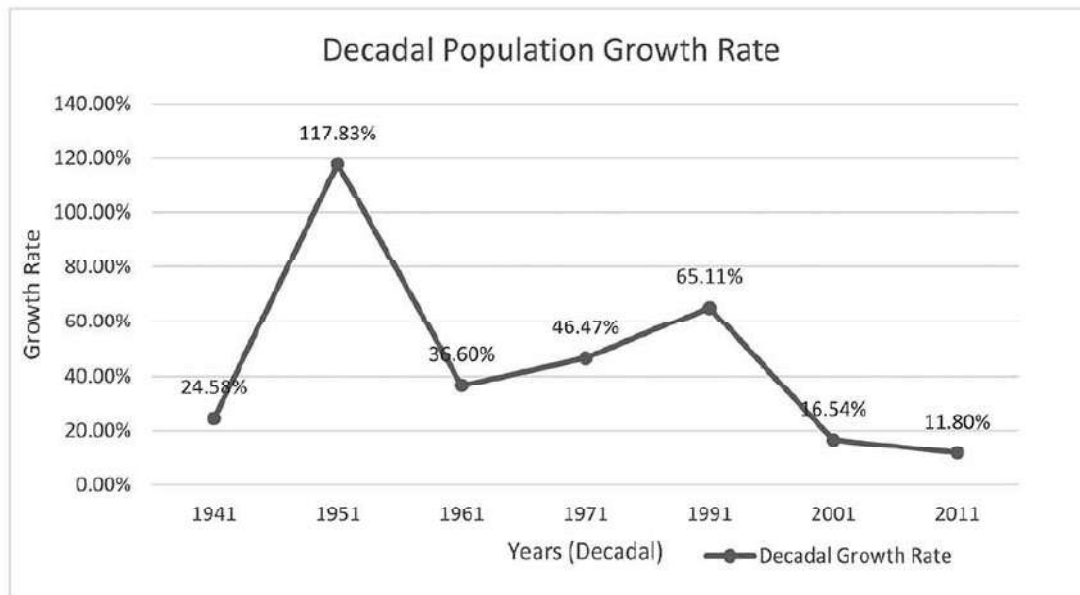


Figure 17: Population growth rate of last six decades

The Table 12 presents the numbers of population of Nagaon Municipal Board area & shows the population growth trend of Nagaon planning area in the past six decades in corresponding Municipality. The table clearly reveals that the Nagaon MB area witnessed a high growth rate of almost 117.83 percent in the period 1941-51. During the period 1951-61 Nagaon Municipality area recorded a decadal growth rate of 36.60%. However, the Census population count was not carried out in Assam in year 1981 for the Decade 1971-81, the growth rate was considered as 65.11% of two decades for 1971-91 thereafter sudden low growth scenario was observed throughout the Nagaon Municipality region for year 2001. After this drop in growth rate, the Nagaon MB area observed stabilization in 2001-11 period with a moderate increase in population up to 121628 with decadal growth rate of 11.80%. This is attributed to the fact that Nagaon is attracting a lot of population in the working sector due to top priority given by the Administration along with improvements in social security in the systems.

2.5 MALE / FEMALE POPULATION

2.5.1 WARD WISE POPULATION

Table 12 Ward wise Population for Nagaon MB area

Ward No.	Population			SC Population			ST Population		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
1	1705	881	824	183	91	92	3	1	2
2	4587	2365	2222	342	171	171	1	1	0
3	4151	2090	2061	192	92	100	45	23	22
4	2725	1453	1272	136	71	65	9	4	5
5	4456	2281	2175	317	171	146	21	11	10
6	6873	3482	3391	649	312	337	51	23	28
7	3022	1462	1560	109	50	59	60	27	33
8	3858	1837	2021	371	177	194	72	35	37
9	2429	1170	1259	159	77	82	14	7	7
10	1831	902	929	213	107	106	12	4	8
11	4989	2468	2521	808	393	415	28	18	10
12	4991	2493	2498	16	8	8	14	6	8
13	2327	1156	1171	109	57	52	7	4	3
14	3117	1525	1592	149	73	76	0	0	0
15	2641	1393	1248	254	121	133	47	27	20
16	3563	1788	1775	532	264	268	24	13	11
17	4583	2278	2305	312	164	148	37	23	14
18	5414	2772	2642	1246	637	609	5	4	1
19	3377	1688	1689	235	120	115	157	71	86
20	15240	7894	7346	236	131	105	37	22	15
21	2564	1350	1214	361	196	165	8	3	5
22	5149	2659	2490	474	243	231	78	39	39
23	7308	3696	3612	393	197	196	71	35	36
24	6485	3332	3153	319	162	157	8	4	4
25	5336	2701	2635	527	280	247	43	17	26
26	5001	2535	2466	1237	639	598	19	11	8
Total	117722	59651	58071	9879	5004	4875	871	433	438

(Source: Census of India, 2011)

2.5.2 VILLAGE WISE POPULATION

Table 13 Village wise Population

Sr. No	Village Name	Area (sq. km.)	Pop. Density	Population				
				Total	Male	Female	SC	ST
1	Afutoli Bil (Afutoli)	0.31	1082	338	178	160	69	1
2	Alengi Satra	1.51	884	1338	700	638	66	7
3	Auguri	1.99	108	214	151	63	15	3
4	Auniati Satra (Auniati)	0.88	641	567	294	273	73	0
5	Bali Gaon	0.04	2550	101	55	46	0	101
6	Bangthai	2.55	104	265	128	137	120	134
7	Bar Pathari Sutar Gaon	3.15	720	2270	1144	1126	12	6
8	Barbheti	2.05	1791	3671	1906	1765	12	27
9	Barjoha	2.41	392	943	490	453	8	1
10	Bengena Ati	2.34	1777	4158	2129	2029	257	2
11	Phakali Pathar	1.54	441	680	353	327	55	0
12	Bhatikuri	3.74	802	2998	1502	1496	1317	27
13	Bhutai Gaon	2.98	630	1876	957	919	5	0
14	Birah Bebeja	1.99	644	1279	648	631	184	9
15	Dakhin Pat Satra(Dhak-inpat Sat	0.90	2193	1982	1000	982	1480	16
16	Dewdhar	2.95	546	1611	805	806	392	6
17	Dimow	2.09	403	1397	724	673	242	509
18	Dipahalu	3.17	1307	4151	2224	1927	16	5
19	Etapara	2.20	1707	3763	1901	1862	1	432
20	Garikuri Bebeja(Gariguri Bebe	1.28	282	361	174	187	160	4
21	Garmur Satra	0.70	2238	1574	797	777	475	89
22	Gatanga	0.32	3723	1182	586	596	249	135
23	Gederbori	1.70	090	1597	706	011	27	100
24	Ghahi Gaon	1.46	885	1293	645	648	759	19
25	Hatipara	2.14	739	1583	798	785	147	4
26	Jalah Gaon	0.24	7174	1739	892	847	539	0
27	Jamuguri	1.77	1279	2269	1150	1119	18	2
28	Jamuguri	2.38	499	1189	634	555	135	63
29	Jarani	1.51	905	1362	712	650	43	0
30	Karaiyani	1.50	920	1376	664	712	80	0
31	Katani Gaon	0.87	4468	3881	2020	1861	52	0
32	Katimari Grant	1.68	1906	3204	1631	1573	9	23
33	Katimari Pathar	1.74	2394	4168	2137	2031	190	11
34	Kawaimari	2.34	1973	4608	2319	2289	292	475
35	Khuti Katia	1.58	1133	1789	882	907	243	84
36	Kujarbori	1.81	780	1411	681	730	10	202
37	Kumar Gaon	1.38	965	1333	674	659	29	5
38	Kumartup (Kamartup)	1.03	351	363	193	170	0	0

Sr. No	Village Name	Area (sq. km.)	Pop. Density	Population				
				Total	Male	Female	SC	ST
39	Lao Gaon	1.49	4673	6955	3487	3468	0	0
40	Laogaon	1.41	2978	4205	2073	2132	0	0
41	Lathabori	0.19	5280	998	492	506	29	817
42	Mahe Khosha	0.15	1986	296	153	143	6	52
43	Mahrul	1.54	267	410	219	191	0	3
44	Majarati	2.37	1926	4565	2387	2178	440	193
45	Maz Pathari	2.67	785	2096	1108	988	0	0
46	Maz Putani	2.72	338	918	462	456	115	0
47	Mohmara	1.43	761	1092	572	520	906	4
48	Morangial	0.3	4103	1231	628	603	4	0
49	Mori Kalong	1.95	1060	2064	1001	1063	691	14
50	Na-Bebejia	3.01	176	583	302	281	26	0
51	Nam Pathari	1.39	171	238	128	110	0	0
52	Niz-Gumutha Gaon	0.55	2170	1183	589	594	100	0
53	Niz-Jagial	3.03	578	1753	881	872	554	53
54	Niz-Kachamari	1.76	1334	2342	1193	1149	106	612
55	Niz-Pathari	2.02	333	673	337	336	0	1
56	Palasoni	1.62	901	1459	754	705	2	2
57	Pub Salmara	0.35	4274	1484	732	752	335	281
58	Pukhuri Par	1.97	298	587	283	304	16	477
59	Putani Gaon (Putani)	0.22	6367	1414	684	730	0	0
60	Ranga Gara Huzz	1.53	3256	4985	2559	2426	1323	22
61	Ranthali	2.28	891	2032	1051	981	554	0
62	Ranthali	0.1	12436	5100	2598	2502	0	0
63	Rupahi Gaon	0.41	8602	1356	679	677	54	5
64	Samua Gaon	0.16	1240	2546	1289	1257	887	75
65	Sensuwa	2.05	452	977	499	478	5	0
66	Siale Khowa	2.16	6719	5781	2943	2838	11	14
67	Silangani Gaon	0.86	1314	3835	1977	1858	7	409
68	Simaluguri	2.92	715	1296	633	663	146	0
69	Singia Gaon	1.81	5570	1114	559	555	104	237
70	Takowbari	0.2	815	2798	1391	1407	61	25
71	Telia Gaon	3.23	846	3437	1752	1685	119	19
72	Telia Pahukata	4.06	1445	2932	1507	1425	348	896
73	Tukulai Bebejia (Tukulai)	2.03	582	1739	868	871	554	4
74	Uria Gaon	2.99	892	1941	983	958	591	5
75	Uttar Petborha	2.18	700	692	359	333	0	0
76	Uzara Gaon (Uzra Gaon)	0.99	1082	338	178	160	69	1
TOTAL		129.10	1163	150184	75776	73215	15875	7946

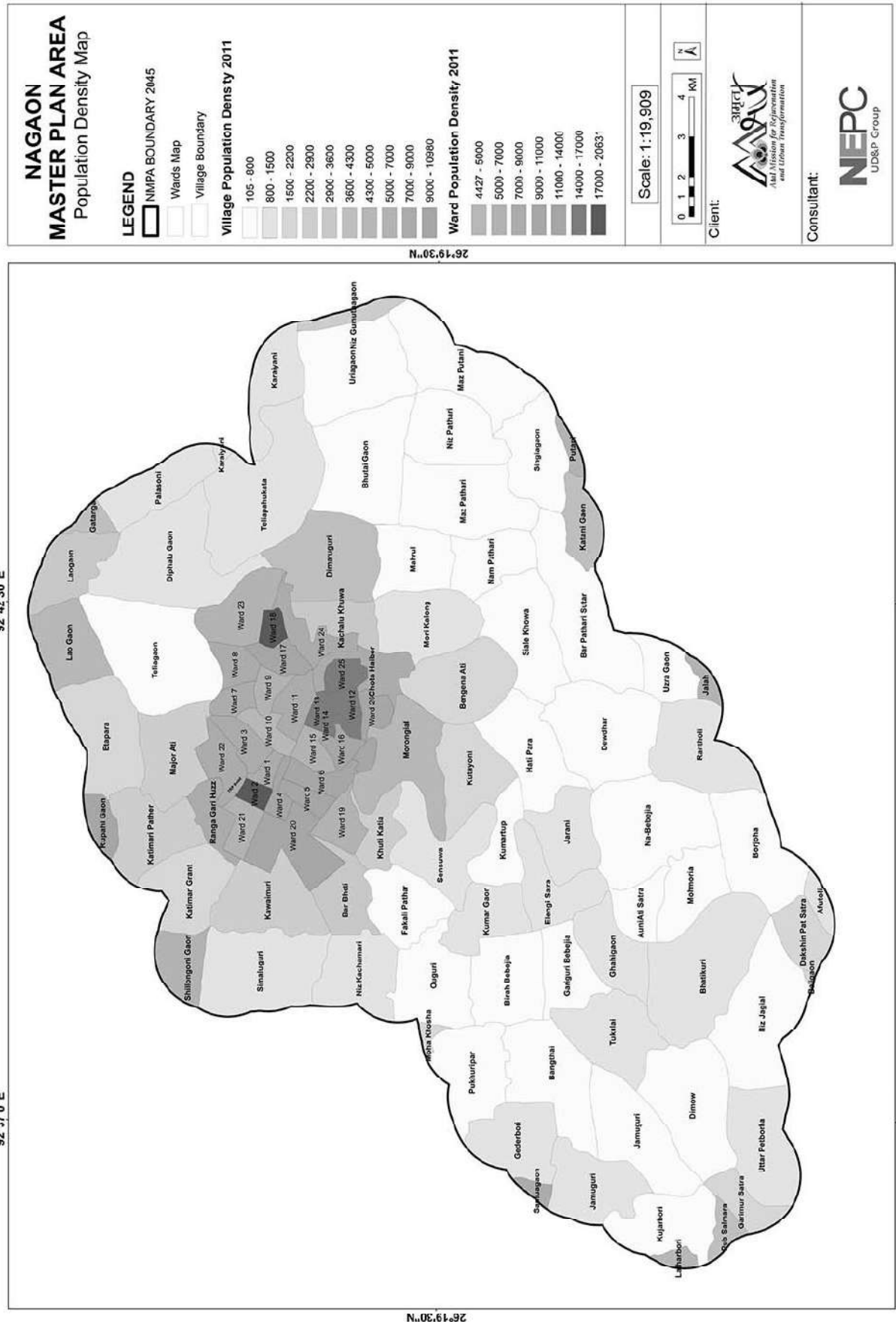


Figure 19: Population Density Map

NAGAON MASTER PLAN AREA 2045

VILLAGE WISE POPULATION MAP

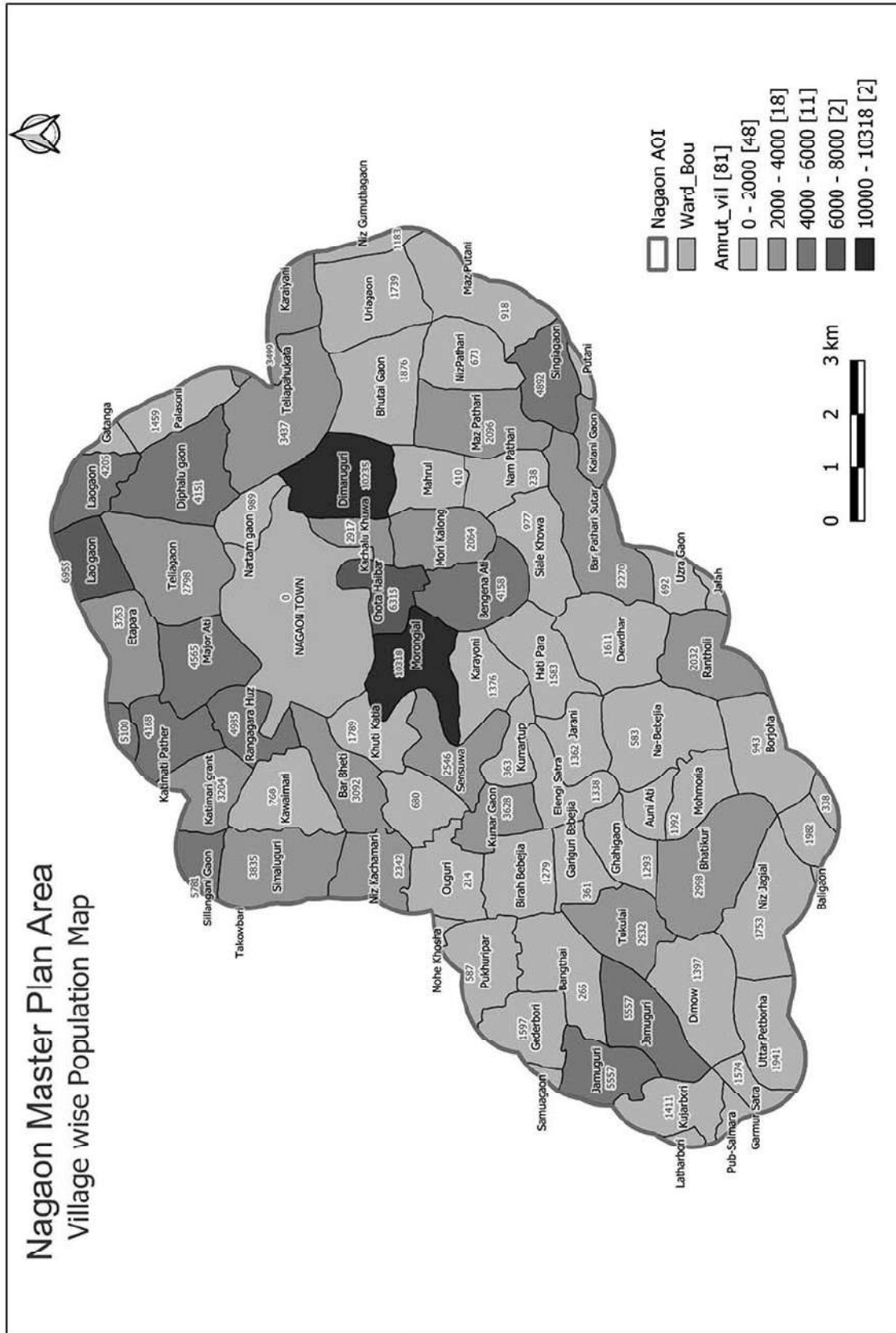


Figure 20 Village wise Population Map

2.6 COMPARATIVE GROWTH RATE OF NMPA

Table 14 Comparison of Growth Rate

Particular	Growth rate %	
	2001	2011
Assam	18.92	17.62
Nagaon district	18.20	18.03
Nagaon Master Plan Area	20.45	17.34

(Source: Census of India, 2011)

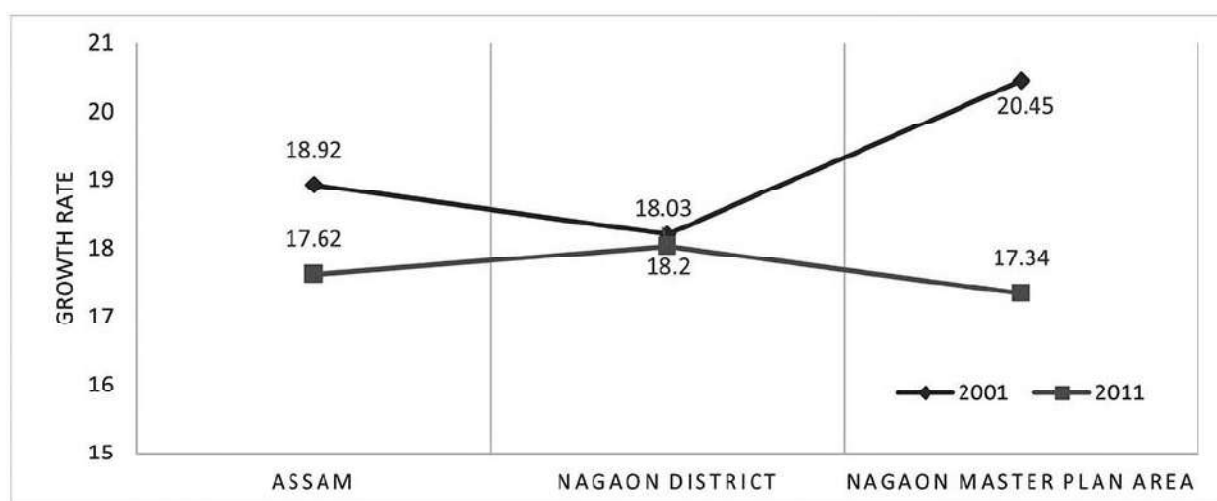


Figure 21: Comparative Growth rate of Nagaon MPA

2.6.1 DECADAL GROWTH RATE OF MASTER PLAN AREA

Table 15: Decadal Growth Rate of Master Plan area

Decadal year	Population	Growth Rate
1991	1,96,399	-
2001	2,46,888	20.45
2011	2,98,680	17.34

(Source: Census of India 1991, 2001, 2011)

2.7 LITERACY RATE

Table 16: Literacy rate in Nagaon GIS Based Master Plan area

Sr. No.	Description	Population (except Child)	Total Literate	Male Literate	Female Literate	% of Total Literates	% of Male literate	% of Female literate
1	Nagaon Municipal Board (26 Wards)	106272	94746	49550	45196	89.15	91.98	86.25
2	2 (Two) Outgrowths	3406	2770	1446	1324	81.33	84.36	78.25
3	3 (Three) Census Towns	23,524	18823	10034	8789	80.02	83.33	76.56
4	76 Villages	130247	109836	57814	52022	84.33	87.36	81.20
Total for GIS based Nagaon Master Plan Area		263449	226175	118844	107331	85.85%	88.82%	82.79%

(Source: Census of India, 2011)

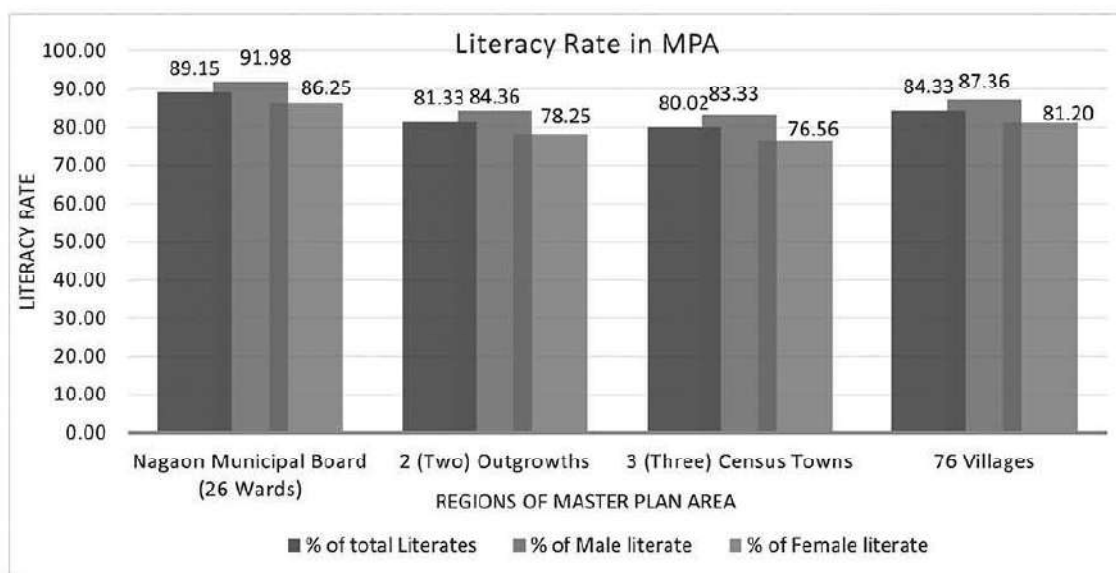


Figure 22: Total and Male-Female Literacy rate of Nagaon Master Plan Area

The literacy rate of Nagaon Master Plan area is 85.85% in which Male literacy rate is 88.82% and female literacy rate is 82.79%

Table 17: Regional Comparison of Literacy rate

Region	Literacy Rate
Assam	72.19%
Nagaon dist.	72.37%
Nagaon Master Plan Area	85.85%

2.8 SEX RATIO

Table 18: Sex ratio of India

S. No	Country	Year	2001	2011
1	India	Sex Ratio	933	940

(Source: Census of India 2001 & 2011)

Table 19: Regional Comparison of Sex ratio

Region	Sex ratio
India	940
Assam	958
Nagaon Dist.	962
Nagaon City	974

(Source: Census of India 2011)

According to 2011 census the sex ratio Nagaon city is 971 per 1000 male which are low in comparison to other big cities in India. The lowest sex ratio found among the population of working age groups starting from 25 to 59. The reason for this low sex-ratio may be attribute to the migration of low earning male workers from other places that have not brought their families to the town due to the scarcity of accommodation. Sex ratio is a valuable source for finding the population of women from the total population and what is the ratio of women to that of men in a particular area. In the Census 2011, it was revealed that the population ratio in India for 2011

Table 20: Sex ratio of GIS based Master Plan area

Sr. No.	Description	Population	Sex Ratio
1	Nagaon Municipal Board (26 Wards)	117722	974
2	2 (Two) Outgrowths	3906	962
3	3 (Three) Census Towns	26868	949
4	76 Villages	150184	968
Total for GIS based Nagaon Master Plan		298680	968

(Source: Census of India, 2011 and Consultant Compilation)

is 940 females per 1000 of males. The Sex Ratio of 2011 shows an upward trend from the census 2001 data. Census 2001 revealed that there were 933 females to that of 1000 males. India has seen a decrease in the sex ratio till 2001, but after that there has been in slight increase in the sex ratio. The sex ratio in Nagaon District is much higher than the national, state sex ratio. The sex ratio in Nagaon MB area is 974 whereas 968 of Nagaon GIS based Master Plan area.



2.9 POPULATION DENSITY

The Nagaon Master Plan area comprises of total area of 149.87 sq.km with a total population of 2.98 Lakhs. The table 21 indicates that the overall population density of the Nagaon Master Plan area is 1993 person/sq.km. in 2011. Here, 1 sq.km. of area is considered as single Unit for population density. The highest density is in Municipal Board area which is around 9548 persons per sq.km. and minimum density is in rural area which is around 1163 person per sq.km. It is observed from the table that the average density of Nagaon Master Plan area as of 2011 is 1993 persons per sq.km. which is more than the villages' population density of 1163 persons per sq.km.

From the Nagaon Ward wise population density data, it is found that Ward no.18 is the densest having 90233 persons per unit and Ward no.28 is the least with 1009 person per unit.

Table 21: Population Density for different regions of Master Plan area

Sr.No.	Particulars	Area (sq.km)	Population	Population Density (person /sq.km.)
1	Nagaon Municipal Board (26 Wards)	12.33	117722	9548
2	2(Two) Outgrowths	1.83	3906	2134
3	3 (Three) Census Towns	6.61	26868	4064
4	76 Villages	129.10	150184	1163
Total for GIS base Nagaon Master Plan		149.87	298680	1993

(Source: Census of India, 2011 and Consultant Compilation)

Table 22: Ward and Outgrowth wise population density Nagaon MB

Ward No.	Population Density			Ward No.	Population Density		
	Area (sq.km)	Population	Density		Area (sq.km)	Population	Density
1	0.20	1705	8525	15	0.41	2641	6441
2	0.23	4587	19943	16	0.33	3563	10797
3	0.51	4151	8139	17	0.43	4583	10658
4	0.27	2725	10092	18	0.06	5414	90233
5	0.34	4456	13105	19	0.64	3377	5276
6	0.43	6873	15983	20	1.38	15240	11043
7	0.37	3022	8167	21	0.47	2564	5455
8	0.49	3858	7873	22	0.74	5149	6958
9	0.35	2429	6940	23	1.34	7308	5454
10	0.41	1831	4466	24	0.74	6485	8764
11	0.59	4989	8456	25	0.38	5336	14042
12	0.33	4991	15124	26	0.54	5001	9261
13	0.15	2327	15513	27	0.85	2917	3432
14	0.20	3117	15585	28	0.98	989	1009

(Source: Census of India, 2011 and Consultant Compilation)

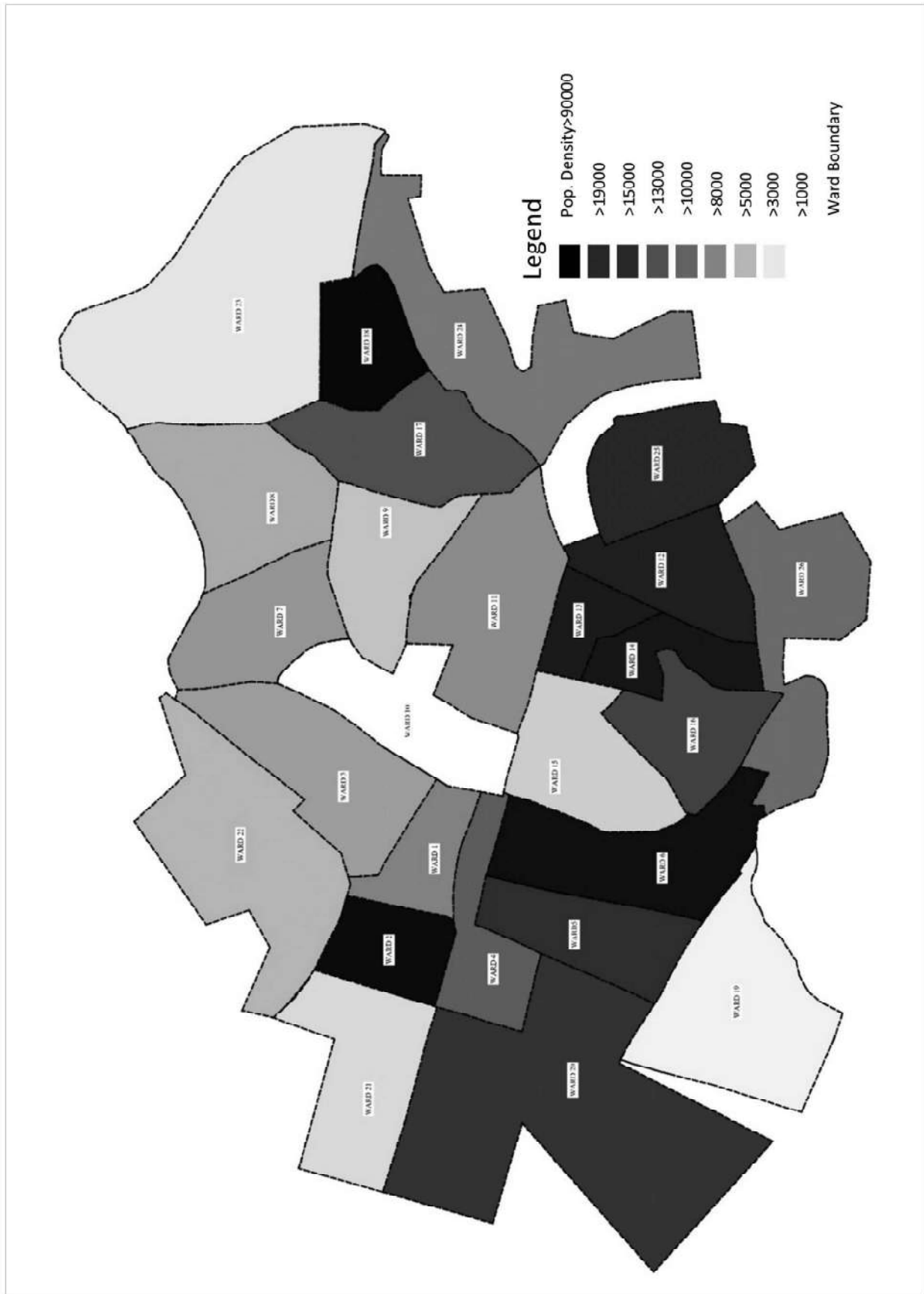


Figure 23: Population density Ward wise

2.10 WORKING AND NON-WORKING POPULATION

The details of working and non-working population under Nagaon Master Plan Area for year 2011 is presented in the Table 23.

Table 23 Work force participation rate of Master Plan area

Sr. No.	Name of Area	Population	1	2	(1+2)	Non-Worker	% Working population	% Non-Working population
			Main Worker	Marginal Worker	Total Worker			
1	Nagaon Municipal Board (26 Wards)	117722	39409	4821	44230	73492	37.57%	62.43%
2	2 (Two) Outgrowths	3906	1105	231	1136	2570	29.08%	65.80%
3	3 (Three) Census Towns	26,868	8094	898	8992	17876	33.47%	66.53%
4	Rural (76 Villages)	150184	40084	15120	55204	93787	36.76%	62.45%
	Total	298680	88692	21070	109762	187725	36.75%	62.85%

(Source: Census of India, 2011)

The Table 23 reveals that the workforce participation rate (WPR) for the planning area for year 2011 is 36.75%. The highest workforce participation rate for the year 2011 observed in Nagaon MB area as 37.57%, whereas the lowest was in outgrowth area which was 29.08%.

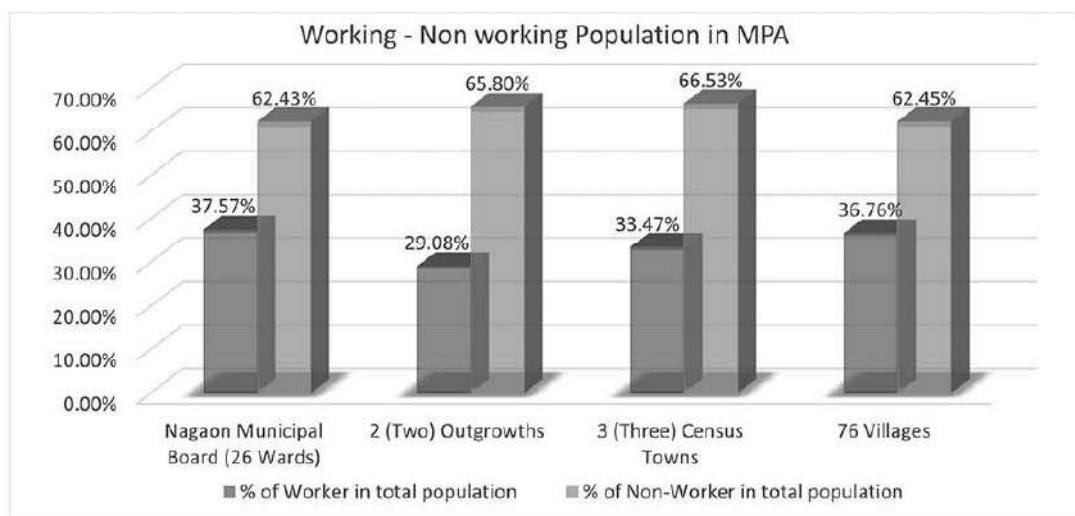


Figure 24: Work rate participation in planning area, 2011

The Figure 24 reveals that the workforce participation rate is almost near in Nagaon Municipal Board and Rural area in last decade. It is also observed that the work force participation rate in 2011 is less in Outgrowth and Census Towns compared to Nagaon MB and Rural area. Hence, the less participation rate, the more the tax base shrinks. It depresses economic growth and puts pressure on the budget of the region. The non-working ratio is almost same in Nagaon Mb and Rural area.

2.11 MIGRATION TREND

Migration into Assam is not a recent phenomenon; it is an age-old process since the British colonial period. However, it has occurred on a relatively larger scale in more recent decades particularly after 1971. Although migrants coming to Assam include people from the rest of India as well as from the neighbouring countries of Bangladesh, Nepal and Pakistan, it is the second group which has been a focus of attention during last several years. The high population pressure on land drive huge influx of farm labourer from Bangladesh to Assam. The economic potentiality of the region along with reluctant nature of indigenous people and absence of capital and entrepreneurship made such immigration a vital one. Out of the total population in Assam about 3.91 percent and 2.65 percent are migrants during 1991 and 2001, of which about 1.51 per cent and 0.71 per

cent constitute as the international migrants for the respective years particularly from the countries like Bangladesh, Nepal and Pakistan.

In terms of the International migration, Bangladesh contributes the majority of the migrants (84.85% and 86.14%) followed by Nepal (6.61% and 9.39%) and Pakistan (4.45% and 3.72%) respectively during 1991 and 2001.

Along with the international migration the migrants from the other states of India also contributes significant volume of population growth in Assam. Out of the total migrants, the interstate migrant into Assam contributes about 2.39 per cent and 1.93 per cent during 1991 and 2001.

Table 24. International Migration in Assam for 1991-2001

Volume of Migration (International) in Assam, 1991-2001				
Countries	1991		2001	
	No. of Migrants	Percentage of total migrants %	No. of Migrants	Percentage of total migrants %
Bangladesh	2,88,109	84.85	1,64,144	86.14
Nepal	22,433	6.61	17,896	9.39
Pakistan	15,110	4.45	7,097	3.72
Others	13,903	4.09	1,421	0.75
Assam	3,39,555	100	1,90,558	100

(Source: Medical visa to India from different countries, medical value travel report, FICCI)

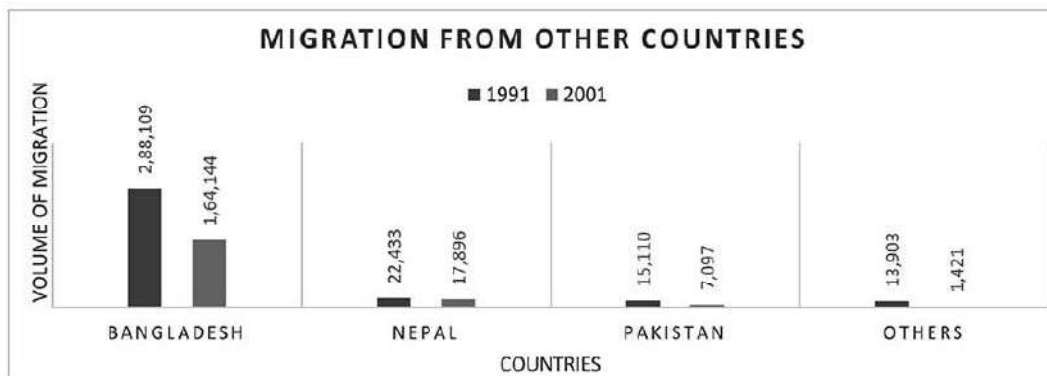


Figure 25: International Migration trend

The existence of labour market, employment prospects in the destination area attracts the huge influx of migrants from the different districts of India, leading to structural disequilibrium and cultural mess-up in the region. The differential natures of migrant population from the different parts of the country along with the international migrants lead to the modification of the original population structure of the state of Assam. It also leads to the population redistribution among the states of the country, creating tension or pressure on the land of Assam and its indigenous population.

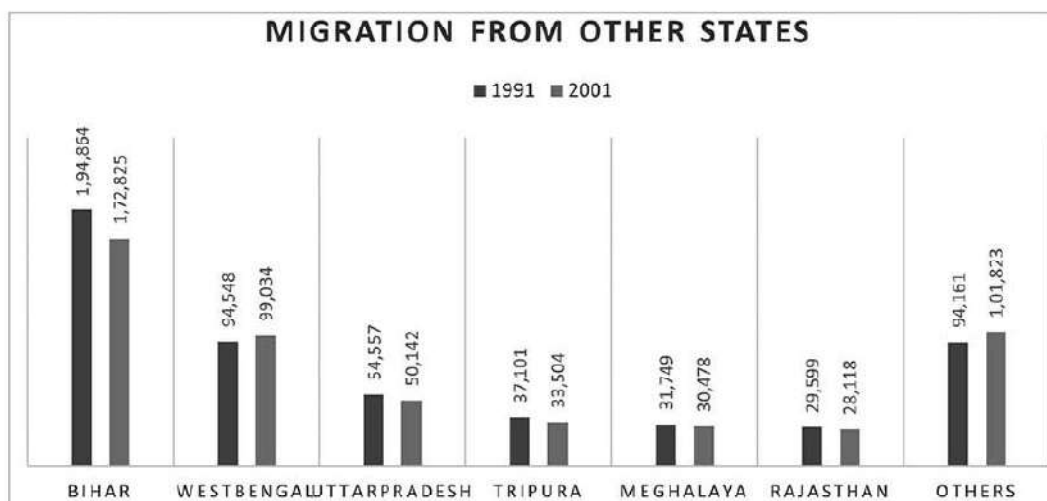


Figure 26: Inter State migration trend for year 1991-2001

Table 26: Spatial distribution of migrants from outside India, 1991-2001

Sl. No	Districts	1991				2001			
		Total migrants	% of total migrants	% of male migrants	% of female migrants	Total migrants	% of total migrants	% of male migrants	% of female migrants
1	Nagaon	6790	0.65	0.71	0.58	3522	0.3	0.33	0.26

(Source: Indian Tourist Statistics 2015)

Table 27: Spatial distribution of migrants from other states of India, 1991-2001

Sl. No	Districts	1991				2001			
		Total migrants	% of total migrants	% of male migrants	% of female migrants	Total migrants	% of total migrants	% of male migrants	% of female migrants
1	Nagaon	1172056	3.93	3.3	2.51	34225	2.92	3.3	2.51

(Source: Indian Tourist Statistics 2015)

Table 25: Interstate migration trend in Assam, 1991-2001

Volume of Migration (other states of India) in Assam, 1991-2001				
States	1991		2001	
	No. of Migrants	Percentage of total migrants	No. of Migrants	Percentage of total migrants
Bihar	1,94,864	36.31	1,72,825	33.5
West Bengal	94,548	17.62	99,034	19.19
Uttar Pradesh	54,557	10.17	50,142	9.72
Tripura	37,101	6.91	33,504	6.49
Meghalaya	31,749	5.92	30,478	5.91
Rajasthan	29,599	5.52	28,118	5.45
others	94,161	17.55	1,01,823	19.74
Assam	5,36,579	100	5,15,924	100

(Source: Indian Tourist Statistics 2015)

Table 28: Volume of Internal migration in Assam, 1991-2001

Sl. No.	Districts	1991		2001	
		Total internal migrants	Percentage of Internal migrants	Total internal migrants	Percentage of Internal migrants
1	Nagaon	70880	6.8	72614	6.19

The processes of human movement are always associated with number of reasons including social, cultural, political reasons, employment, business, education, marriage, family movement, etc. People move from one area to another for fulfilment of required and better facilities of amenities. The areas appalling poverty, unemployment, low and uncertain wages, uneconomic land holdings, poor facilities for education, health, recreation etc. move forward the people to migrate to another place where better facility prevails. Thus, it is the push and pull factor acts as ingredients of population migration.

Among all the reasons of migration, marriage (36.48 per cent) is considered as the single largest reason for migration. This reason of migration is more pronounced among the females (58.79 per cent) than the male (1.59 per cent) counterparts as female are forced to migrate under the social custom of marriage system. While after marriage, family movement (15.08 per cent) is also another prominent reason for migration followed by employment, (5.55 per cent) trade and commerce (2.83 per cent), movement after birth (1.03 per cent) and education (0.69 per cent).

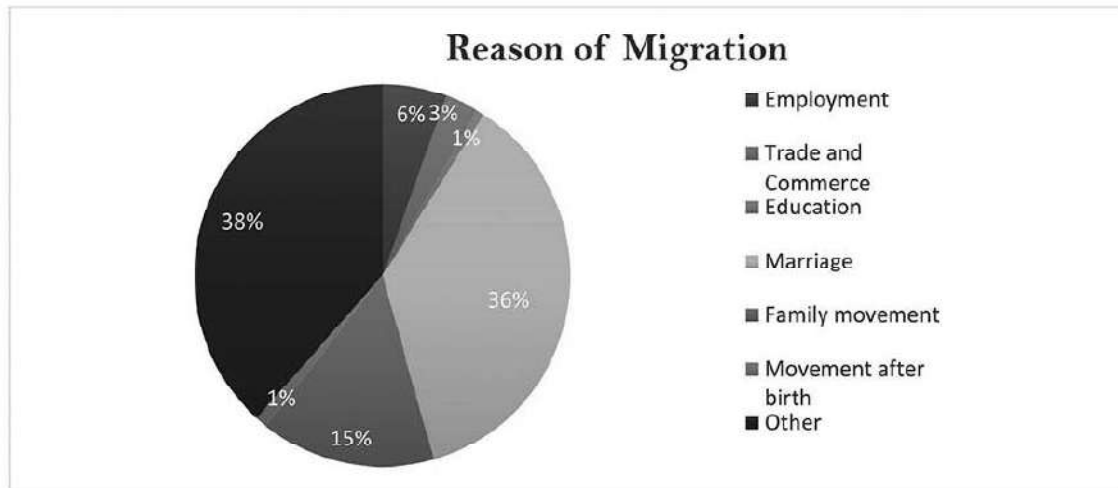
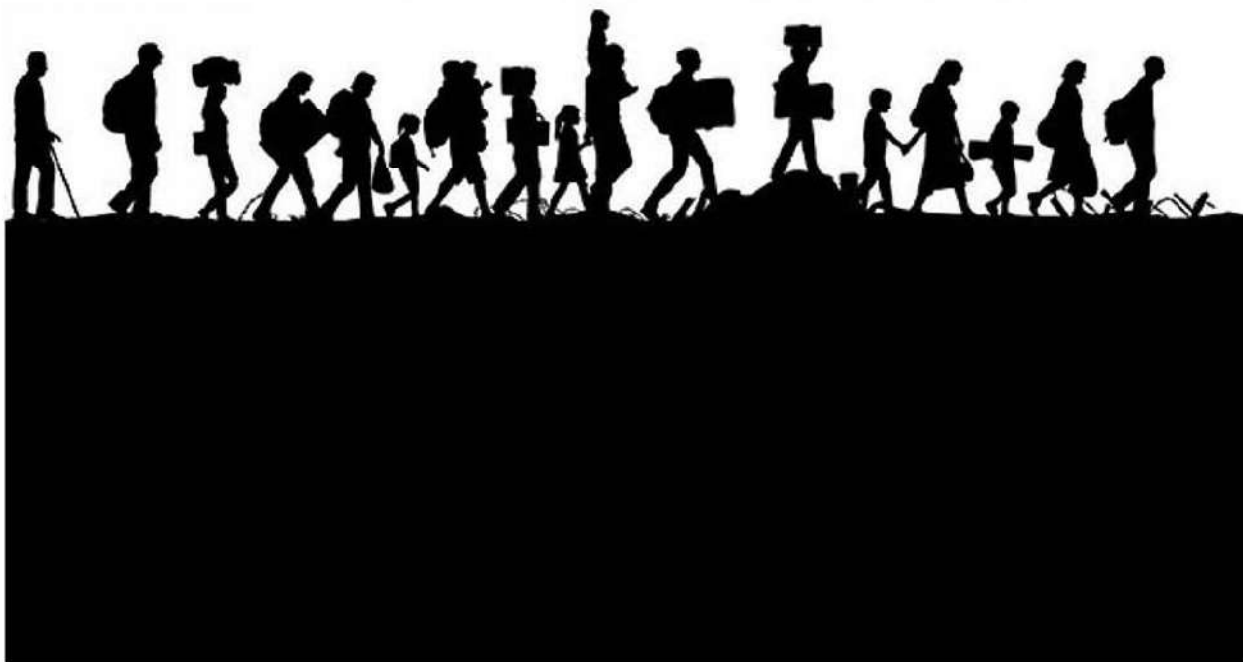


Figure 27: Reason of migration, Census 2011

Most of the family movement form of migration is governed by religious and political reasons of migration process. The shortage of labour force in the primary and secondary sector of economic activity generates the employment opportunity which attracts the large volume of migrants into Assam both in the form of interstate and international migrants. Similarly, the lack of skill of trade and commerce among the people of Assam attracts the large volume of traders to the region.



2.12 POPULATION PROJECTION FOR YEAR 2045

2.12.1 POPULATION ESTIMATION

Population projection is a forecasting tool that helps to estimate the changes in population size and demographic structure. It is mandatory for Government policy makers and planners to determine the future demand for basic human needs such as food, water, education, health, energy, and other services and to forecast future demographic characteristics.

The main objective is to provide or undertake activities aimed at achieving population stabilization, sustainable and environmental protection by the year 2045.

Population projection is a scientific/mathematical attempt

to peep into the future population scenario, conditioned by making certain assumptions using data to the past available at the point of time.

Assumptions used and their probability of adhering in future forms a critical input in this mathematical effort. Predicting the future course of human fertility and mortality is not easy, especially when looking beyond much further in time. Medical and health intervention strategies, food product and its equitable availability, climatic variability, socio-cultural setting, economic condition, and a host of other factors influence population

dynamics, making it a somewhat unpredictable exercise. Therefore, much caution must be exercised when either making or using the population projection and the context of various conditions imposed, should not be lost sight of on the basis of past behaviour and the likely future scenario assumed.

In Nagaon Planning area different mathematical methods are used for the estimation of projected population for the horizon year are Arithmetic Progression Method, Geometric Progression Method, Incremental Increase Method and Average Arithmetic Incremental Increase method.

2.12.1.1 Arithmetic Progression Method

This method is suitable for large and old city with considerable development. If it is used for small, average or comparatively new cities, it will give lower population estimate than actual value. In this method, the average increase in population per decade is calculated from the past census reports. This increase is added to the present population to find out the population of the next decade. Thus, it is assumed that the population is increasing at constant rate.

- Hence, $dP/dt = C$ i.e., rate of change of population with respect to time is constant.
- Therefore, Population after nth decade will be $P_n = P + n.C$ (1)
- Where, P_n is the population after 'n' decades and 'P' is present population.

Table 29: Population projection for 2045 based on Arithmetic Progression Method

Method	1991	2001	2011	2021	2031	2041	2045
Arithmetic Progression Method	211521	245684	298680	342258	385836	429414	446845

(Source: Consultant Compilation)

2.12.1.2 Incremental Increase Method

This method is modification of arithmetical increase method and it is suitable for an average size town under normal condition where the growth rate is found to be in increasing order. While adopting this method the Increase in Increment is considered for calculating future population. The Incremental Increase is determined for each decade from the past population and the average value is added to the present population along with the average rate of increase.

- Hence, population after nth decade is $P_n = P + n.X + \{n(n+1)/2\}.Y$ (3)
- Where, P_n = Population after nth decade
- X = Average increase
- Y = Incremental increase

Table 30: Population projection for 2045 based on Incremental Increase Method

Method	1991	2001	2011	2021	2031	2041	2045
Incremental Increase Method	211521	245684	298680	361091	423502	485913	506877

(Source: Consultant Compilation)

2.12.1.3 Geometric Progression Method

assumed to remain constant. Geometric mean increase is used to find out the future increment in population. Since this method gives higher values and hence should be applied for a new industrial town at the beginning of development for only few decades.

The population at the end of nth decade 'Pn' can be estimated as:

- $P_n = P (1 + IG/100)^n$
- Where, IG = geometric mean (%)
- P = Present population
- n = no. of decades.

Table 31: Population projection for 2045 based on Geometric Progression method

Method	1991	2001	2011	2021	2031	2041	2045
Geometric Progression Method	211521	245684	298680	353429	418214	494873	529514

(Source: Consultant Compilation)

2.12.1.4 Average Arithmetic Incremental Increase Method

This method is modification of arithmetical increase method and incremental increase method. It is suitable for an average size town under normal condition where the growth rate is found to be in moderately increasing order. While adopting this method the average of arithmetic and increase in increment is considered for calculating future population. The increase is determined for each decade from the past population considering results of both the method and average value is added to the present population.

Table 32: Population Projection based on Average Arithmetic Incremental Increase method

Year	Total population for Master Plan Area	Growth rate
1991	211521	-
2001	245684	13.91
2011	298680	17.74
2021	346140	15.89
2031	392696	13.45
2041	441233	12.36
2045	464221	5.21 (in 4 years)

(Source: Consultant Compilation)

2.12.2 Population Projection for 2045

Population projection has been done using all the four methods. It is important to note that none of the above-mentioned methods is empirical, and they are based on probability. Out of them, Average Arithmetic Incremental Increase Method has been considered suitable for Nagaon Master Planning Area. 1991, 2001 and 2011 figures are from the Census of India and 2021, 2031, 2041 & 2045 figures are estimated by the consultant.

Table 33: Population Projection for 2045

Year	1991	2001	2011	2021	2031	2041	2045
Population	211521	245684	298680	346140	392696	441233	464221

(Source: Consultant Compilation)

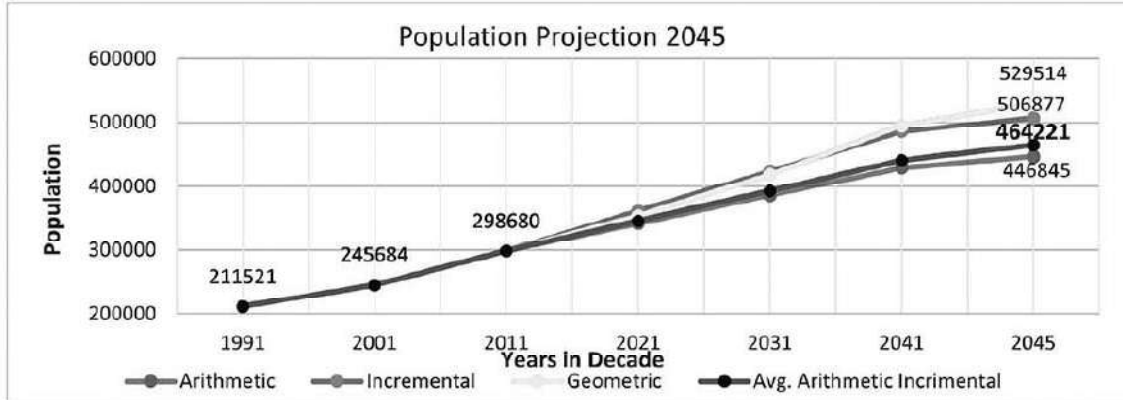


Figure 28: Population projection Nagaon master plan area



3. ECONOMIC BASE & EMPLOYMENT

Economy of Nagaon District, in terms of natural resources endowment, is purely agrarian. In fact, agriculture is the backbone of the entire economy of this district of Assam. It is providing livelihood to almost 78 percent of the total population. Rice is the staple food of the inhabitants and paddy is the principal crop cultivated in the district. Floods, however, are a major obstruction in the development of this sector. However, measures for the development of this prime sector of economy have been taken. Besides agriculture, economy of

Nagaon District also includes another major sector that is fisheries.

Assam gets a lot of rainfall still the state produces just about 5.7 percent of the total freshwater fish production in India. Nagaon district accounts for near about 9 percent of the total fish production of the state. Further, there is a visible dominance of imported fish in the organized markets. There are around 20 small and big rivers, large areas of water bodies, swamps and beels in Nagaon District having unique potential for development of inland fisheries. The district also has strong fishermen population. Another advantage



that the district enjoys is high water table. Moreover, it has been observed that more and more people are opting for fisheries as a livelihood option.

The economy of Nagaon District also suggests that there has been a lot of development in aquaculture technologies during the last few decades. However, absence of fishing on commercial principles characterizes the low level of productivity. As the productivity levels are low, profits in the sector get reduced. Further, this sector also lacks proper funding. Animal husbandry is another major sector contributing to the economy of Nagaon District. Production is less than the demand in the district.

The climatic condition of the district is suitable for poultry farming. Most of the poultry birds are reared in small units. Non-availability of quality poultry feed in the local market along with high cost of ingredients and limited supply of essential medicines are the major constraints for development of this sector. The low productivity of the dairy animals is apparently due to poor genetic character of the local cows. However, considering demand and supply in the district, there is ample scope for development of

animal husbandry in the district, particularly in rural areas adjacent to urban and semi-urban areas.

The handloom industry is the most important cottage industry in Assam and it is also a major part of the economy of Nagaon District. It is closely associated with art and culture of the society. Weaving of fabrics is a way of livelihood of large number of rural families and artisans. However, this important sector is yet to be exploited commercially. Economy of Nagaon District comprises several industries like tea industry, jute industry, sugar mills, etc.

Tea manufacturing is the predominant industry in the district. In Nagaon District, there is good scope for agro-based industries including pisciculture and sericulture. However, there are several factors like power shortage, seasonal floods, shortage of industrial labour, etc. hinder the development of the various economic activities in this district.

Last but not the least; handicraft is an important cottage and household industry sector and a significant part of the district's economy. It is largely emphasized for providing self-employment opportunities in the rural areas.

3.1 FORMAL SECTORS OF ECONOMY

The economy is categorized under the main three sectors as Primary, Secondary and Tertiary. If we talk about Nagaon particularly the Primary sector comprises agriculture, horticulture and forestry, sericulture & fishing, mining and quarrying, animal husbandry and dairy as subsidiary industries. Manufacturing, household Industries and construction industry are considered in Secondary sector where as trade, tourism, hotels & restaurants, transport, storage & communication, banking, public administration, and informal sector are part of Tertiary sector.

Table 34: Sector wise economic distribution

Primary Sector	Agriculture, Horticulture and Forestry, Sericulture & Fishing, Mining and Quarrying, Animal Husbandry and Dairy
Secondary Sector	Manufacturing, Household Industries, Construction.
Tertiary Sector	Trade, Tourism, Hotels & Restaurants, Transport, Storage & Communication, Banking, Public Administration and Informal sector

3.1.1 PRIMARY

3.1.1(i) Agriculture, Horticulture and Forestry

In terms of natural resources endowment, the economy is purely agrarian. Agriculture is the backbone of its economy providing livelihood to about 78% of the total population. Rice is the staple food of the inhabitants and paddy is the principal crop of the town. The production of banana is common to all households. All the varieties of banana are grown in plenty and sold to the market at a cheap rate compared to the market prices in the major towns. Banana plant is the one which is used from the roots to the leaves. Major agriculture crops include paddy, potato, jute and sugarcane, while cabbage, tomato,

onion, brinjal, mango, litchi, lemon, pineapple, and jackfruit are the major horticulture crops.

Forestry plays a significant role in the economy as a considerable section of the people depends for firewood and timber, bamboo, ekra reed, thatch, tokopat, cane etc. for building their dwelling houses. A number of forest base industries like sawmills, furniture workshops, bamboo and cane industry etc. have also been set up. Besides, boulders, gravels, sands and other forest products also earn considerable revenue to the Government.

3.1.1(ii) Sericulture and Fishing

Sericulture is an old age cottage industry of the rural people. It is done during the agricultural off season as a subsidiary occupation. The popular and durable Endi and Muga are the products of this industry. After independence, the Department of Sericulture and weaving and The Central Silk Board of India came into operation and provided a fresh face-lift to this industry.

Fish is an integral part of the diet of the people of

Assam as it gets a lot of rainfall. The local "Rohu" variety is in much higher demand than the other imported fish. Every small and big river, large areas of water bodies, swamps and bils in the town are having a unique potential for development of inland fisheries. There are a few unemployed youths but many of them are opting for fisheries as a livelihood option. There has also been a lot of development in aquaculture technologies.



3.1.1(iii) Mining and Quarrying

Some minor minerals like railway ballast, road metal, sands and brick clays have been discovered so far. The granites and gneisses are also being quarried for railway ballast and road metal. The clay found in the

alluvial tract of is quite suitable for manufacture of bricks and earthen ware. The various rocks found in the foothills and riverbeds near the foothills are used for construction.

3.1.1(iv) Animal Husbandry and Dairy

People in the town are predominantly non - vegetarian and prefer both eggs and meat of birds of local variety. The climatic condition of the district is suitable for poultry farming. Most of the poultry birds are reared in small units. However, the farmers have to depend on other districts/states for supply of chicks.

The people in rural areas have long tradition of maintaining cows & buffaloes for supply of milk and milk products. The production of milk per local animal is 1.5 litre/day. The low productivity of the dairy animals is apparently due to poor genetic character of the local cows. Considering the demand & supply, there is ample scope for development of this activity, particularly in rural areas adjacent to urban and semi-urban areas. Cattles, Buffaloes, Sheep, Goats, Pigs, Fowls and Ducks are the livestock and poultry.

3.1.2 SECONDARY

3.1.2(i) Manufacturing

a) Medium scale

Nagaon is practically dependent on agriculture and industry. Tea Industry, Assam Co-operative Jute Mill Ltd., Kampur Co-operative Sugar Mill, Katimari Weaving Project and Sack Craft paper project are the main medium scale industrial projects taken up in Co-operative and State sector. There is good scope

for agro-based industries including sericulture. But there are identified weaknesses that includes - power shortage, seasonal floods, shortage of industrial labour, lack of practical entrepreneurial development/motivation, lack of practical exposure.

Table 35: Types of Industries in Assam and Nagaon

Sr.No.	Type of Industry	Units	
		Assam	Nagaon (district)
1	Manufacturing of Food products and Beverage	1559	105
2	Manufacturing of Textiles	60	9
3	Manufacturing of Paper and Paper Products	68	1
4	Manufacturing of Rubber, Plastic Products	1//	3
5	Manufacturing of Non-Metallic mineral Products	8416	143
6	Manufacturing of fabricated Metal Products and Parts (except Machinery and equipment)	109	3
7	Manufacturing of Electrical Machinery and Apparatus	61	2
8	Supporting and auxiliary Transport activities, activities of travel agencies (including storage and warehousing)	31	2

(Source: Census, 2011)

b) Clusters of MSMEs

There is one Clusters of Micro & Small Enterprise: Ranthali Jewellery Cluster, Nagaon District, Assam, implemented by IIE, Guwahati.

Table 36: Industrial Cluster

Sr. No.	Industrial Cluster	Details
1	Principal products manufactured	Lokapara, Sen pota set, Thuria, Baaneh, Gam Kharu, Muthi Kharu, Japi set, Jun biri, Dug Dugi, Dhul, Dhansira, Moni mala, Gagori, Jethi patiya, Midong, Star set.
2	Name of the SPV	Ranthali Asamiya Gahana Karikori Sanstha.
3	No. of the functional units	280
4	Turnover of the clusters	28.84 Crores yearly
5	Employment in the cluster	550
6	Major issue/requirement	Raw materials problems and less used of Modern tools and machinery, Market exposure
7	Thrust area	Unique Assamese Traditional Jewellery, Artificial Jewellery, Fusion Jewellery.

(Source: MSME - Development Institute, Guwahati)

The Nagaon district is predominantly agriculture and allied activities. The district has a lot of problems for industrial development. But the town is mainly on rice products, soap and bakery. Based on the available resources the following MSMEs found Industrial Potential in the district.

Table 37: Potential for New MSMEs and Industries

Sr. No.	Potential Areas for Service Industries	Potential for New MSMEs
1	Steel Furniture & Fabrication	Food Processing & preservation
2	Tailoring & embroidery	Cane and bamboo products
3	Electronic equipments /appliance	Agarbatti & Candle Manufacturing
4	DTP & Screen printing	Weaving Traditional Garments Mfg.
5	Automobile Repairing & services	Paper Product Mfg.
6	Hotel cum Tourism	Jute based Industries
7	Cold Storage	Steel Fabrication & Furniture
8	Beauty Parlour	Spice Grinding
9	Electric wiring/Electrical equipment repairing	Mustard Oil Milling
10	Computer repairing	Paper Dish/Glass
11		Bakery
12		Exercise book bonding

(Source: MSME - Development Institute, Guwahati)

Table 38: Existing status of industrial areas

Sr. No.	Name of Industrial Area	Land acquired	No. of plots allotted	No. of units in production
1	Industrial estate, Senechowa, Nagaon	20 bigha	26	23

3.1.2(ii) Household Industries

a) Handloom

The handloom industry is the most important cottage industry with a glorious past. It is closely associated with art and culture of the society. Weaving is a traditional activity of the state. Nagaon presents a unique picture in the Handloom and Textile sector. Weaving of fabrics is a way of livelihood of large number of rural families and artisans. But it is only a part time activity here and not the primary bread

b) Handicrafts

Handicraft is another important cottage and household industry sector, which is largely open for providing self-employment opportunities in the rural areas. The products are Kuhila craft, Pottery & Terracotta, Jute, Cane & Bamboo products, Rantholi Jewellery. Resources in nearby areas may also attract investment in this district because of better terrain and railway/road infrastructure.

Assamese ornaments are one of the most important

c) Construction

Every rural house has Choraghar (Reception house), Borghar (living house), Bhoralghar (granary), Gohainghar (worship house), Gohalighar (cow shed), Pakghar (cookshed) etc. The houses are made of

earning activity. As a result, Handloom has not been able to develop to its fullest potential.

Jajori, which is located about 17 Km from Nagaon town is a very important centre of handloom production. Famous for its "Kacha Pat" products, there are approximately 6,705 numbers of weavers here covering most of the families of the place. Considering its importance, govt. has established a Handloom Production Centre at Jajori.

parts of Assamese culture. It is generally made by pure gold. The art has been in practice from the past when the Ahom Kings used to rule. Ranthali village is famous for "Assamese jewellery business not only in the state but also other parts of the country. This village is located approximate 8 kms away from Nagaon town near Pakhimoria development block under Dewdhar Panchayat. Almost 90 percent of the total families are engaged in this business.

thatch, bamboo, reed, and mud. Wooden posts are also used. In the present day however house on modern line using C.I. sheet, brick and cement is quite common both in rural and urban areas.

3.1.3 TERTIARY

3.1.3.1 Trade

Nagaon town is the principal centre of wholesale business in the district. Guwahati is the main trade centre in the State wherefrom many of the commodities are imported to Nagaon. The wholesale purchase of some items such as sugar and pulses is done in the production centre located outside the state.

The Primary Co-operative Marketing Societies were organized in 1958 in each district to carry on the trade. The Nagaon Wholesale Consumers Cooperative Society was registered in 1966. The Primary Co-operative Societies procures paddy directly from the farmers at a price fixed by the Government. The price is revised from time to time depending on market price. The Laokhowa Wildlife Sanctuary is also an important tourist destination as it is a home to one-horned rhino, leopard, tiger, hog deer, and wild cats etc. Another picturesque tourist attraction is Champawati Kundi that has a beautiful waterfall, especially during the monsoons. Doobka also has a beautiful waterfall called the Akashiganga.

For bird watchers, Pokhi Tirtha is a must-visit place as it has thousands of migratory birds coming from all across the world during the winters. Silghat is one of the most famous sightseeing places as it has many ancient temples and has a river port lying along the Brahmaputra. Another place of interest is Ranthali, which is famous for traditional gold-plated Assamese ornaments.



3.1.3.2 Tourism in Nagaon

Set amidst sprawling landscapes, lush meadows, and water bodies Nagaon is a beautiful destination in Assam. Nagaon is home to thousand varieties of flora and fauna and well-known wildlife sanctuaries. This place is one of the must-visit destinations in Assam and it has other attractions like Champawati Kunda, Kaliabor, Borodowa, Nonoi Tea Estate to name a few.

Nagaon city being situated in the middle of Assam is the gateway to many tourist attractions in Assam besides having many tourist spots inside Nagaon district itself. Kaziranga National Park, well-known as abode for one-horn rhinoceros, many endangered species and thousands of species of



KAZIRANGA NATIONAL PARK

flora and fauna and having sprawling landscapes, woodlands, and water bodies, lies partially in the Nagaon district. Bordowa, the sacred birth place of Mahapurush Srimanta Sankardeva, the Vaishnavite Guru for the people of Assam and architect of Assamese culture, is the most preferred place of visit for the spiritual people. The place has a small museum and two Satras or monasteries.

An ambitious project to develop Bordowa as a spiritual & cultural centre has recently been started which will eventually attract more tourists. The Maha Mrityunjay Temple in Puranigudan, adjacent to master plan

area has recently been constructed and has earned fame for creating the record of being the largest Shiva Linga in the world with 126 feet tall Shiva linga. As per Survey in Tourism statistics in Assam, total number of visitors in Nagaon is 20,000 (approx.), out of which 20 are foreign visitors (not to count Kaziranga). It is one of the lowest when compared with other cities of the state though it has got a lot of tourist spots. The problems are listed below:



Table 39: Tourism problems with solution

Problems	Solutions
<p>Lack of Awareness - A large percentage of tourists found the tourist attractions not interesting.</p>	<p>To develop a proper website, that enables to give enough information to domestic and foreign tourists.</p>
<p>Lack of Skilled Manpower - 81% of the visitors found shopping facilities inadequate.</p>	<p>To involve tribal youth to showcase the art, culture, heritage and livelihood.</p>
Problems	Solutions

<p>Lack of Service Infrastructure</p> <ul style="list-style-type: none"> - No youth hostels, tourist bungalows. - Accommodation facilities are assessed as poor by those who visited. - Just 1.6 is the average duration of the stay (around 80% of the tourists come for a day trip only). - 57% assessed entertainment facility as poor. 	<p>To develop sufficient accommodation in all tourist spots and should be well-maintained too.</p>
<p>Lack of Connectivity</p> <ul style="list-style-type: none"> - Transport facilities are assessed as poor by those who visited. 	<p>To develop the road network and public transportation should be accessible to all the spots and cabs facility should also be provided.</p>

3.1.3.3 Hotels and Restaurants

Table 40: Hotels and Resorts in Nagaon

Sr. No.	Hotels	3 Star	Resorts
1	Hotel Blue Bird Annexe Hotel Nagaon Point Hotel Piyush Regency Hotel Bohagi Hotel Abhinandan International Hotel Swagat Prashanti Tourist Lodge Hotel Am palace	3 Star	<p>Okinawa Resort and Botanical Park (Uriagaon, Old Nonoi Road, Nagaon)</p> <ul style="list-style-type: none"> - Situated at 6 km from the town. - Spread over a sprawling area of 20 bigha.
2	Hotel Natraj Hotel Bidisha Hotel Relax Hotel Star Hotel Perth Hotel Rajasthan (Marikolong, Nagaon)	2 Star	<p>Jasingfaa Aqua Tourism Resort</p> <ul style="list-style-type: none"> - It is a fish-based Aqua Tourism project and is 5.5 km away from the town. - Covers land area of 15 acres out of which 8 acres are covered by water consisting of small tanks.



Table 41: Restaurants in Nagaon

Sr. No.	Name of Restaurant	Type of outlet	Veg/Non-veg
1	Regal Palace Restaurant	Family-friendly, Indian cuisine restaurant	Both
2	Hotel Aashirwad		
3	Restaurant Kuhelika		
4	Restaurant Kolong		
5	Tulips Restaurant		
6	Mint Leaf Restaurant		
7	Nightingale Restaurant		
8	China Town Restaurant	Chinese cuisine restaurant	
9	Red Chilly	Fast Food	
10	My Shyam Restaurant		
11	Domino's Pizza		
12	IFC		
13	Chalachal Restaurant	Middle eastern cuisine restaurant	
14	Na Khuwa Restaurant	Ethnic restaurant	
15	Rupak Assam	Nasi goreng restaurant	Non-veg
16	Lebanese Shawarma	Lebanese cuisine restaurant	
17	Meat and Eat	Indian cuisine restaurant	
18	Tandoor Cave		
19	Blue Ginger Cafe	Cafe	Veg
20	Barabazar Diary	Family-friendly, Indian cuisine restaurant	

(Source: Domestic Tourism, Assam, Ministry of Tourism)

The major drawback of these restaurants and hotels is that there is no proper parking facility. Therefore, the vehicles are parked on road, thus creating traffic problems.



Jasingfaa Aqua Resort and Restaurant

3.1.3.3 Transport, Storage and Communication

At present Nagaon is well connected with the other parts of the state by road and rail. The State Transport buses as well as private buses ply regularly in the roads of the district carrying passengers to and from all important places with state and district headquarters.

As per Statistical Handbook Assam, number of motor vehicles on road in Nagaon during the year 2015-16 is shown below:

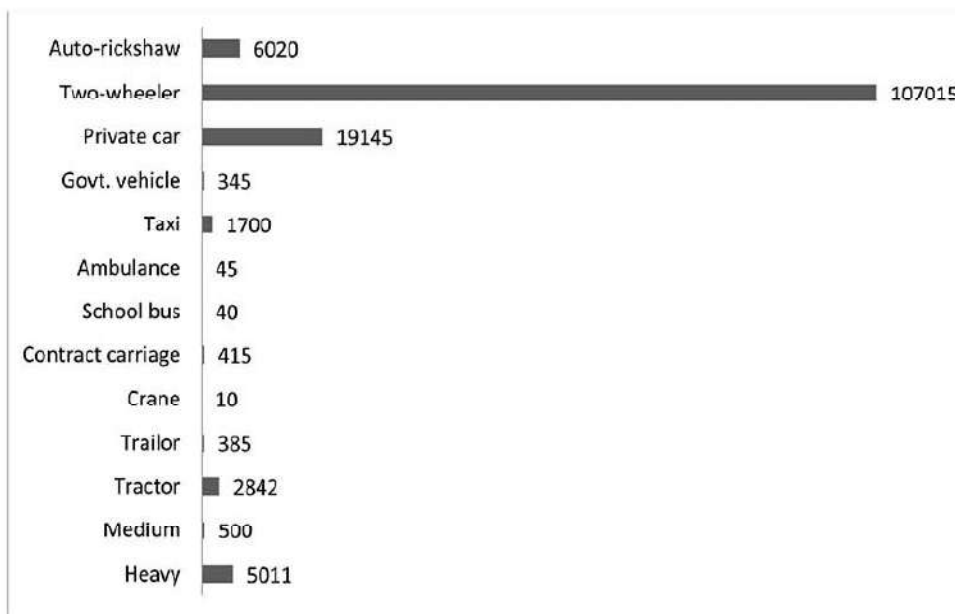


Figure 29: Motor vehicles on road

(Source: Statistical Handbook Assam, 2016)

People of Nagaon are well-connected with primary mode of communication like mobiles, wire line phones, P.C.O and Wi-Fi connection. Rural Telephone Connection and Village Covered by public telephone are connected in the rural areas. Secondary mode includes post offices and logistics. Newspapers are majorly published in Assamese and other languages are also significant.

Table 42: Post office data

Sr. No.	No. of Post Office	Area served per Post Office (in sq. km.)	Population served per Post Office
1	20	4.03	1847

(Source: Statistical Handbook Assam, 2016)

3.1.3.5 Public Administration

Nagaon town Municipality is the oldest Municipality in the district which was formed in 1894. There are 28 wards in the city, among them Nagaon Ward No. 20 is the most populous ward with population of about 15 thousand and Nartam Gaon Ward No. 28 is the least populous ward with population of nine hundred and eighty nine. The chairman is the head of the administration.

The Town Committee is generally formed with 6 or 7 members. The Town Committee has adopted various schemes for the improvement of road, streetlight, drainage etc.

The Deputy Commissioner of the District is the overall in charge of the administration of the entire district. A number of Officers, like Additional Deputy Commissioners, Sub-divisional Officers, Extra Assistant Commissioners and others assist the Deputy Commissioner is looking after the administration of the district. At lower level each sub-division is headed by one Sub Divisional Officer whereas under him there will be Revenue Circle Officers who are responsible for the entire administration of their respective revenue circle. Directorate of Town and Country Planning implemented the first master plan of Nagaon town in 1986.

3.2 INFORMAL SECTOR

Mainly the roads, footpaths are encroached by the vendors in the town. But there are markets and small bazaar which includes Bhuyanpatty daily Bazaar, Stadium market, Natun bazaar, Wholesale fish market, Madhupur bazaar, Haibargaon Market complex to name a few. These markets are on daily and weekly basis. It includes food stalls, grocery, green grocers, meat vendors, cheap cosmetics stalls, etc.

3.3 OCCUPATIONAL PATTERN

3.3.1 WORKING POPULATION – NAGAON MUNICIPAL BOARD AREA

As per census 2011, the workers are classified into four categories agricultural cultivators, agricultural labourers, household industrial workers and other workers. In Nagaon MB area, the distribution of economic base into type of sector namely primary sector, secondary sector & tertiary sector are imperative to provide a guideline for the development of entire planning area and creation of potential centers of development.

Table 43: Sector wise workforce participation ratio in Nagaon MB area.

Gender	Main Workers	Cultivators	Agriculture Labourer	Household Industries	Other Workers	Marginal Workers	Non Working
Male	33706	253	105	687	32661	3007	24929
Female	5808	41	30	256	6481	2045	51133
Total	40514	294	135	943	39142	5052	76062

(Source: Census of India, 2011)

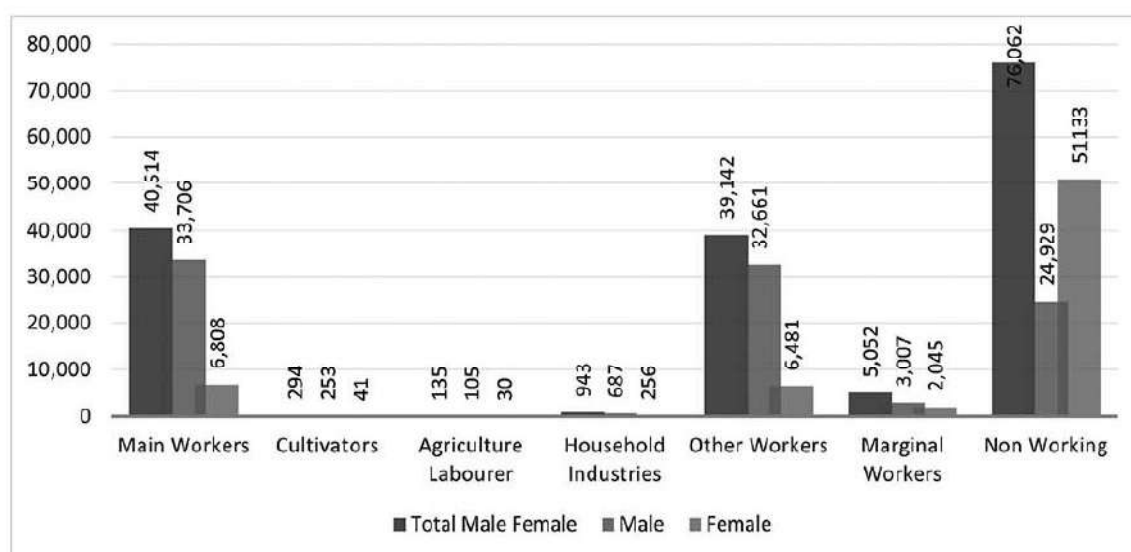


Figure 30: Sector wise distribution of workers in Nagaon MB area.

It is evident from the Figure 30 that engagement in Non-working sector is higher compare to working sector and another category in 2011. This can be attributed to the very less opportunities for male and special female residents in municipal area which ultimately leads to higher amount of unemployment. Less number of cultivators, agricultural labourer and household industry works indicates the low agricultural and industrial sectors in urban area.

The trend of the exorbitant increase in the employment in tertiary sector is indicative of the engagement of workers mainly in the service sector. There is need to balance this transformation into tertiary sector as well as primary sector for balanced economic development.

3.3.2 WORKFORCE DISTRIBUTION

Workforce population distribution according to sectors are as mentioned below

3.3.2(i) Workforce Distribution by type of Workers

Table 44 Workforce distribution in planning area, 2011

Sl. No.	Name of Area	Population 2011	Total Worker	Main Worker	%	Marginal Worker	%	Non-Worker	%
1	Nagaon Municipal Board (28 Wards)	121628	45566	40514	33.31	5052	4.15	76062	62.54
2	3 (Three) Census Towns	26868	8992	8094	30.13	898	3.34	17876	66.53
3	Rural (76 Villages)	150184	55204	40084	26.69	15120	10.07	93787	62.45
Total		298680	109762	88692	29.69	21070	7.05	187725	62.85

(Source: Census of India, 2011)

The details of share of main, marginal and non-working population of the Nagaon Master Plan Area is furnished in the table 44. This table reveals that less than one third (29.69%) of the total population is main workers, very meagre (07.05%) falls under marginal workers and nearly two third (62.85%) is non-workers in Nagaon Planning Area. The Higher share of non-working population indicates that lack of employment opportunities/ infrastructure is prevailing in the system. The highest percentage of main workers to the total population is in Nagaon Municipal area while the lowest is in rural area. These phenomenon highlights that there is a shift from rural to urban migration i.e., urban migration was observed in the system during the year 2011.

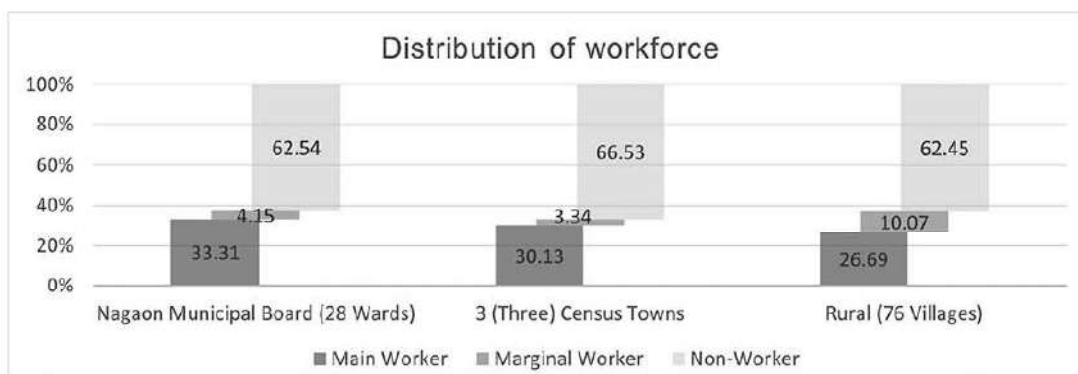


Figure 31: Distribution of workforce in NMPA



3.3.2(ii) Workforce distribution by sectors of economy

Table 45: Workforce Distribution by sectors of Economy (2011)

Particulars	Main Workers	Primary Sector		Secondary Sector	Tertiary Sector	%		
		Cultivators	Agricultural Labourer	Household Industry Workers	Other Workers	Primary Sector	Secondary Sector	Tertiary Sector
Nagaon MR (28 Wards)	40514	294	135	943	39142	1.06	2.33	96.61
3 Census Towns	8094	75	38	159	7822	1.40	1.96	96.64
Rural (76 Villages)	40084	11607	2351	2179	23947	34.82	5.44	59.74
Total	88692	11976	2524	3281	70911	16.35	3.70	79.95

(Source: Census of India, 2011)



Figure 32: Type of working population for various areas of NMPA

The details of workforce distribution by sectors of economy are described in the table 45 reveals that out of the total working population of Nagaon Planning Area, 16.35 % work in the primary sector, very meagre (3.70%) in secondary sector and almost major (79.95%) in tertiary sector. This composition clearly indicates that there is a higher dependency of working population on tertiary sector, followed by primary sector. However, in rural areas, dependency on primary sector is moderate. Nagaon municipal board area is mainly dependent on tertiary sector as major commercial and activities are concentrated in and around the ward 18. As there are very less processing industrial establishments such as those that take the raw materials produced by the primary sector and process them into manufactured goods and products, the dependency on secondary sector is also very less.



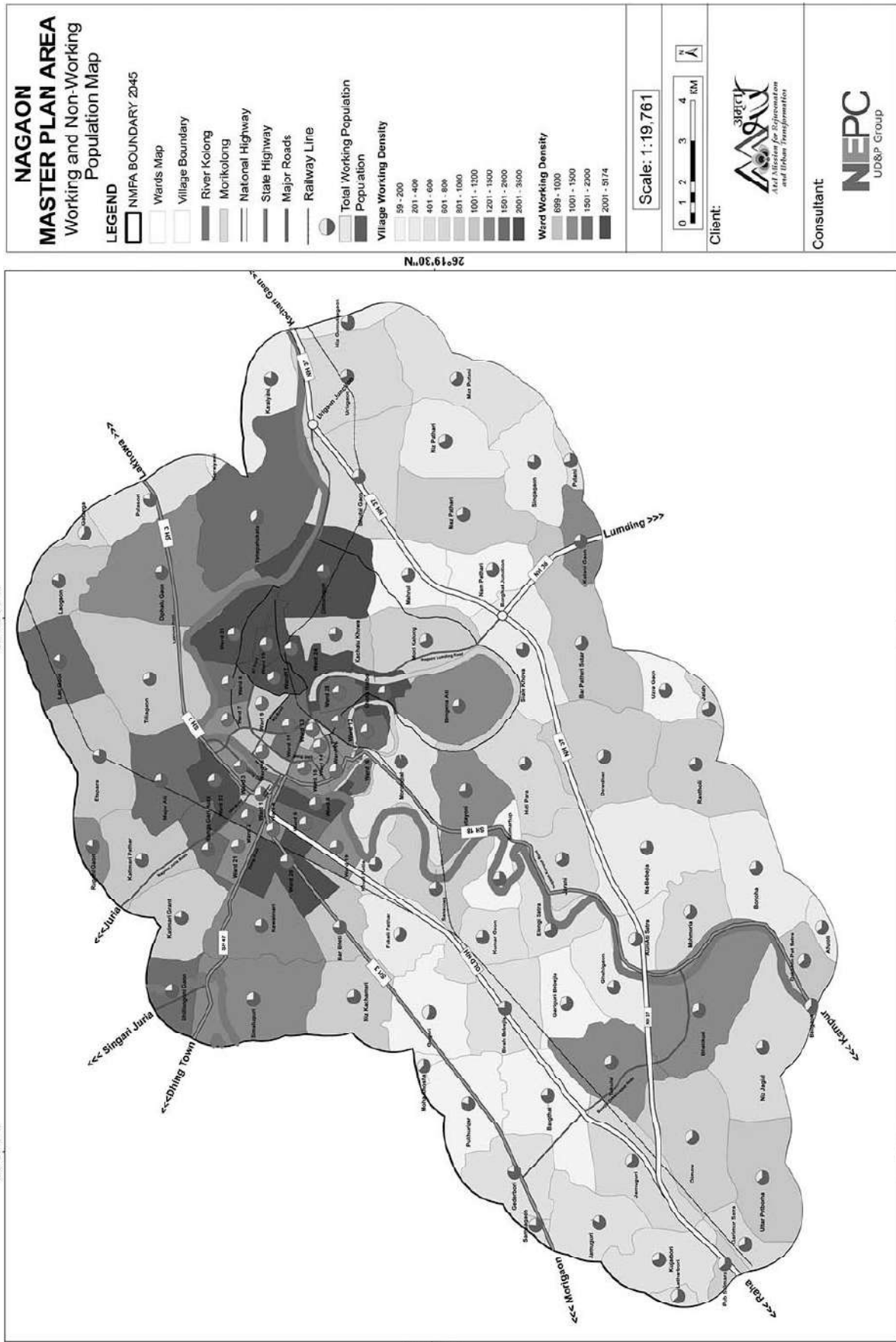


Figure 32.1: Working population Map for various areas of NMFA

3.3.3 EMPLOYMENT PROJECTIONS 2045

3.3.3(i) Workforce Projections for Nagaon MPA

For workforce estimation the major concerns of the economic base are type of activity, employment rate, work force participation rate (WFPR), occupation structure etc. The overall development and opportunities in a town depend on the level of economic activities in an area. The employment projection for working population for year 2045 is given in the table 46 below.

Table 46: Workforce projections of Nagaon Master Plan area for year 2045

Year	Population	Working population	Growth Rate in Working Population	WFPR
1991	211521	64006	-	30.26
2001	245684	82525	29	33.59
2011	298680	109762	33.20	36.75
2021	346140	140726	28.21	40.65
2031	392696	169223	20.25	43.00
2041	441233	195621	15.60	44.33
2045	464221	205636	5.12	44.29

(Source: Compiled by Consultant)

Considering the scenario that the Workforce Participation Rate (WPR) will increase as the CDP projects will be implemented and more job opportunities will be created, the employment projection is calculated. After consecutive discussions with various govt. departments, the employment projection is worked out based on the optimistic scenario. Thus, the workforce participation rate for year 2045 is coming around 42.06%, which was 39.89% in year 2011 as per Census 2011. The total projected working population in Nagaon Master Plan area for the horizon year 2045 is 232106.

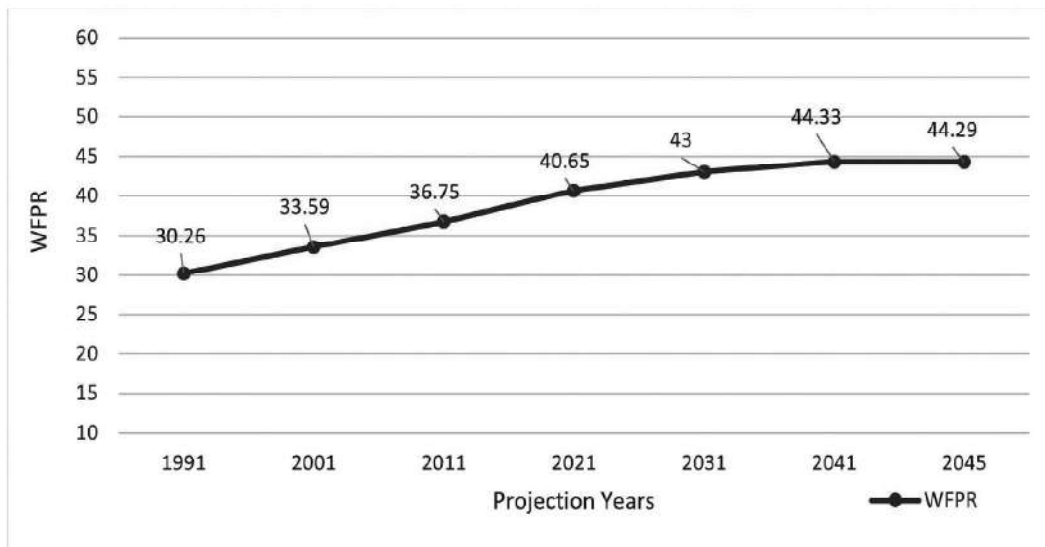


Figure 33: Projection of Work Force Participation Rate for year 2045

(Source: Compiled by Consultant)

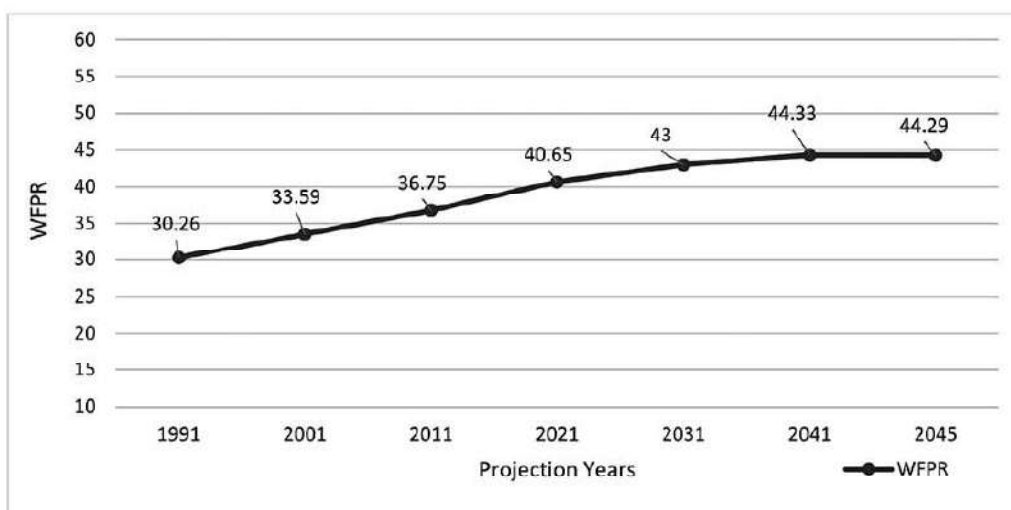


Figure 34: Projection of Work Force Participation Rate for year 2045

3.3.3(ii) Sector wise projection of working population - 2045

For the year 2030 in Nagaon the total workforce projected is 1,59,714 out of which primary sector contributes to 92,511 which is about 57.9%, secondary sector contributes to 4367 of about 2.7% and about 62,836 of about 39.3% is contributed by tertiary sector. Sector wise Workforce Participation for different plan phases is indicated in the table below.

Table 47: Sector wise workforce population participation – 2045.

Activity	2001		2011		2021		2031		2041		2045	
	Workers		Workers		Workers		Workers		Workers		Workers	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Primary	1981	2.4	5839	5.32	17309	12.3	48567	28.7	72575	37.1	81431	39.6
Secondary	990	1.2	2052	1.87	4784	3.4	4907	2.9	4695	2.4	5758	2.8
Tertiary	79554	96.4	101870	92.81	118632	84.3	115748	68.4	118350	60.5	118446	57.6
Total	82525	100	109762	100	140726	100	169223	100	195621	100	205636	100
WFPR	33.59		36.75		40.65		43.00		44.33		44.29	

(Source: Compiled by Consultant)



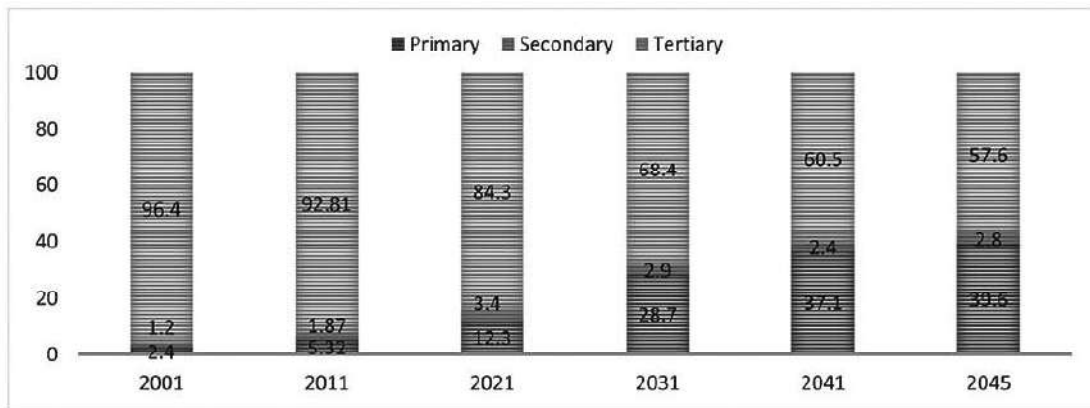


Figure 35: Sector wise workforce participation projection for year 2045

From the figure 35 it is observed that the working population in primary sector is gradually increased from year 2001 to 2011. From 2021 onwards the graph shows the steady growth in the primary working population due to the supporting policies for the agricultural sector. Beyond the policies, as a part of reducing the BPL population encouraging the active participation by the grass root level SHGs, farmers and labourers' forums would improve the relevance and the quality of the sector. In year 2045 the balance between primary and tertiary sector population seems to increase to satisfactory level.



3.3.4 WARD WISE WORK FORCE PARTICIPATION, 2011

Table 48: Ward wise workforce participation, 2011.

Ward No.	Total Workers			Main Workers			Other Workers			Marginal Workers			Non-Workers		
	Persons	Male	Female	Persons	Male	Female	Persons	Male	Female	Persons	Male	Female	Persons	Male	Female
01	699	582	117	533	483	50	510	461	49	156	99	67	1006	299	707
02	1914	1574	340	1510	1331	179	1412	1251	161	404	243	161	2673	791	1882
03	1476	1156	310	1185	965	219	1176	959	217	291	200	91	2675	924	1751
04	1160	928	232	881	782	99	847	752	95	279	146	133	1565	525	1040
05	1689	1350	329	1520	1265	255	1501	1248	253	169	95	74	2767	921	1846
06	2581	1944	637	2181	1665	516	2153	1647	506	400	279	121	4292	1538	2754
07	1305	844	461	1052	705	347	1029	693	336	253	139	114	1717	618	1099
08	1510	1103	407	1333	988	345	1321	980	341	177	115	62	2348	734	1614
09	955	706	249	812	648	164	786	628	158	143	58	85	1474	464	1010
10	722	565	157	571	540	131	662	534	128	51	25	26	1109	337	772
11	1761	1434	327	1606	1328	278	1591	1315	275	155	106	49	3228	1034	2194
12	1729	1458	271	1608	1371	237	1599	1364	235	121	87	34	3262	1035	2227
13	762	632	130	708	592	116	692	580	112	54	40	14	1565	524	1041
14	1194	909	285	1010	813	197	996	809	187	184	96	88	1923	616	1307
15	1073	886	187	1013	842	171	990	826	164	60	44	16	1568	507	1061
16	1305	1020	285	1244	982	262	1226	966	260	61	38	23	2258	768	1490
17	2218	1487	731	1801	1349	452	1726	1310	416	417	138	279	2365	791	1574
18	2077	1798	279	1984	1748	236	1926	1707	219	93	50	43	3337	974	2363
19	1253	958	295	1169	908	261	1135	884	251	84	50	34	2124	730	1394
20	5174	4529	645	4621	4129	492	4431	3950	481	553	400	153	10066	3365	6701
21	1003	857	146	905	827	78	841	769	72	98	30	68	1561	493	1068
22	2017	1652	365	1892	1571	321	1841	1531	310	125	81	44	3132	1007	2125
23	2598	2064	534	2535	2018	517	2479	1967	512	63	46	17	4710	1632	3078
24	2208	1878	330	2090	1812	278	2028	1763	265	118	66	52	4277	1454	2823
25	1894	1666	228	1783	1596	187	1750	1565	185	111	70	41	3442	1035	2407
26	1953	1574	379	1762	1460	302	1578	1383	195	191	114	77	3048	961	2087
27	1006	872	134	902	813	89	778	706	72	104	59	45	1911	621	1290
28	330	267	63	203	174	29	138	112	26	127	93	34	659	231	428

3.3.5 WARD WISE WORKING POPULATION PROFILE

According to Census of India, 2011, Ward no. 22 has the highest percentage i.e. 10% and 9% of total workers and main workers respectively.

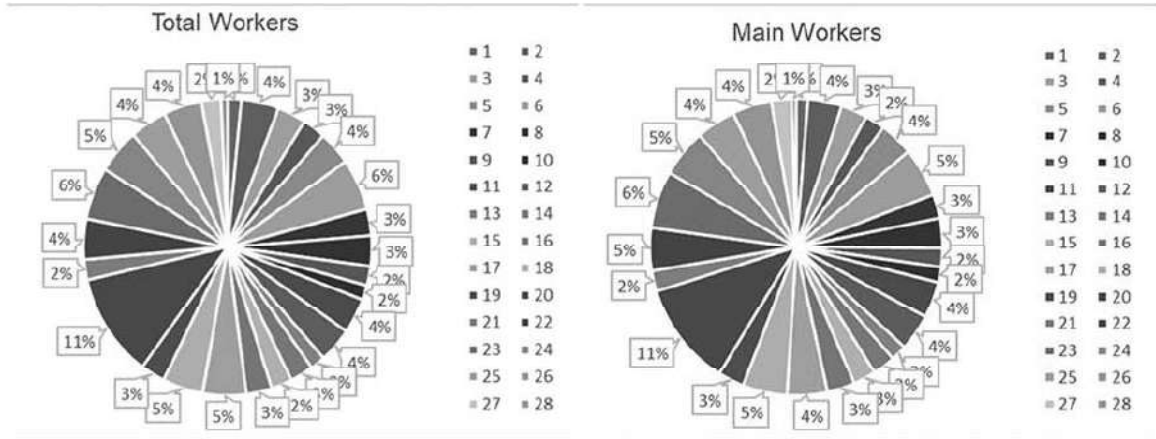


Figure 36: ward wise working population

(Source: District Census Handbook Nagaon, 2011)

Ward no. 1, 3 and 11 have the lowest percentage i.e., 2% of total workers also main workers. Ward no. 8 has the highest percentage 23% of cultivators and ward no. 10 has no cultivator. In case of agricultural labourers, ward no. 5 has highest of 17% and ward no. 1 has none.

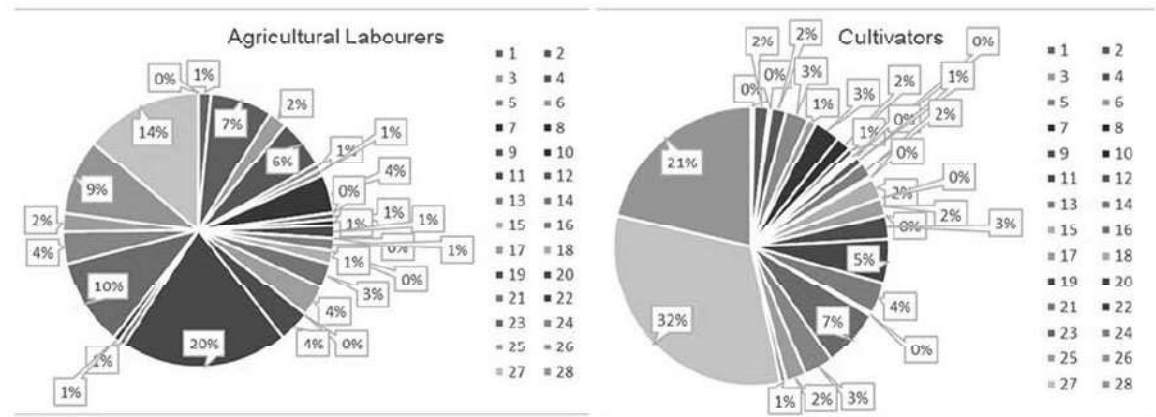


Figure 37: Working population in agriculture

(Source: District Census Handbook Nagaon, 2011)

Ward no. 22 has the highest percentage of household industry workers and other workers of 22% and 9% respectively and ward no. 1, 3, 4 % 11 have the lowest of 1% in household industry workers, also ward 1, 3 & 11 have the lowest of 2% in other workers.



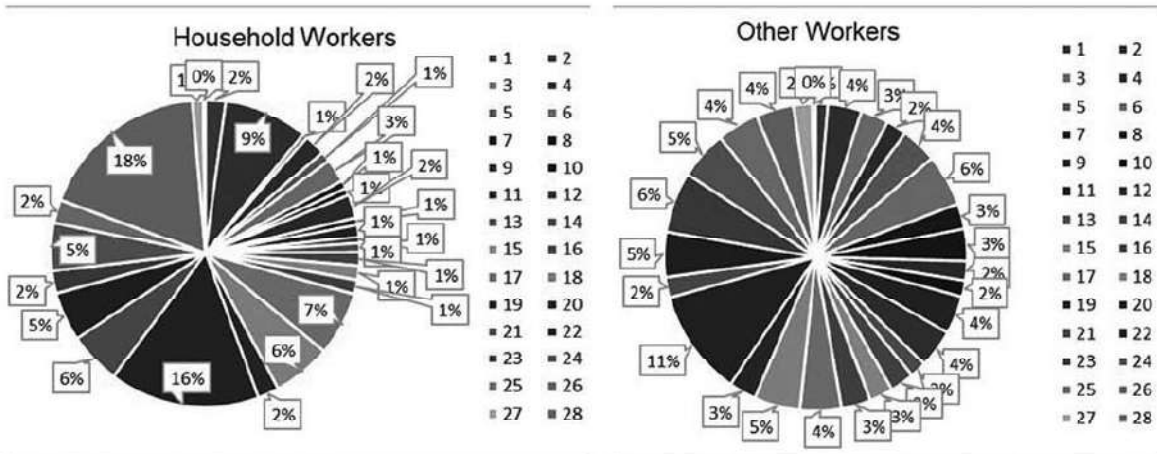


Figure 38: Household and other workers

(Source: District Census Handbook Nagaon, 2011)

Ward no. 22 has the highest percentage of marginal workers and non-workers of 15% and 9% respectively. Ward no. 1, 10 & 11 have the lowest percentage of 1% of marginal workers and non-workers of 1% in ward no. 11.

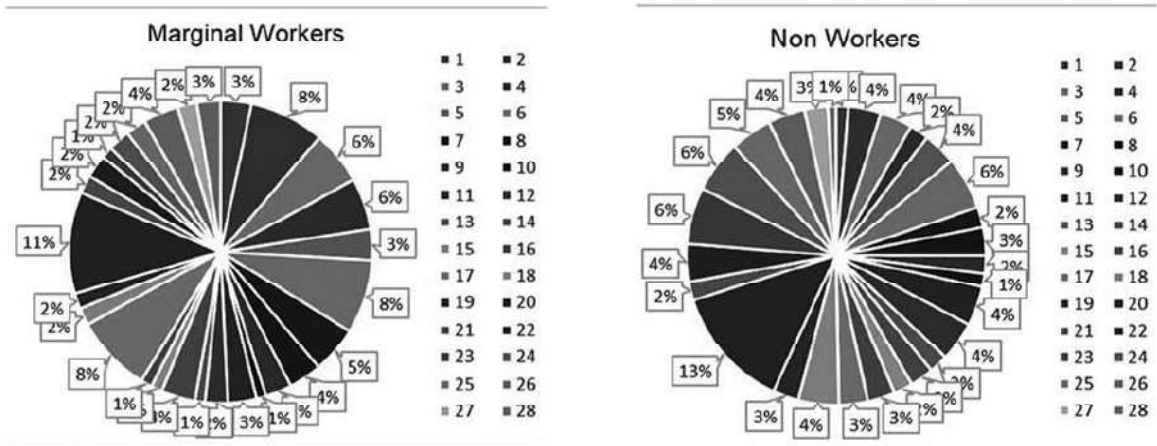


Figure 39: Marginal and non-workers



3.3.6 WARD WISE OCCUPATIONAL CLASSIFICATION OF MAIN WORKERS, 2011

Table 49: Ward wise occupational classification of Main workers, 2011.

Ward No.	Cultivators			Agricultural Labourers			Household Industri Workers			Other workers		
	Persons	Male	Female	Persons	Male	Female	Persons	Male	Female	Persons	Male	Female
01	1	1	0	2	2	0	20	19	1	510	461	49
02	5	3	2	10	8	2	83	69	14	1412	1251	161
03	1	0	1	3	2	1	5	5	0	1176	959	217
04	5	5	0	8	8	0	21	17	4	847	752	95
05	8	6	2	1	1	0	10	10	0	1501	1248	253
06	3	2	1	1	1	0	24	15	9	2153	1647	506
07	9	5	4	6	4	2	8	3	5	1029	693	336
08	5	3	2	0	0	0	7	5	2	1321	980	341
09	2	0	2	1	1	0	23	19	4	786	628	158
10	1	1	0	1	0	1	7	5	2	662	534	128
11	1	1	0	2	2	0	12	9	3	1591	1316	275
12	3	3	0	0	0	0	6	4	2	1599	1364	235
13	5	3	2	2	1	1	9	8	1	692	580	112
14	1	0	1	0	0	0	13	4	9	996	809	187
15	7	3	4	2	2	0	14	11	3	990	826	164
16	0	0	0	4	3	1	14	13	1	1226	966	260
17	6	5	1	5	2	3	64	32	32	1726	1310	416
18	0	0	0	0	0	0	58	41	17	1926	1707	219
19	8	6	2	5	3	2	21	15	6	1135	884	251
20	15	14	1	27	24	3	148	141	7	4431	3950	481
21	11	10	1	1	1	0	52	47	5	841	769	72
22	1	0	1	1	1	0	49	39	10	1841	1531	310
23	20	19	1	14	13	1	22	19	3	2479	1967	512
24	10	10	0	5	4	1	47	35	12	2028	1763	265
25	7	7	0	3	2	1	23	22	1	1750	1565	185
26	2	2	0	12	4	8	170	71	99	1578	1383	195
27	94	84	10	19	16	3	11	7	4	778	706	72
28	63	60	3	0	0	0	2	2	0	138	112	26

(Source: Census of India, 2011)

4. EXISTING LANDUSE ANALYSIS-2020

Land is the habitat of man, and its wide use is crucial for the economic, social, and environmental advancement of all countries. Land is partitioned for administrative and economic purposes, and it is used and transformed in a myriad way. Land use is the use of land made by man. It is a broad and important term used to classify land according to its use. Land use is commonly used to refer to the spatial distribution of functions in each area. The study of land use holds a very significant place where a particular settlement can be recognized as a town depends on its functional structure. The functional activity can be regarded as the main regions for the growth of an urban centre. The main purpose of land use study is to provide a framework for the development of a particular area. It gives us an idea about the proportion of various types of land.

Land use gives an accurate picture of an urban area which is having a great significance for future planning. The main purpose of land use classification is to provide a framework for the development of a particular area. The need for studying the land use aspect is elaborated as follows: To know the arrangement of various parts of town put to different

uses such as residential, commercial, industrial etc. To provide a standardized distribution of land use. Land use study provides the framework for the development of a particular area and direction of development. It gives us an idea about the proportion of various types of use of land.

As part of the preparation of GIS Based Master Plan - 2045, an extensive existing land use survey was carried out for the entire Nagaon Planning Area.

The Existing Land Use was updated based on ground reality on the scientific base map prepared with the help of Satellite Image and Revenue records like village level cadastral sheets, Field Measurement Book sheets and Town Survey Sheets. The Nagaon Planning Area is administratively divided into two entities, Urban and Rural. Urban area comprises Municipal Board area, 2 Census Towns and 3 Out Growths. and Rural comprises 76 Villages. This chapter presents the existing land use analysis, 2020 for urban, rural, and overall planning area. Further the existing land use analysis of the proposed conurbation area is also discussed to understand the current scenario of the new conurbation area.

4.1 CONURBATION AREA

The Conurbation area is a continuous urban area comprising of towns and their outgrowths merged with each other due to physical expansion and population growth. In the case of Nagaon, conurbation area includes one municipality area namely Nagaon Municipal Board, 3 Census Towns (Morongial, Chota haibor and Domorguri) and 1 Outgrowth area (Kachalu Khowa). The total

Conurbation area is 19.44 sq.km, out of which NMB comprises 12.33 sq.km whereas OG and CTs comprises 7.11 sq.km. area. The detailed existing land use analysis of conurbation is presented in table 50. NMB has Kachalu khowa (OG) on the South-east, Dimorguri (CT) is also situated in the south east part & Morongial (CT) and Chhota Haiborgaon (CT) in east.

Table 50 Details of Conurbation Area

Sr. No	Description	Details
1	Area	19.44 sq.km.
2	Gross Density	7638 person / square km. (76 pph)
3	Net Density	12670 person / square km (126 pph)
4	Location	City Centre
5	Major Landmarks	Nagaon Railway Station, Haiborgaon Railway Station, Haiborgaon Bazaar, Narul Amin Stadium, Nehruhal Stadium, Nagaon college, Central Jail, Natun Bazaar, Bara bazaar, Dist. Library, Dist. Court - Nagaon, Kolong River and Morikolong water body.

One of the predominant Landmark in the NMB is the AT road market area which lies in the centre of the NMB area, along with this market, Nagaon College, Govt. boy's hostel, Church field, Nagaon Baptist Church, The Natun Bazaar and small shops are situated along AT road. The dist. Court, dist. Library and DC building are situated on the adjoining road of AT road. The Haiborgaon railway station and the Haiborgaon bazaar are the core areas in NMB. The river Kolong have major significance in the town and many art and culture institutions are setup along the bank, Like Bamboo museum, Khagen Manhanta Auditorium, Nagaon circuit house, Central jail, Nagaon police reserved playground. The Bara Bazaar in Nagaon started from GNB road to Medical

road ending at Civil Hospital. The existing land use analysis chart for urban area - 2020 is presented in figure 40.

In urban area, 10.50 sq.km of land is under residential use and it is the predominant land use in this region. Traffic & Transportation land use occupies 1.02 sq.km of area in urban area. Vacant land use is around 2 sq.km and Waterbody is 1.0 sq.km, agricultural land use is 1.6 sq.km of the urban area. The Public & Semi-Public land use covers 0.2 sq.km in the urban area. The commercial land use in the urban area is occupying 0.5 sq.km, mixed landuse is 0.08 and industrial landuse is observed 0.11 sq.km. The Existing land use Map - 2020 for the entire urban area is illustrated in the figure.

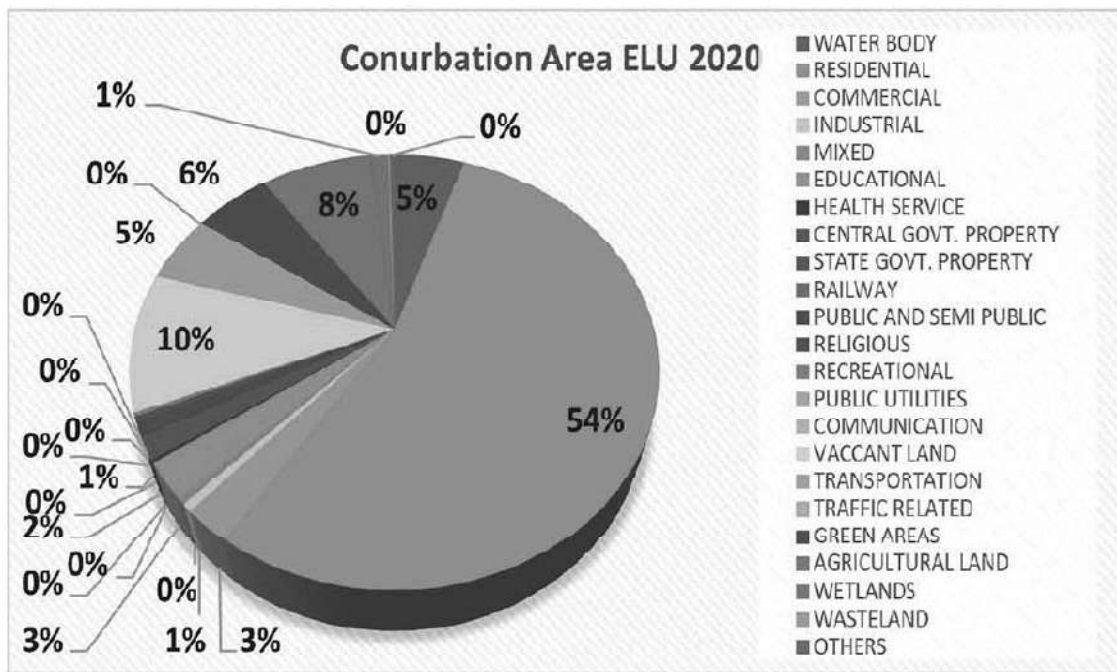


Figure 40: Conurbation Area ELU 2020

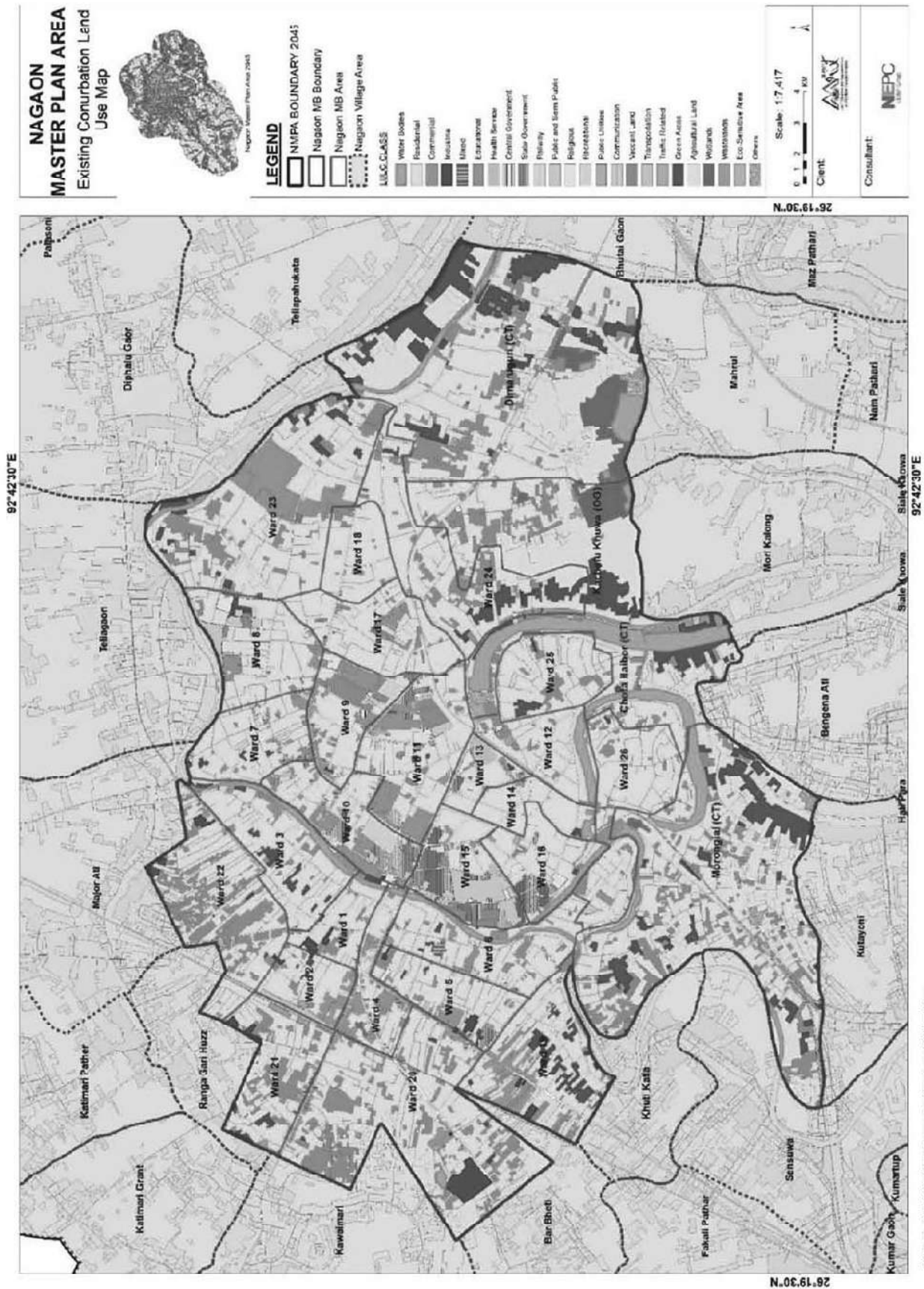


Figure 41: Existing Conurbation Land Use Map

4.1.1 RESIDENTIAL

The residential land use is the predominant use in urban area, and it covers 10.50 sq km of area which is around 53.99 % of the total area of the Conurbation area. Residential use is equally distributed around the Nagaon town, except in northern centre part around Kolong river. The area between ward 9 and ward 7 have minimal residential use. It is oldest part of Nagaon town just adjacent to ward 1. The Kachulu Khowa (OG) have very less residential use in the south-west part of the Nagaon conurbation area. The census towns i.e., Morongial, Chota Haibor and Dimoruguri have contributed to the residential use.

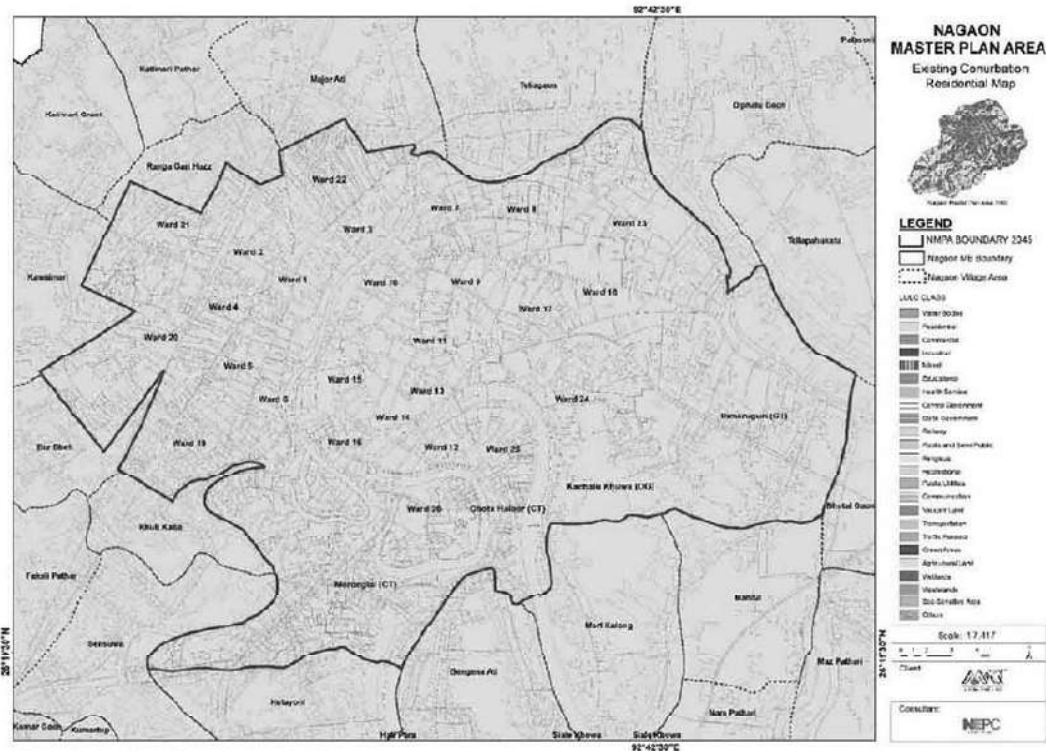


Figure 42. Residential map of Conurbation area

4.1.2 COMMERCIAL

The commercial land use in the urban area accounts to 2.57% (0.5 sq.km.) of the total area of the Conurbation. The CBD of the Nagaon region is the major contributor for the commercial land use in this Municipality. Other than the CBD, commercial land use is observed around the Morikolong river, southern part Nagaon town which is the Chota-Haibor, and Morikolong junction. Some new commercial areas in the northern part of Nagaon town i.e., Natun bazaar near ward 10 and 9. Predominant commercial use is found on both the sides of Haiborgaon market and Decapatty market area.





Figure 43: Commercial map of conurbation area

4.1.3 INDUSTRIAL

The Industrial Land use covers around 0.11 sq.km of the Urban area which accounts to 0.57% of the total area of the conurbation. Out of this, major portion is under Ward 20, which is Haiborgaon market, currently functional, and there are some areas in northern part of the market along Laokhowa road.

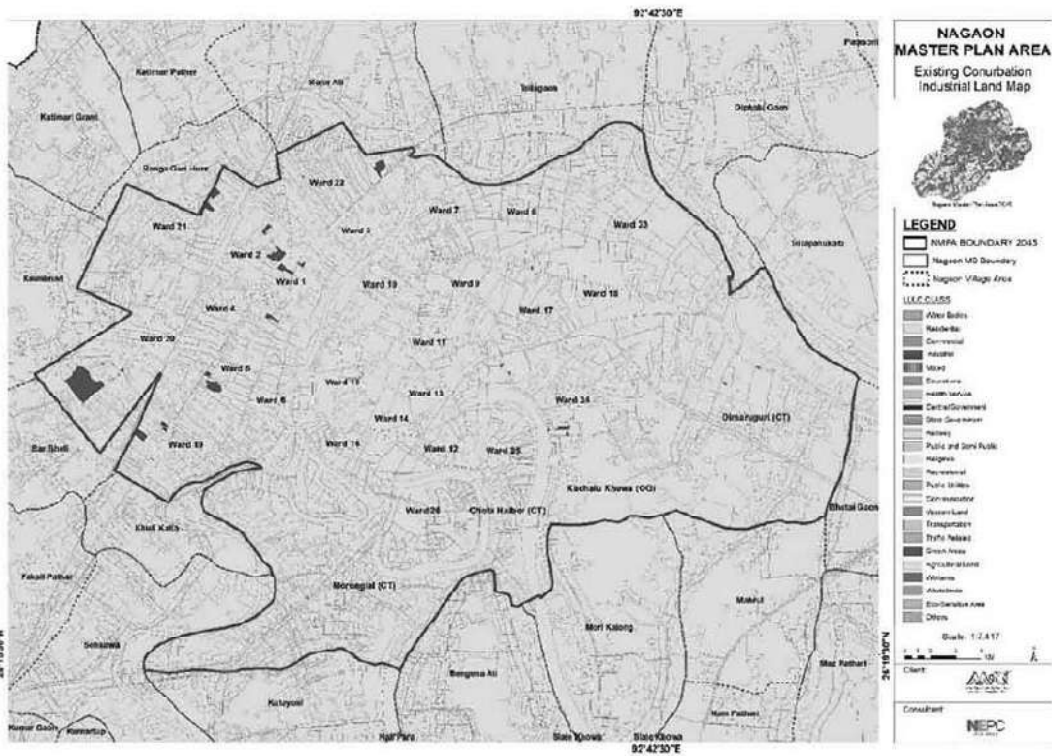


Figure 44: Industrial land use in Conurbation area

4.1.4 PUBLIC & SEMI-PUBLIC

The Public & Semi-public Landuse in the urban area is about 0.2 sq.km which is around 1.03 % of the total area of the Conurbation. The Nagaon town accommodates several government offices like DC Office, Cantonment, District Court, Circuit House, Legislative Assembly, Department of Revenue, Public Works Department etc. Further, it has been observed that there are good number of religious buildings like Temples, Churches & Mosques which contributes to the Public & Semi-Public landuse of the Conurbation area.

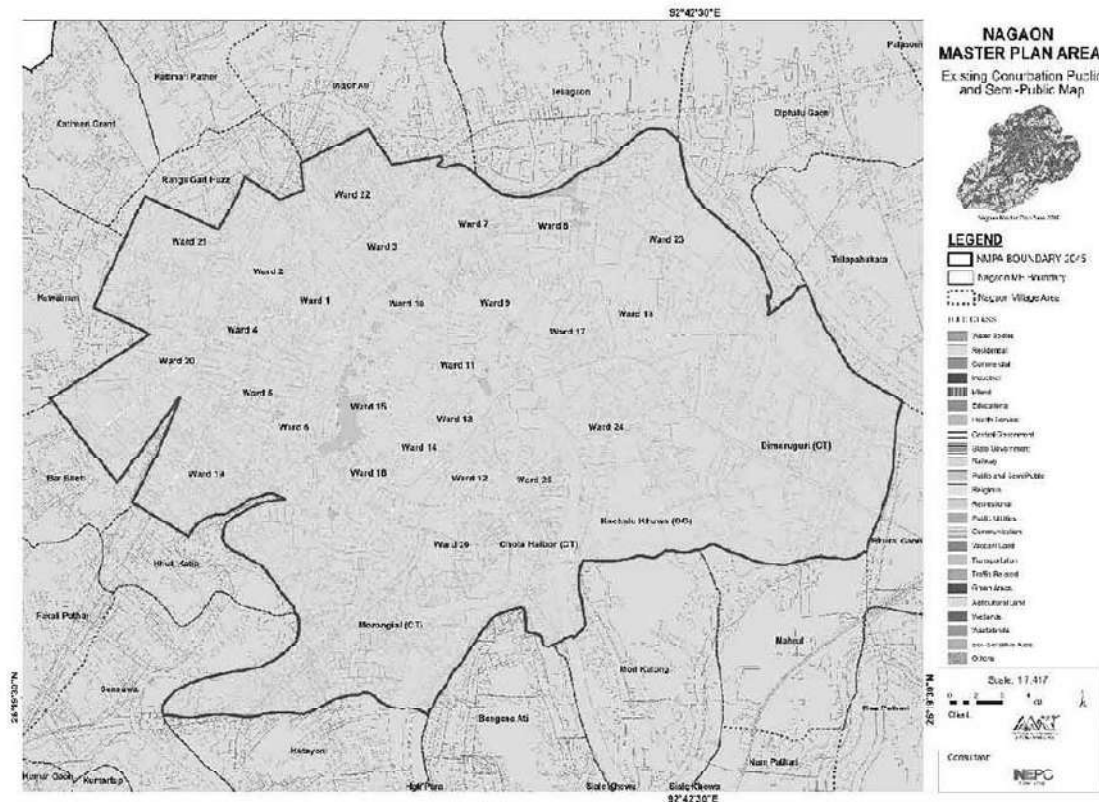


Figure 45: Public and semi-public area in Conurbation area

4.1.5 OPEN SPACES

The recreational land use within the urban area accounts to 0.05 sq.km which is around 0.26% of the total area of the Conurbation. The important recreational sites within this area are Marar Park in northern part of Town, Narul amin stadium, the largest indoor stadium in the Nagaon and Nagaon town graveyard in the centre of the city.



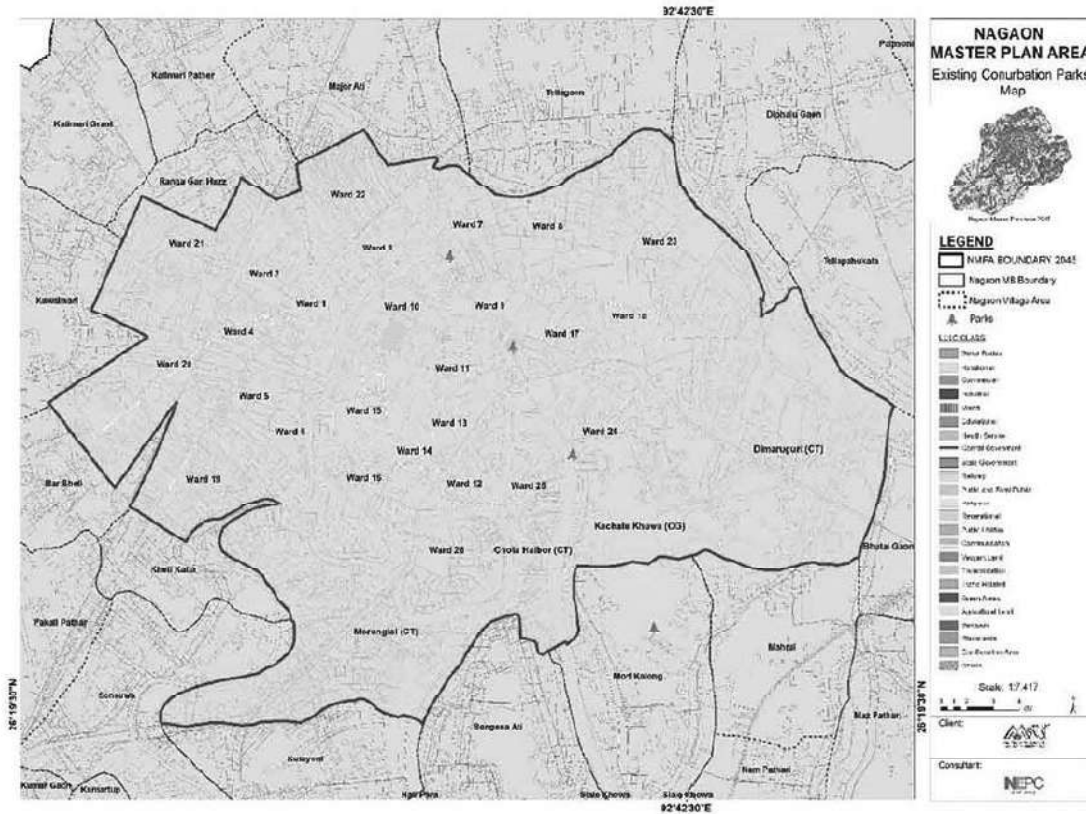


Figure 46: Open space in Conurbation area

4.1.6 TRAFFIC & TRANSPORTATION

Traffic & Transportation covers 1.02 sq.km which is around 5.24 % of the total area of Conurbation. Large land parcels coming under the traffic & transportation land use in this region is Railway Station and ASTC bus stand. Major roads within the urban area are Haiborgaon road and AT road.

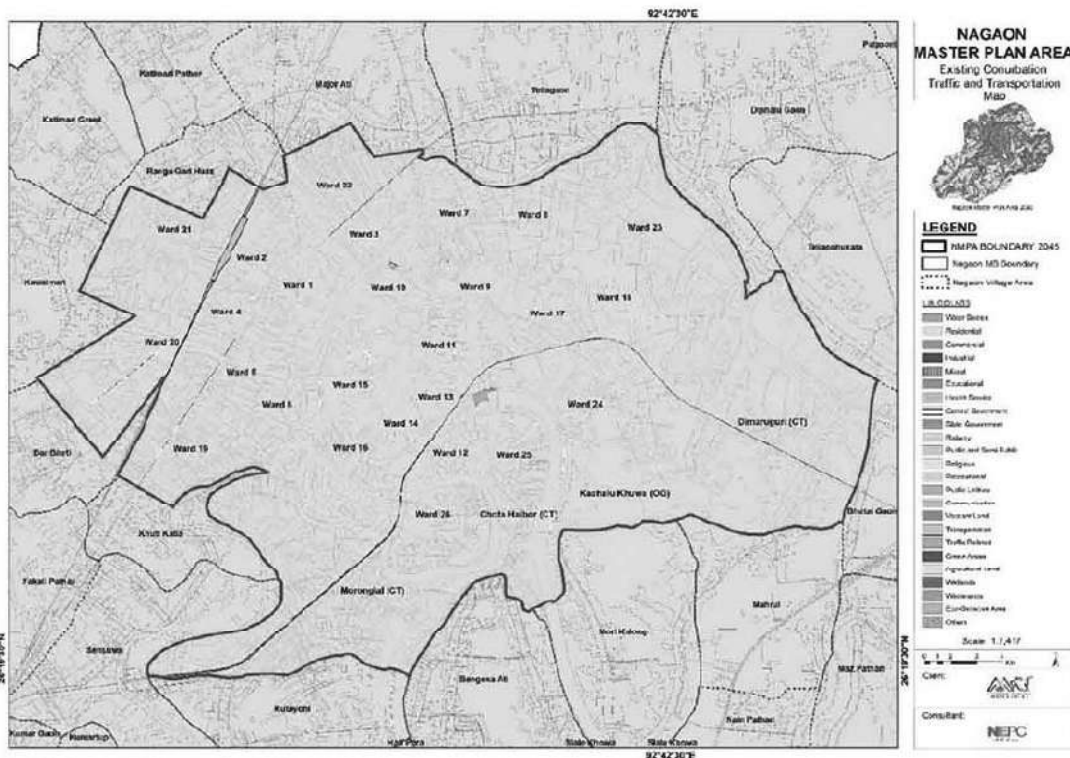


Figure 47: Traffic and Transportation

4.1.7 VACANT

In urban region around 2 Sq.km of land is vacant as on year 2020, which accounts for 10.28% land of the total area. Major vacant parcels are located in the census town Dimoruguri and other are near ward no. 21 and 22. In Dimoruguri these land parcels are low lying areas around the wetlands. These lands can be utilized for addressing the future needs of the planning area for the plan period.

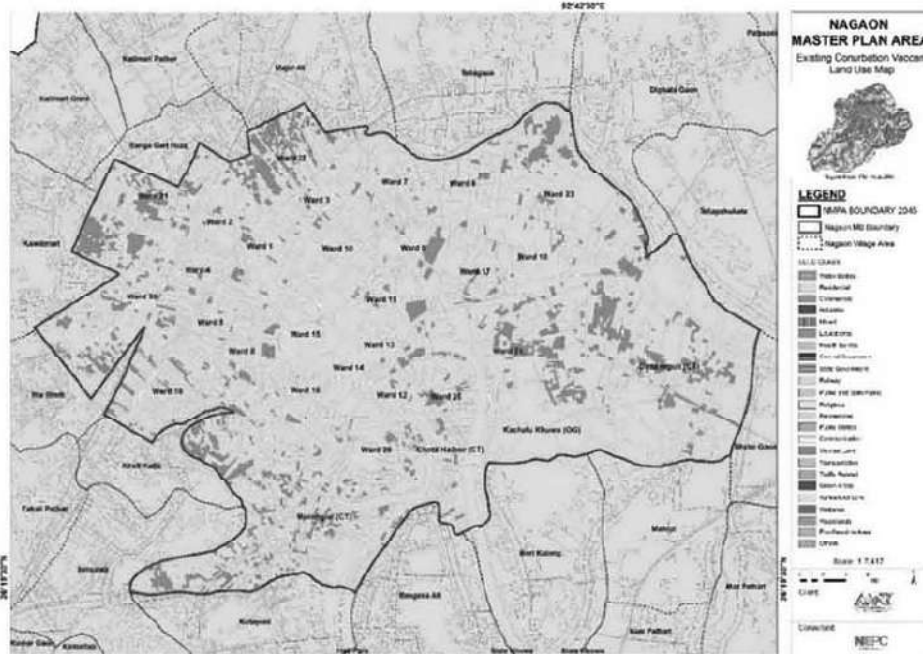


Figure 48: Vacant space in Conurbation Area

4.1.8 PROTECTED & UNDEVELOPABLE USE

Nagaon urban area has 1.25 sq km of area falling under protected and undevelopable land use zone. Majority of the area falling under this category is covered by wetlands and Kolong and Morikolong river.

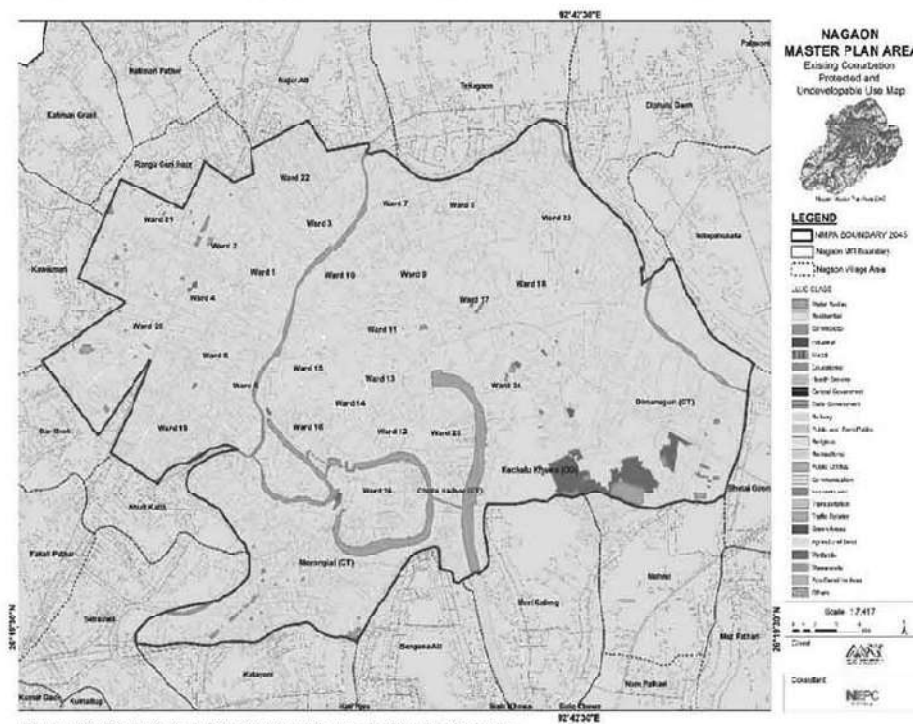


Figure 49: Protected and Undevelopable use in Conurbation area

4.2 RURAL AREA

Nagaon Planning Area accommodates total 76 villages as rural area. The total area covered by rural region is 128.54 sq.km. The detailed existing land use analysis of Nagaon Rural Area - 2020 is presented in table 51.

Table 51 Details of Rural Area Statistics

Sr. No	Description	Details
1	Area	128.54 sq.km.
2	Gross Density	1168 person / square km. (11 pph)
3	Net Density	1534 person / square km. (15 pph)
4	Location	South and East of City Centre
5	Major Landmarks	Ranthali beel, Thakoli beel , Samaluguri naamgarh, Uria-gaon Shiv Mandir, Borghat point, Birha Babejia school , Birha Babejia Naam Garh, Nagaon Medical College and Karchung Sattra.

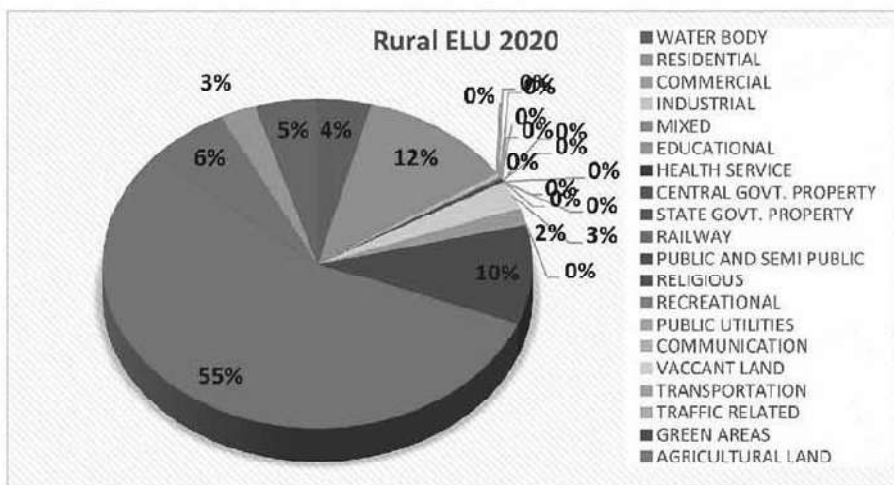


Figure 50: Rural Area land use breakup

One of the predominant Landmark in the rural Nagaon is the Ranthali beel, Ranthali wetlands is regional picnic spot, many migratory birds come here in different season. This Ranthali is not only famous for its' wetland but also for its' jewellery making art. Similarly, the Thakoli beel is also witnessed many migratory birds. The Sattras are the famous places and a cultural institute around many villages of Nagaon town. The existing land use analysis chart for rural area - 2020 is presented in figure 53. In urban area, 71.3 sq km of land is under Agricultural use and it is the predominant land use in this region. Green area covers 12.5 sq.km of area. Residential area occupies 14.8 sq.km of land and Industrial land use occupies 0.36 sq.km of area in rural area. Wetland covers 8 sq.km, Waterbody occupies 5.16 sq.km area and Vacant land use is around 3.6 sq.km. Commercial land use is 0.38 sq.km of the rural area. The Public & Semi-Public land use covers 0.08 sq.km in the rural area. The Mixed landuse is 0.039 sq.km and recreational landuse is observed 0.04 sq.km. The existing land use Map - 2020 for the entire Rural area is illustrated in figure 51.



Table 52 Existing Land use in Rural area

Sr. No.	Landuse Type	Area (Sq Km)	Percentage (%)
1	Water Body	5.16	4.01
2	Residential	14.8	11.51
3	Commercial	0.38	0.30
4	Industrial	0.36	0.28
5	Mixed	0.039	0.03
6	Educational	0.24	0.19
7	Health Service	0.13	0.10
8	Central Govt. Property	0.0037	0.00
9	State Govt. Property	0.13	0.10
10	Railway	0.0085	0.01
11	Public and Semi Public	0.08	0.06
12	Religious	0.086	0.07
13	Recreational	0.04	0.03
14	Public Utilities	0.007	0.01
15	Communication	0.009	0.01
16	Vaccant Land	3.6	2.80
17	Transportation	2	1.56
18	Traffic Related	0.13	0.10
19	Green Areas	12.5	9.72
20	Agricultural Land	71.3	55.47
21	Wetlands	8	6.22
22	Wasteland	3.5	2.72
23	Others	6.04	4.70
Total		128.54	100

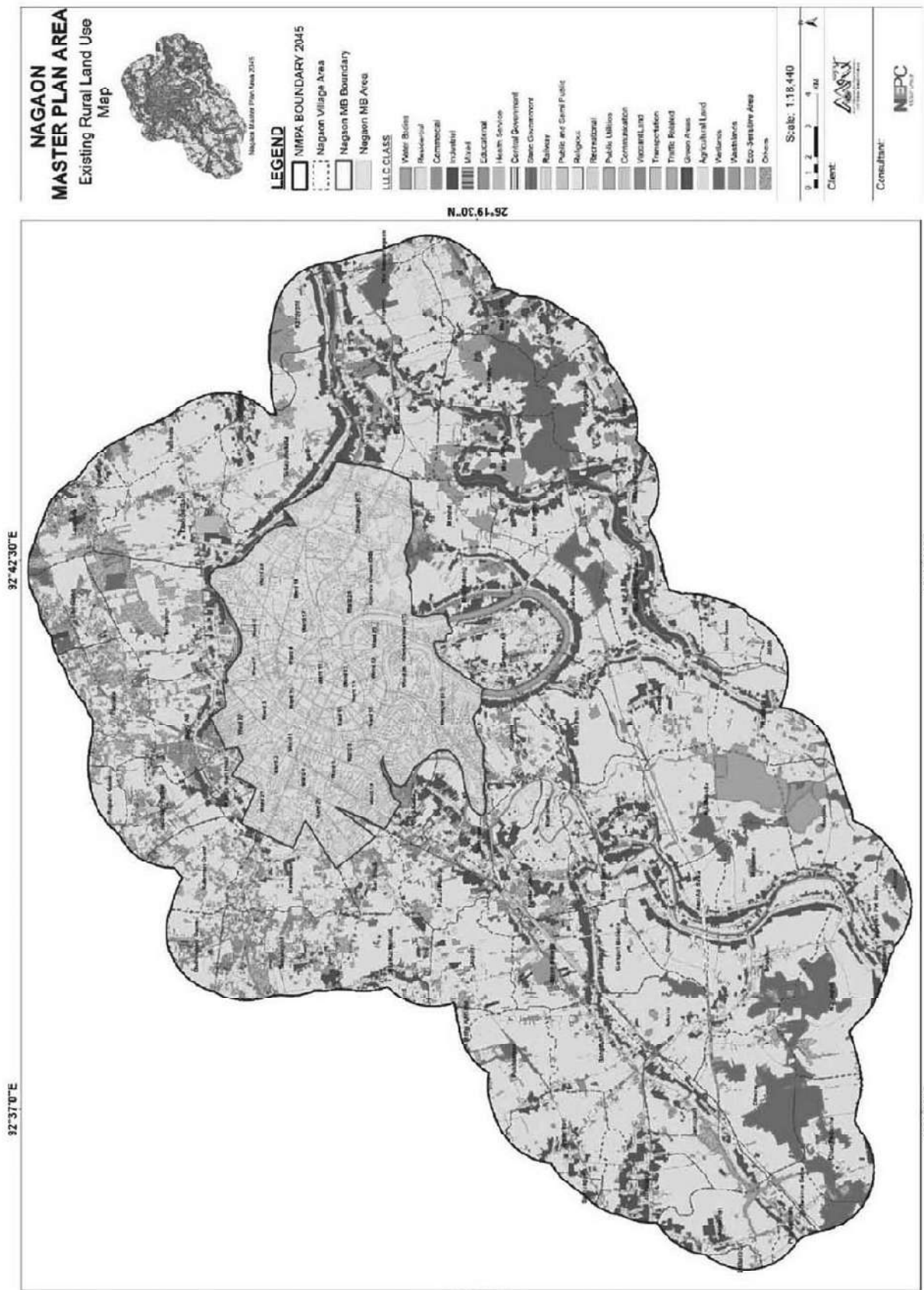


Figure 9.1: Existing Rural Land Use Map

4.2.1 RESIDENTIAL

The residential land use is the predominant use in rural area, and it covers 14.8 sq km of area which is around 11.51 % of the total area of the rural Nagaon. Residential use is dominant on the Southern-east side and east part of the NMPA.

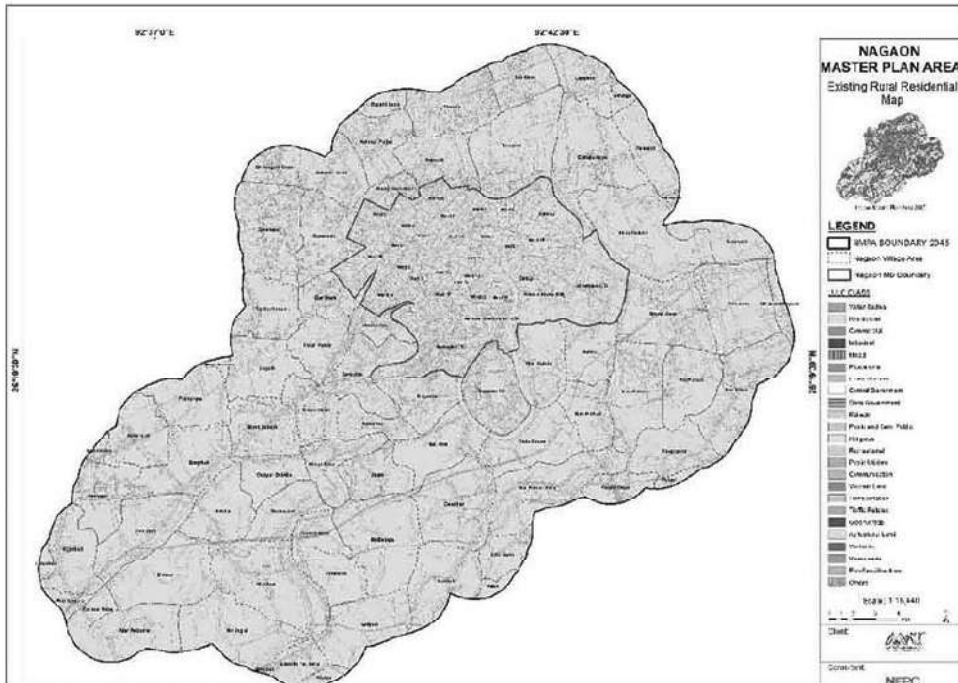


Figure 52: Residential Land use in Rural Area

4.2.2 COMMERCIAL

The commercial land use in the rural Nagaon accounts to 0.3% (0.38 sq.km.) of the total area of the villages. Major commercial area observed along with the Morikolong water body, after entering from Borghat point towards Civil hospital gate, Railway crossing.

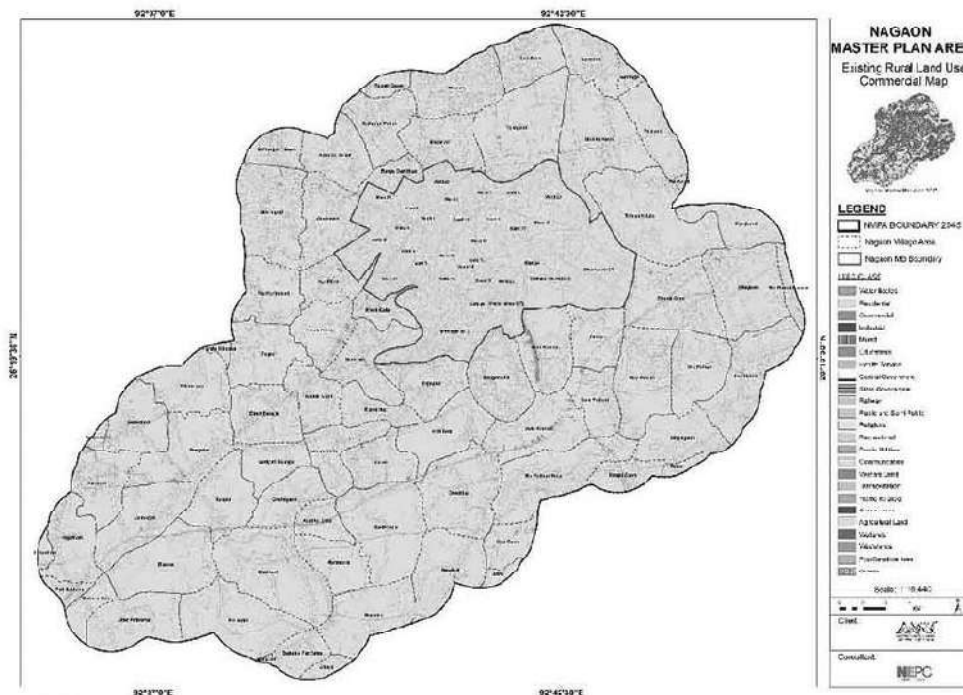


Figure 53: Industrial Land Use in Rural Area

4.2.3 INDUSTRIAL

The Industrial Land use covers around 0.36 sq.km of the rural area which accounts to 0.28% of the total area of the Villages. Out of this, HM and Hanuman industries which is currently functional, and this provides good employment opportunity for economic development of the region.

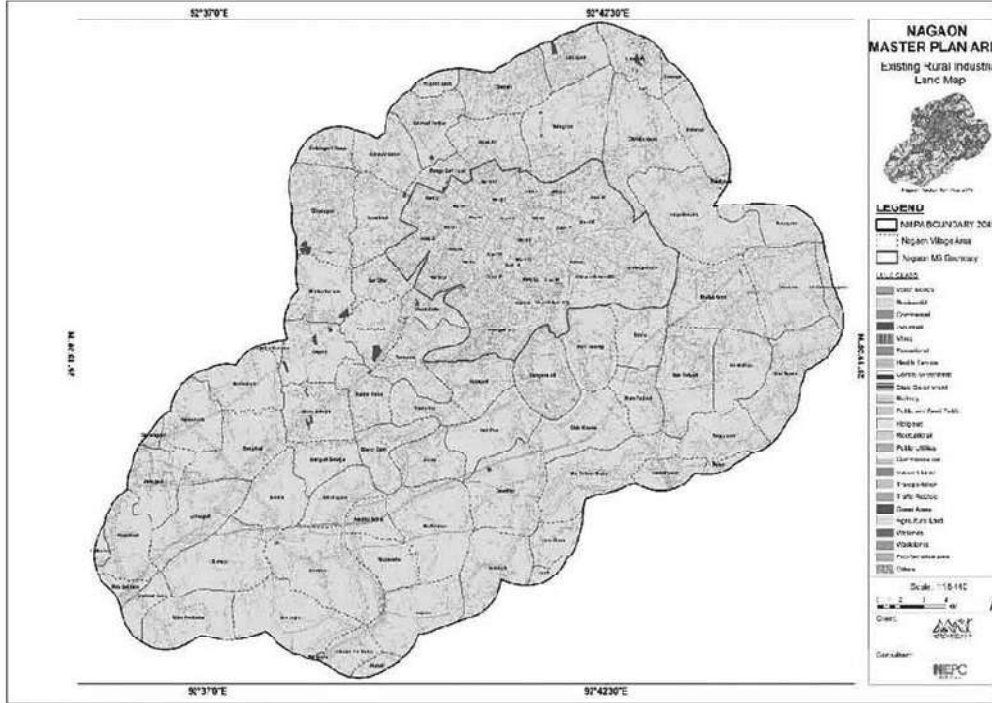


Figure 54: Industrial Land Use Rural Area

4.2.4 PUBLIC & SEMI-PUBLIC

The Public & Semi-public Land use in the rural area is about 0.08 sq.km which is around 0.06 % of the total area of the village area. .

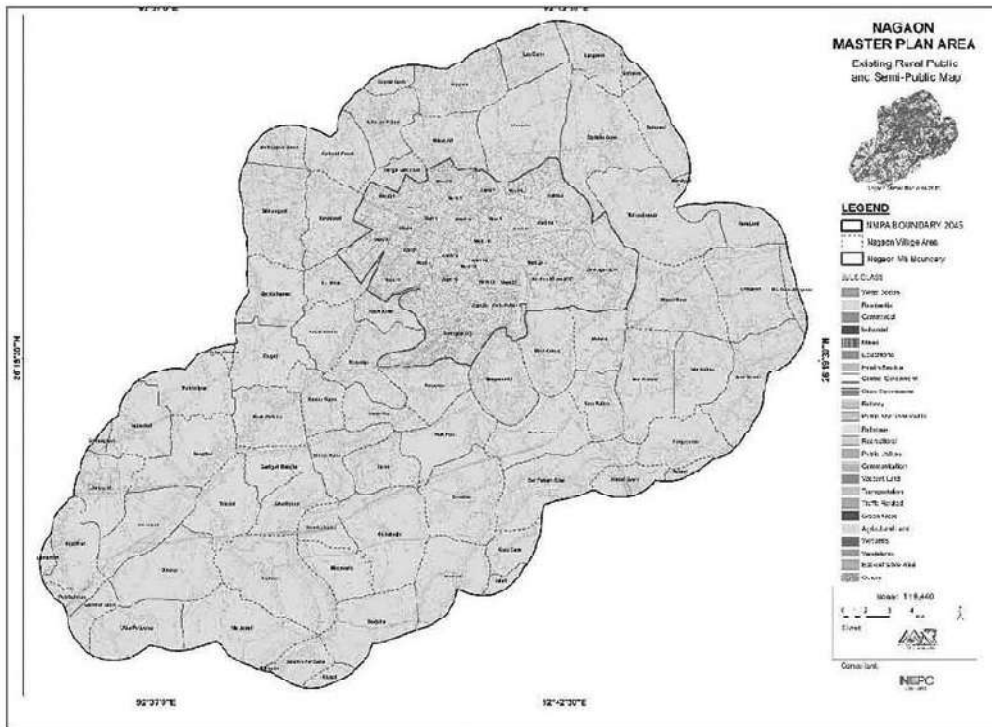


Figure 55: Public and Semi Public In Rural Area

4.2.5 OPEN SPACES

The recreational land use within the rural area accounts to 0.04 sq.km which is around 0.03% of the total area of the region. The important recreational sites within the rural area are Ranthali and Fakoli beel

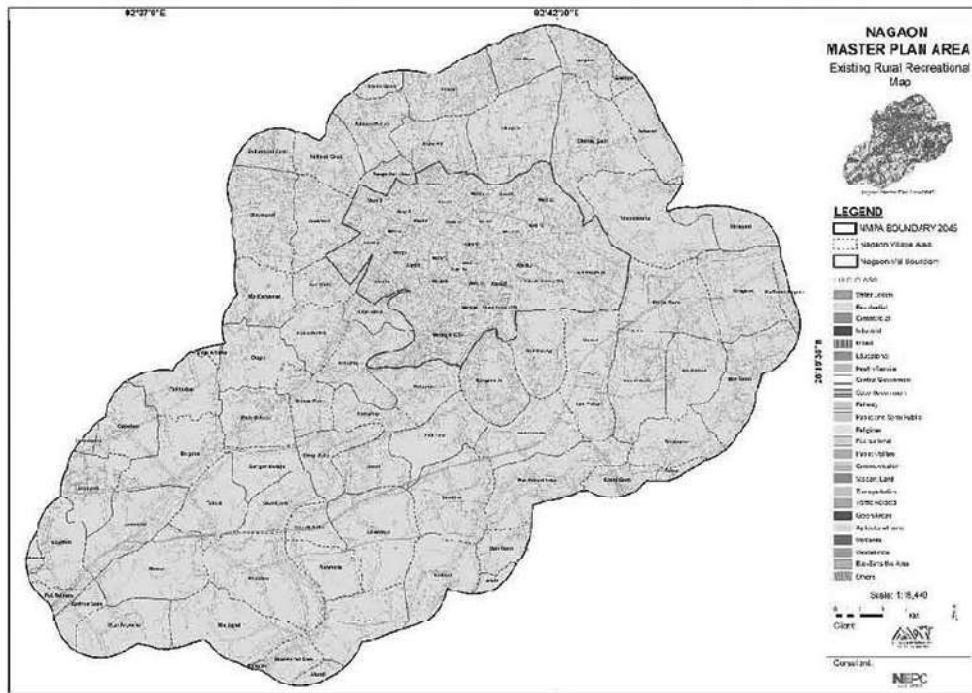


Figure 56: Open Spaces in Rural Area

4.2.6 TRAFFIC & TRANSPORTATION

Traffic & Transportation covers 2.13 sq.km which is around 1.66 % of the total area of rural land cover. Major portions are covered under National and State highways.

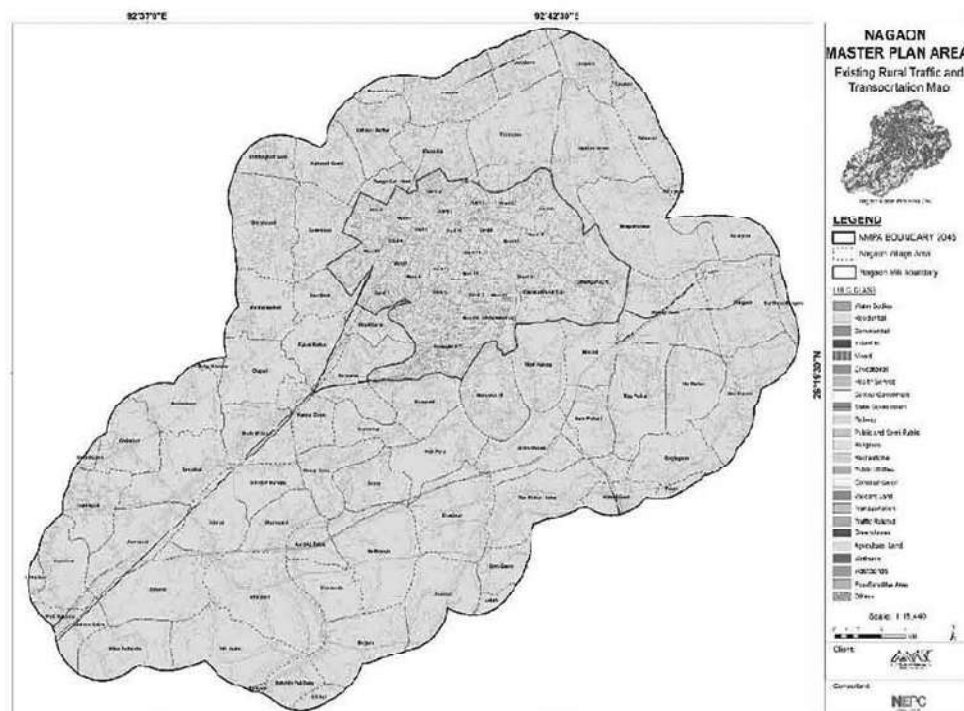


Figure 57: Traffic and Transportation in Rural Area

4.2.7 VACANT

In Nagaon rural around 3.6 sq.km of land is vacant as on year 2020, which accounts for 2.8% land of the total rural area.

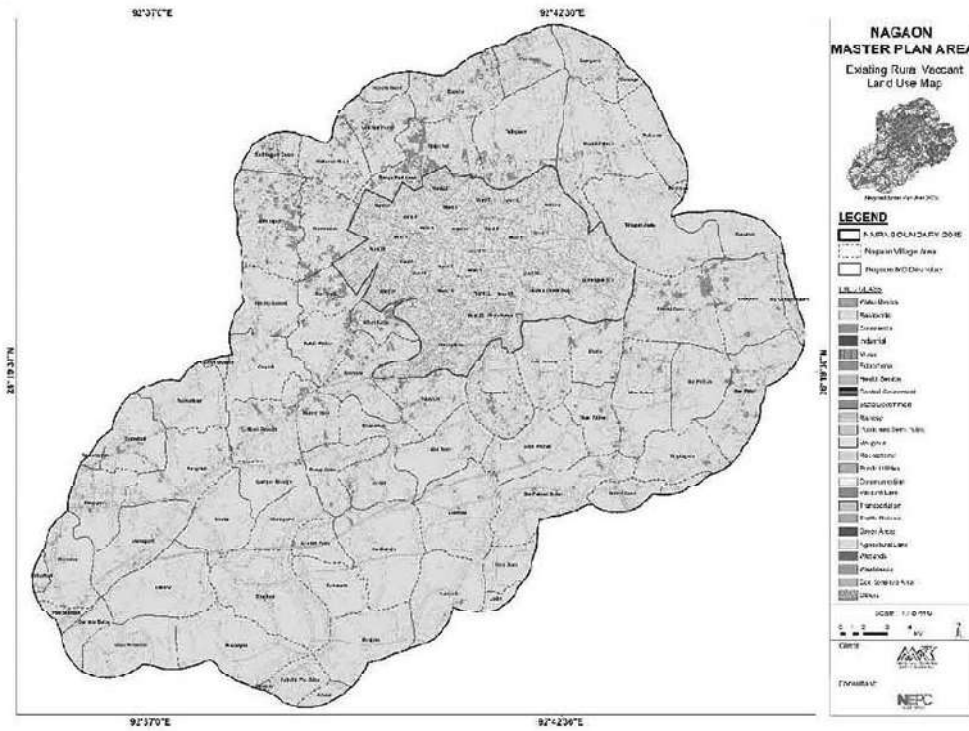


Figure 58: Vacant Land Use in Rural Area

4.2.8 PROTECTED & UNDEVELOPABLE USE

Rural Area has 13.16 sq km of area falling under protected and undevelopable land use zone. Majority of the area falling under this category is covered by, Kolong and Morikolong river and in wetlands.

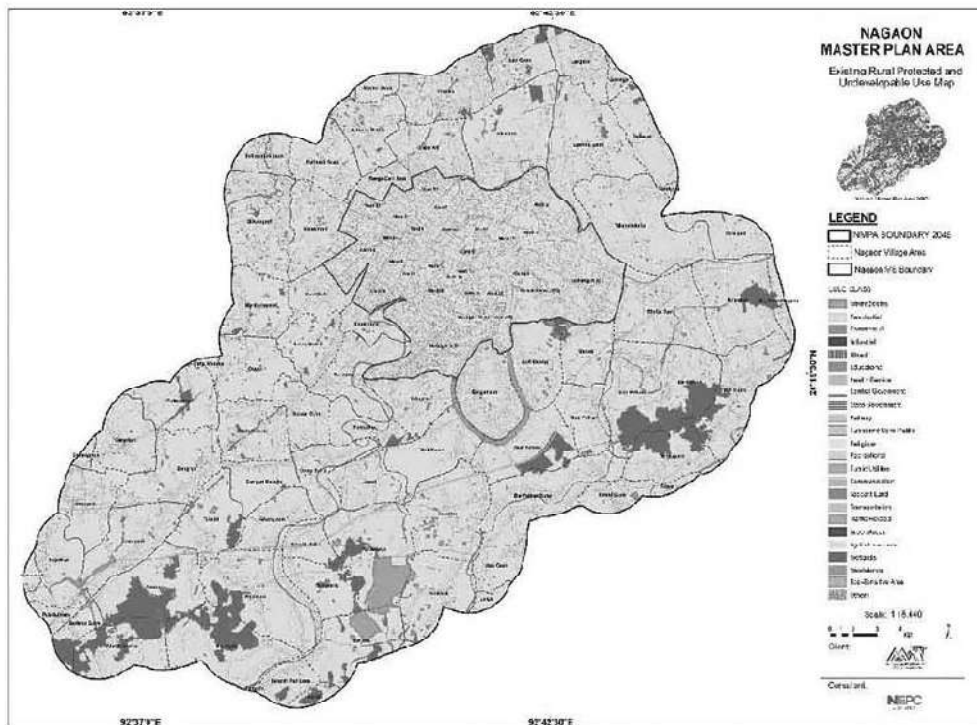


Figure 59: Protected and Undevelopable Use in Rural Area

4.3 NAGAON PLANNING AREA - 2020

The overall existing land use analysis chart for Nagaon Planning Area - 2020 is shown in figure 60. Agricultural land use occupies 49% of the total area of the Nagaon Planning Area, and residential land use is spread over 17% of total land area of the planning area. About 3.78% of the planning area is currently lying vacant, 2.13% is under traffic and transportation use, 0.32% is in industrial land use category and 0.19% of the Nagaon Planning Area land is under Public and Semi-Public land use category.

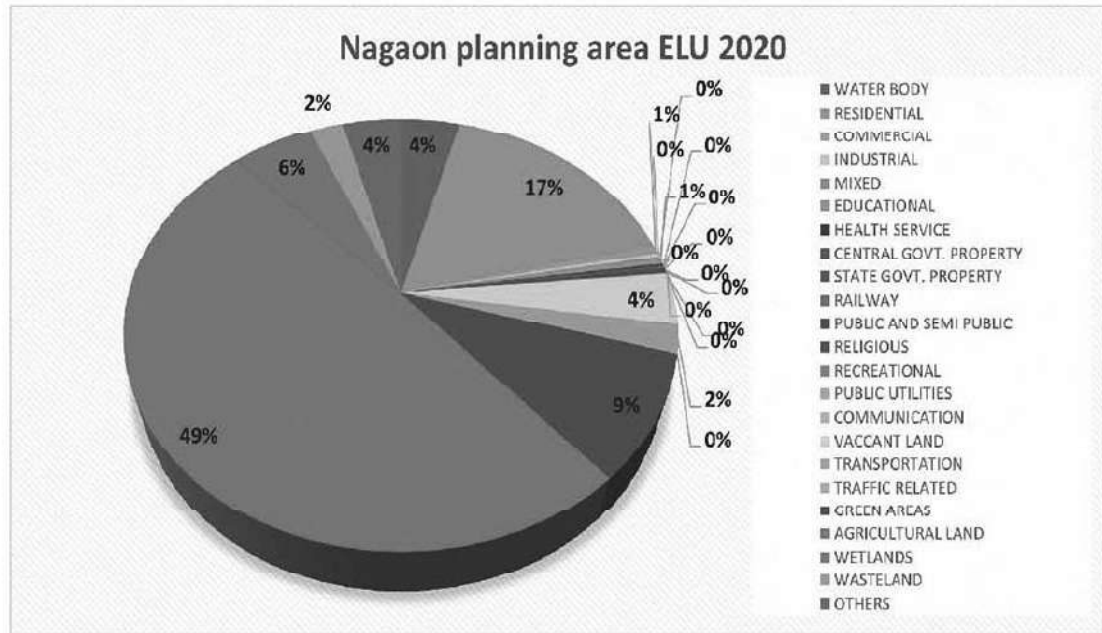


Figure 60: Landuse breakup of Nagaon Planning Area - 2020

Details of Existing Land Use analysis-2020 is shown in table 53, agricultural land use being the predominant land use in the planning area occupies 72.9 sq.km area, Water body or Protected and Undevelopable use is spread over 14.41 sq.km, residential use covers 25.3 sq.km and 5.6 sq.km is currently vacant. Priority should be given to utilize the vacant land to address the future residential requirements of the planning area and compacting the development should be kept as a key point in the preparation of GIS Based Master Plan-2045 to avoid sprawl.

Table 53: Existing Landuse Analysis for Nagaon Developable Area

Sr. No.	Landuse Type	Area (Sq Km)	Percentage Area (%)
1	Water Body	6.16	4.16
2	Residential	25.3	17.10
3	Commercial	0.88	0.59
4	Industrial	0.47	0.32
5	Mixed	0.119	0.08
6	Educational	0.77	0.52
7	Health Service	0.17	0.11
8	Central Govt. Property	0.0097	0.01
9	State Govt. Property	0.43	0.29
10	Railway	0.0105	0.01
11	Public and Semi Public	0.28	0.19
12	Religious	0.176	0.12
13	Recreational	0.09	0.06
14	Public Utilities	0.01	0.01
15	Communication	0.017	0.01
16	Vaccant Land	5.6	3.78
17	Transportation	3	2.03
18	Traffic Related	0.15	0.10
19	Green Areas	13.57	9.17
20	Agricultural Land	72.9	49.26
21	Wetlands	8.25	5.57
22	Wasteland	3.53	2.39
23	Others	6.1	4.12
Total		148.00	100

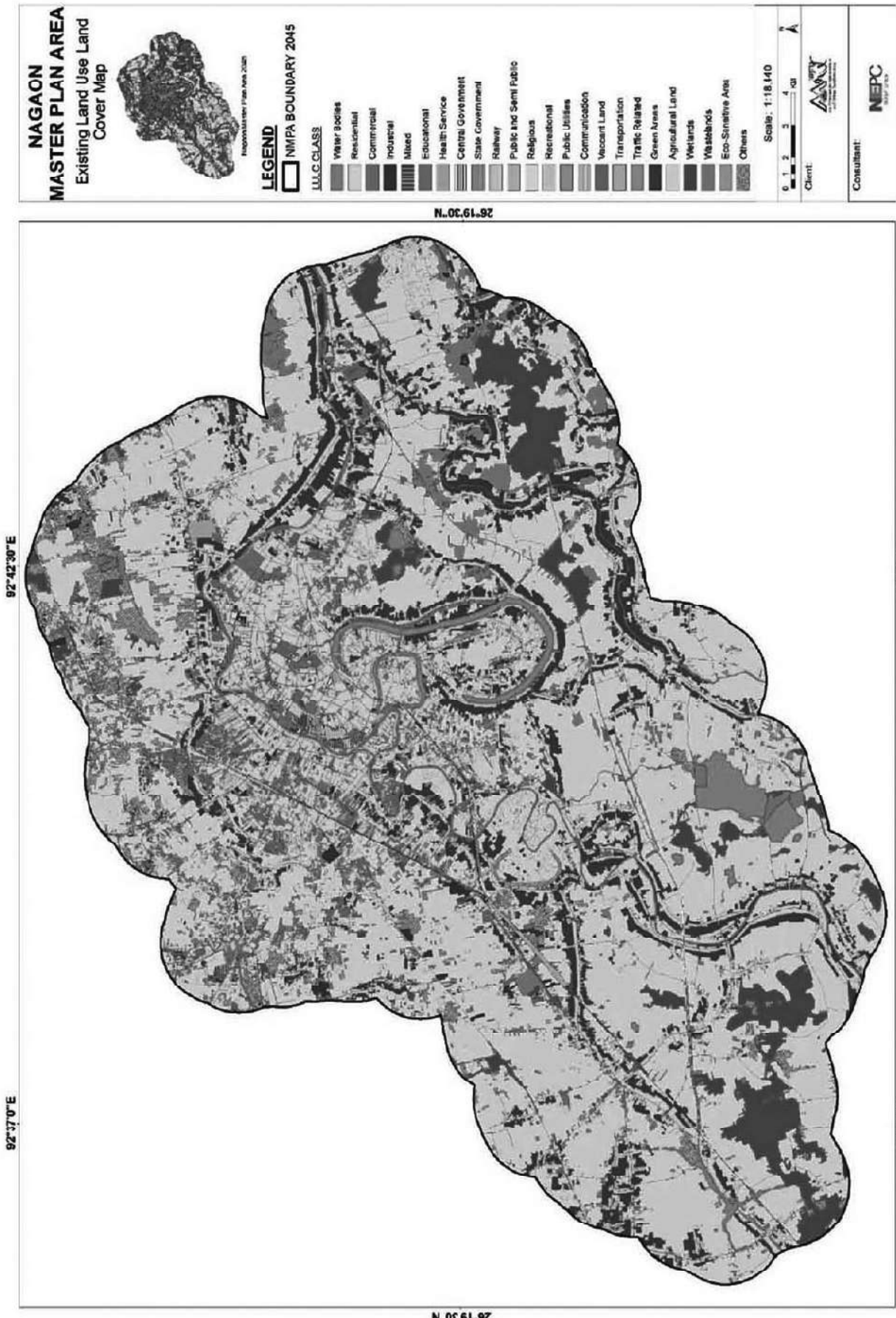


Figure 61: Nagaon Planning Area 2020

Table 54 Existing Landuse Analysis for Nagaon Planning Area-2020

Sr. No.	Landuse Type	Conurbation Area (Sq Km)	Rural Area (Sq Km)	Entire DMPA (Sq Km)
1	Water Body	1	5.16	6.16
2	Residential	10.5	14.8	25.3
3	Commercial	0.5	0.38	0.88
4	Industrial	0.11	0.36	0.47
5	Mixed	0.08	0.039	0.119
6	Educational	0.53	0.24	0.77
7	Health Service	0.04	0.13	0.17
8	Central Govt. Property	0.006	0.0037	0.0097
9	State Govt. Property	0.3	0.13	0.43
10	Railway	0.002	0.0085	0.0105
11	Public and Semi Public	0.2	0.08	0.28
12	Religious	0.09	0.086	0.176
13	Recreational	0.05	0.05	0.10
14	Public Utilities	0.003	0.007	0.01
15	Communication	0.008	0.009	0.017
16	Vaccant Land	2	3.6	5.6
17	Transportation	1	2	3
18	Traffic Related	0.02	0.13	0.15
19	Green Areas	1.07	12.5	13.57
20	Agricultural Land	1.6	71.3	72.9
21	Wetlands	0.25	8	8.25
22	Wasteland	0.03	3.5	3.53
23	Others	0.06	6.04	6.1
Total		19.44	128.56	148

The Existing Land Use area for entire NMPA as well as for two categories is presented in the table above. As it is observed from the table that in conurbation area, there is very less vacant area available which indicates that Nagaon town has no further scope of development. Thus, for the town the focus is to conserve the existing buildings or redevelopment in conformity with the heritage importance and special regulations for urban area.

While concentrating on the rural area it has good amount of Agriculture and Vacant area which opens the scope for development in the area. Additionally, it has large amount of area falling under residential and Public Semi-Public categories making it clear that the inflow of people is already there due to various reasons. However, conurbation area is located near to CBD and includes area which are observing good amount of development, it is envisaged that the conurbation area will have the highest development in the upcoming years.

As observed from the table above, in the areas outside of conurbation, most of the land is under agricultural use as this is rural area. Thus, around 60% of the area falls under agriculture use and wetlands followed by waterbodies. Very less area is covered for residential, commercial, industrial etc.

5 HOUSING

Housing sector is employment intensive; it generates employment during its construction period and, during its life for maintenance purpose. The United Nations Centre for Human Settlements (UNCHS) uses a broader term "Settlement conditions" because it extends to all those components of the physical environment with which an individual or a community comes into contact and which are used on a regular basis for the whole range of human activities - the individual dwelling and its related services, the dwelling's immediate surroundings, community facilities, transportation,

and communications network and so on. This section of the report reviews the housing profile in the project area. Census 2011 housing data had used to analyze the profile. Analysis of the Nagaon urban area includes Kachalukhowa (OG) Nartam Gaon (OG) Chota Haibor (CT) Dimaruguri (CT) and Morongial (CT)

In addition, number of household data of other rural centers falling within the project area is available but rest of the housing parameters are available only for Nagaon MB and OG area; hence, not all housing parameters were analyzed for other rural centers then NMB.

5.1 EXISTING HOUSING SCENARIO

The word "Housing" means dwelling units in terms of quality and quantity alone. Housing or quality of life is more dependent on some elements of housing areas such as disposition of various working areas, layouts development of land, provision of roads, water supply system, sewerage, drainage, and provision of basic amenities like shops, schools, parks and playgrounds etc. the urban form and character emerges from the quality of housing areas and inter relationship of housing areas with work center and other non-residential areas.

In today's context, perhaps the most important issue for urban dwellers is to find an appropriate place to live. It is observed that the price of all kind of housing have been increasing exorbitantly, which indicate that the investment in housing sector is unable to match pace with the increasing

demand for housing. Rapid urbanization and rural to urban migration have led to a substantial shortage of housing in the region. The direct result of this is the concentration of informal settlements in the city. Given that the shortage in housing is concentrated at the bottom of the pyramid, the sector can play an important role in the socioeconomic development.

Moreover, with the rapid urbanization and significant increase in the housing demand, housing sector is the engine of immense potential of giving a push to the economy because of its link with the employment generation and livelihood. Therefore, provision of housing can make a significant difference in income of families, both in rural and urban areas. The number of households in Nagaon Planning Area for year 2011 is mentioned further.



Table 55 Ward wise household data

Ward No.	Population 2011	No. of HHs	Housing Size
1	1705	350	4.9
2	4587	974	4.7
3	4151	1035	4
4	2725	510	5.3
5	4456	1038	4.2
6	6873	1565	4.3
7	3022	748	4
8	3858	970	3.9
9	2429	583	4.1
10	1831	449	4
11	4989	1108	4.5
12	4991	1138	4.3
13	2327	487	4.7
14	3117	706	4.4
15	2641	567	4.6
16	3563	861	4.1
17	4583	1013	4.5
18	5414	1199	4.5
19	3377	815	4.1
20	15240	3221	4.7
21	2504	501	4.5
22	5149	1200	4.2
23	7308	1753	4.1
24	6485	1335	4.8
25	5336	1207	4.4
26	5001	1090	4.5
TOTAL	117722	26483	4.4

(Source: Census of India, 2011)

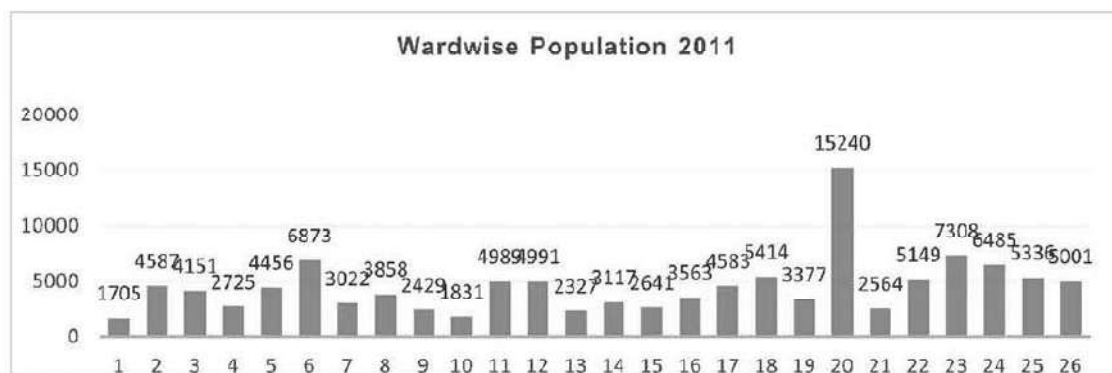


Figure 62: Ward wise population

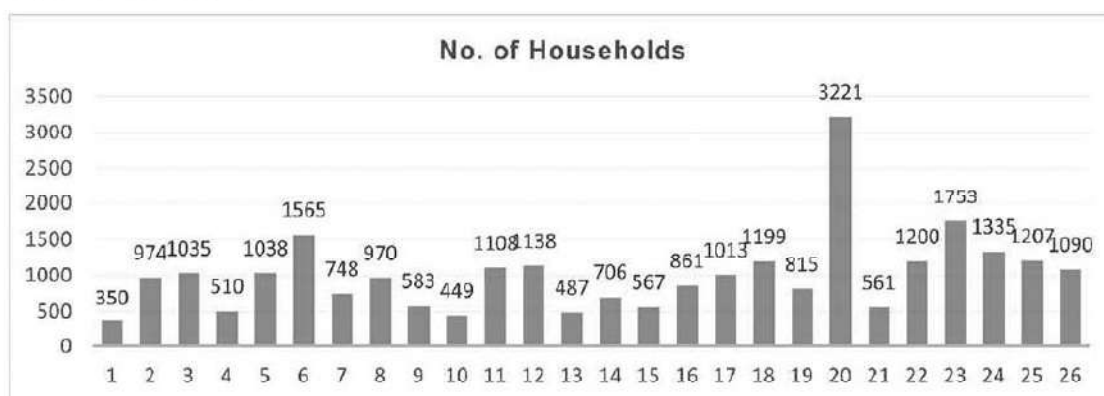


Figure 63: Ward wise households

The table 55 depicts the ward wise population and total number of households in Nagaon Municipal Board area. They are highest in Ward no. 20 followed by Ward no. 23 and 6. The minimum number of households are in ward no. 1. Based on the population and households, the housing size is calculated. The overall housing size is 4.4 which is calculated from the ward wise total population and total number of households. The maximum housing size observed in Ward no. 1 and 24 which is 4.9 and 4.8, respectively. The minimum housing size is 3.9 and 4 which is in ward numbers 8 and 10.

Table 56: No. of Household for OG/CT area

Name of OG/CT	Population 2011	No. Of Household	Housing Size
Kachalukhowa (OG)	2917	608	4.7
Nartam Gaon (OG)	989	229	4.3
Chota Haibor (CT)	6315	1379	4.5
Dimaruguri (CT)	10235	2170	4.7
Morongial (CT)	10318	2154	4.7
Total	30774	6540	4.7

(Source: Census of India, 2011 and Consultant Compilation)

Table 56 describes the existing households in Outgrowth and Census Town area as per Census 2011 and from this the housing size is been calculated which turns out to be 4.7 on an average. Housing size observed maximum in Kachalukhowa (OG), Dimarugiri (CT) and Morongial (CT) which is 4.7 followed by Nartam Gaon (OG) which is 4.3.

Table 57: of Households for Rural area

Name	Population 2011	No. Of Household 2011	Housing size
Existing Nagaon MP Rural Area	1,50,184	31,308	4.7

(Source: Census of India, 2011 and Consultant Compilation)

The population in GIS based Nagaon MPA's rural area is 1,50,184 and the total number of households are 31,308. The Household size observed in this region is 4.7

5.1.1 HOUSEHOLDS IN NMPA

In NMPA, the area wise household details are as mentioned below

Table 58: No. of households in Nagaon Planning area

Sr. No	Name of Area	Population	No. Of Household	Percentage	Household size
1	Nagaon MB (26 Wards)	117722	26483	41.16%	4.4
2	2 Out growths	3906	837	1.30%	4.5
3	3 Census town	26868	5703	8.86%	4.6
4	76 villages	150184	31308	48.66%	4.8
Total		298680	64331	100%	4.6

(Source: Census of India, 2011 and Consultant Compilation)

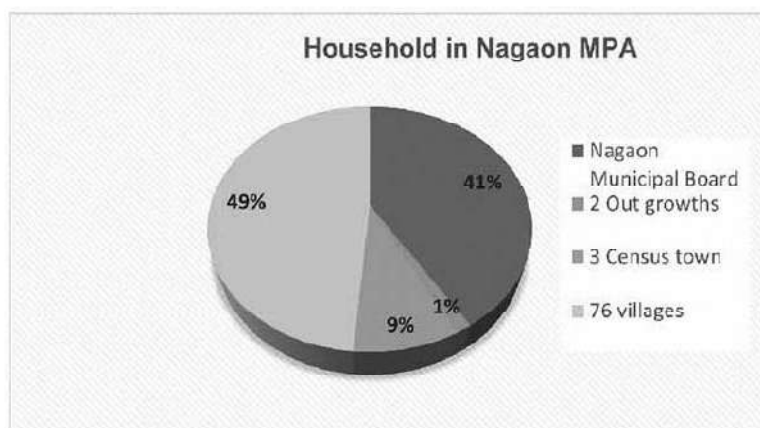


Figure 64: Household break up

The table 58 indicates total population in NMPA is 298680 and the No. of households are 64331 which further leads to the overall household size 4.6. The maximum population is in Nagaon MB area which is 117722 and contributes 41.16 % of total NMPA. The lesser number of households observed in OG and CT area which is 1.30% and 8.86% respectively.

5.1.2 SIZE OF THE HOUSEHOLD

The 1991 Census shown that more than half of the households in the region were medium sized with an average member of 3 to 5. According to census 2011 the medium sized households (3-4) is predominant because of the increasing trend towards nuclear households. Since the trend in nuclear households and rapid urbanisation are at higher rate, there will be considerable pressure on housing in coming future. The overall household size of the Nagaon Planning Area is 4.6. HH size is lowest in Nagaon Municipal which is 4.4 and highest in rural areas which is 4.8

5.1.3 HOUSING TYPOLOGY

The 'Housing Typology' is the complex nature of regional contexts as places to formulate human habitation. Investigating the interdependencies evolving between a building's entity and its territory can contribute in the future to development of region. Permanent houses are those with wall and roof made of permanent materials. Wall can be made of G.I., Stone packed with Mortar, Stone not packed with Mortar, Metal, Asbestos sheets, burnt bricks, Stone or Concrete. Roof can be made of Hand-made tiles, Machine made tiles, Slate, G.I., Metal, Asbestos sheets, Brick, Stone or Concrete. Semi-permanent houses are those in which either wall or roof is made of permanent material and other is made of temporary material. Temporary houses are the ones with wall and roof made of temporary material. Wall can be made of Grass, Thatch, Bamboo etc., Plastic, Polythene, Mud, Unburnt brick or Wood. Roof can be made of Grass, Thatch, Bamboo, Wood, Mud, Plastic or Polythene.

Table 59 reveals the number of households living in permanent, semi-permanent and temporary houses within the NMPA. Out of 64331 households, 51.73% are permanent, 44.17 % are semi-permanent and 4.07% are temporary houses.

Table 59 Housing Typology of NMPA

Particular		Permanent	%	Semi - permanent	%	Temporary	%
Urban	Nagaon MB + OG	25299	63.45	14073	35.29	498	1.25
	Census Towns (CT)	2694	40.41	3845	57.68	127	1.9
Rural	Rural areas	5285	29.7	10516	59	1994	11.2
Total		33278	51.73	28434	44.17	2619	4.07

(Source: Census of India, 2011 and Consultant Compilation)

The figure 65 indicates that around 51.73% are permanent households, 44.17% are semi-permanent and 4.07% of dwelling units are temporary units in Nagaon urban area. In rural areas, the percentage of permanent housing is 30%, semi-permanent housing is 59% and temporary housing units are around 11%. This clearly indicates that focusing the housing development in rural areas is of importance in order to provide basic need of the people.

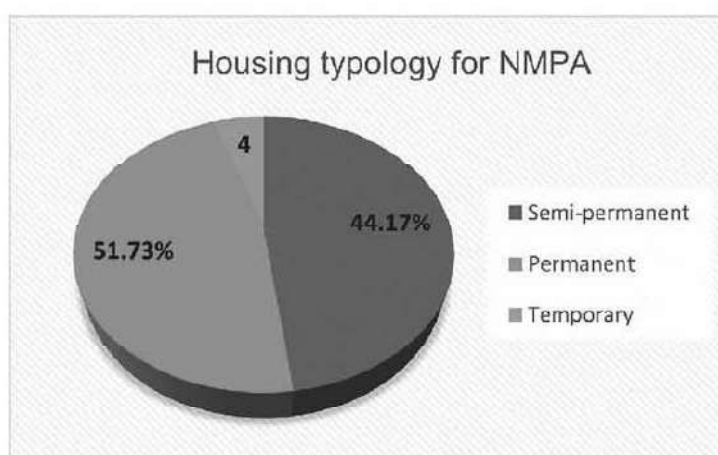


Figure 65: Housing typology in urban area

5.1.4 HOUSING CONDITION

Housing Condition includes the study of condition of housing based on type of structure i.e., permanent/ semi- permanent, physical infrastructure, mass space relationship, condition of the material used for walls and floors etc. It is important to be studied because it indicates the efficiency and sustainability of the housing stock, whether the houses are liveable or not. Based on the above said parameters, the condition of houses has been segregated and the analysis is done as good, livable and dilapidated houses.

Table 60 Housing condition

Area	Residence (%)			Residence-cum-other use (%)				
	Total	Good	Livable	Dilapidated	Total	Good	Livable	Dilapidated
Assam	62,72,151	33%	56%	11%	95,144	30%	62%	8%
Nagaon District	5,53,106	30%	57%	13%	7,751	27%	62%	11%
NMB+OG	27,855	55%	40%	5%	660	52%	43%	5%

(Source: Census of India, 2011 and Consultant Compilation)

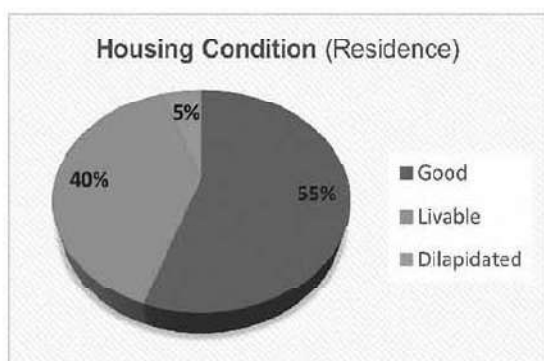
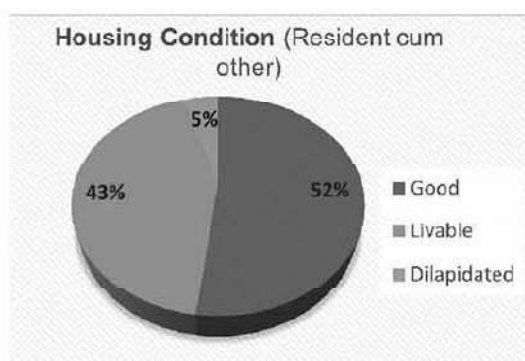


Figure 66: Housing condition



(Source: Census of India, 2011 and Consultant Compilation)

Table 61 slum housing condition

Area	Residence (%)			Residence-cum-other use (%)				
	Total	Good	Livable	Dilapidated	Total	Good	Livable	Dilapidated
Assam	62,72,151	33%	56%	11%	95,144	30%	62%	8%
District	5,53,106	30%	57%	13%	7,751	27%	62%	11%
NMB+OG	3,956	43%	53%	4%	141	65%	34%	1%

(Source: Census of India, 2011 and Consultant Compilation)

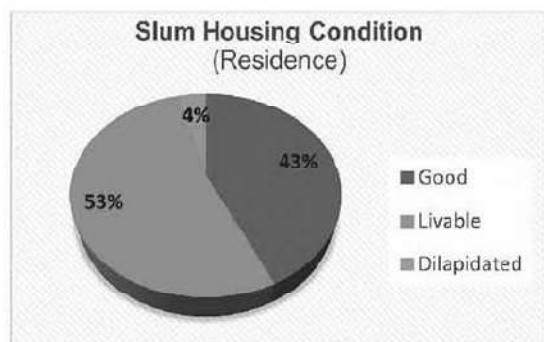
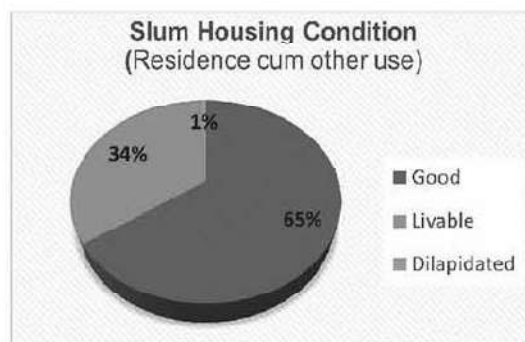


Figure 67: Slum Housing condition



(Source: Census of India, 2011)

In 2011, out of total 28515 occupied housing units in NMB +OG, 27,855, units are exclusively residential and 660 are used for residence-cum-other uses. Out of total residential housing units, majority units are in good condition and liveable, while only 4% are in non-living condition. Ratio of housing units in good condition is much higher in NMB+OG (43%) as compare the share of good conditioned occupied housing units in the state (33%) and district (30%). However, the share of livable housing condition in the state and in the district is much higher as compared to the NMB.

In slum houses category, houses in good condition which are 43% followed by houses in liveable condition which are 53% and the least are in dilapidated condition which are 4%. Also, the condition of houses mentioned for the residential cum other use of slum houses, where 65% are in good condition and only 1 percent are in dilapidated condition.

5.1.5 CONSTRUCTION MATERIAL OF HOUSES

5.1.5.1 Material of Roof:

Majority of households in the region have G.I. Metal sheets for roofing because they are great protection against rain and is easily available in the region. In NMB area, around 81% of houses have G.I. Metal sheet roofs, which is still comparatively low numbers than the states (74.20%).

Table 62 Material of Roof

Area Name	Total number of HHs	Grass/ Thatch/ Wood/ Mud	Plastic Polythene	Handmade Tiles	Machine made Tiles	Burnt Brick	Stone/ Slate	G.I./ Metal/ Asbestos sheets	Concrete	Any other material
State	62,72,151	18.60%	2.10%	0.70%	0.3%	0.1%	0.80%	74.20%	2.90%	0.20%
District	5,60,857	26%	3%	0.00%	0%	0.0%	1.00%	69%	1%W	0.00%
NMB+OG	28,515	1%	0.41%	0.15%	0.0%	0.2%	1.05%	81.3%	15.51%	0.04%

(Source: Census of India, 2011)

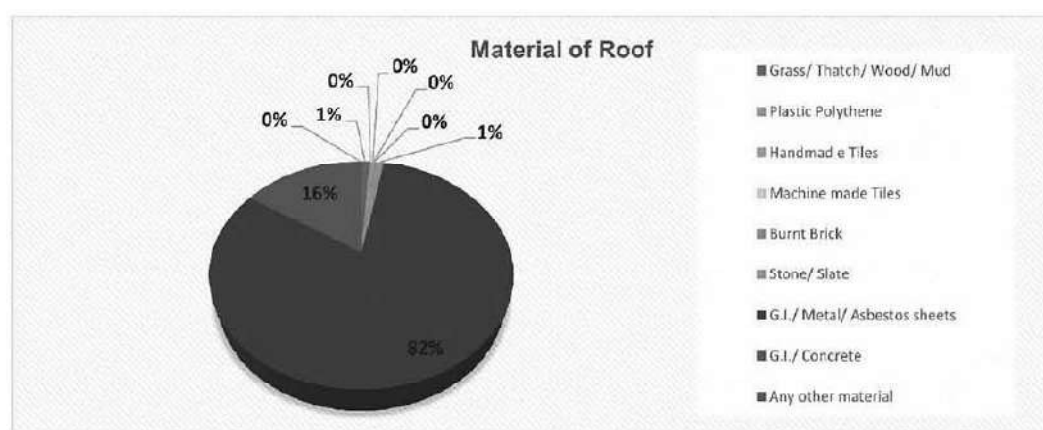


Figure 68: Material of roofs

(Source: Census of India, 2011)

In the districts 69%, households have the same roofing material. At the same time, around 15.51% households in NMB have the permanent roofs made of concrete; the number is comparatively higher than the number of households with the permanent roofs in the state and the districts.

5.1.5.2 Material of walls

Table 63 Material of Wall

Area Name	Grass/ Thatch/ Bamboo etc.	Plastic/ Polythene	Mud/ Unburnt brick	Wood	Stone not packed with mortar	Stone packed with mortar	G.I./ Metal/ Asbestos sheets	Burnt brick	Concrete	Any other material
State	66.40%	0.60%	3.60%	1.60%	0.70%	1.40%	1.10%	21.20%	2.90%	0.50%
District	67%	0%	4%	2%	1%	2%	0%	19%	3%	1%
NMB+OG	36%	0%	2%	0.0%	1%	12%	1%	29%	17%	0%

(Source: Census of India, 2011)

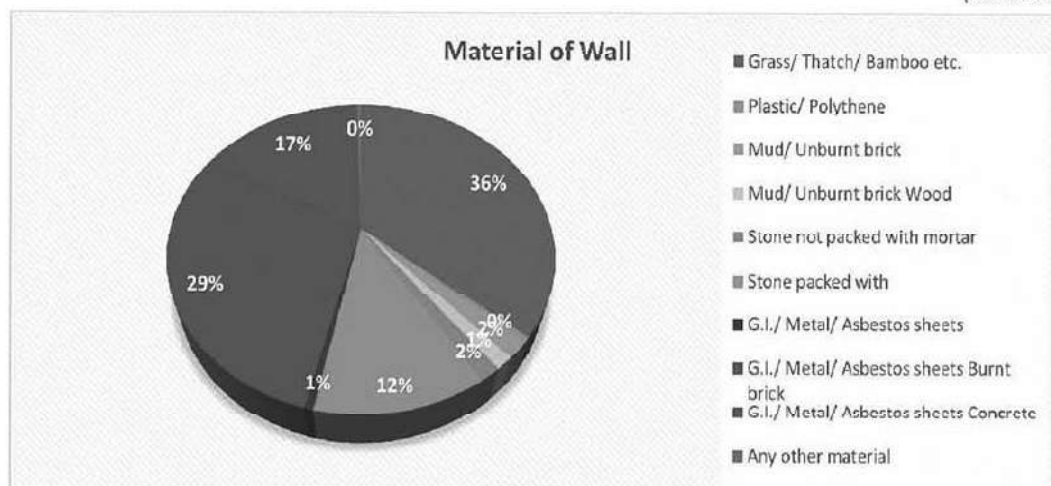


Figure 69: Material of Wall

Majority of houses in NMB and OG are Pucca houses with walls made of either burnt bricks (30.9%). Houses made with bamboos and thatch is the second majority in NMB area (29.96%). Very few houses observed with wall materials like mud stones and mortar. However, on the other hand, majority of houses in the state (66.4%) and in the district (59.92%) are Kachha houses with the walls made of grass, bamboos and thatch.

5.1.5.3 Material of Floor:

In NMB and OG, cement is predominantly used material for flooring. Almost 56.20% households in NMB and OG have permanent flooring made of cement, and only 36% houses are with flooring made of mud, especially in the slums and other low-income group areas. On the other hand, at the state and the district levels, mud is the predominant flooring material widely used. Majority of households in the state (79%) and in the district (83%) have floor made of mud. Wood, bamboo, stone, and mosaic tiles are other flooring materials used for flooring in the region.

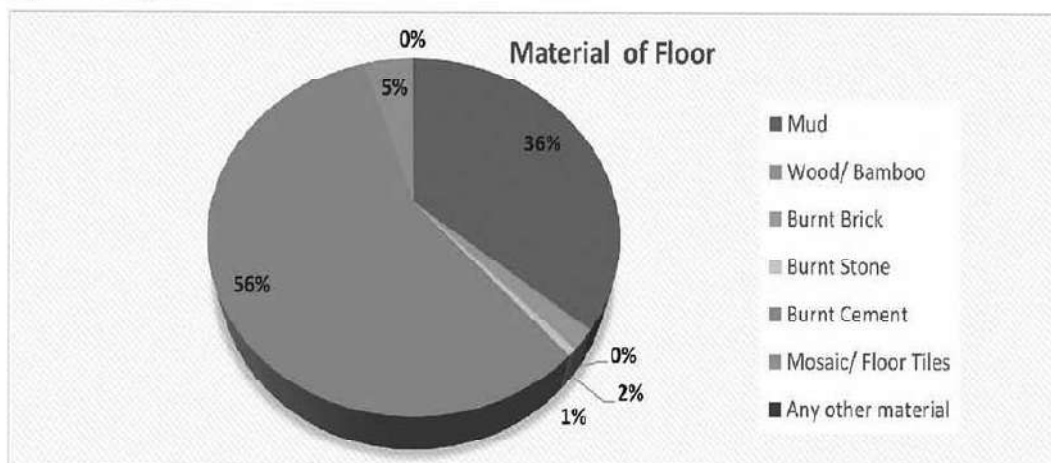


Figure 70: Material of floor

Table 04 Material of floor

Area Name	Mud	Wood/Bamboo	Burnt Brick	Stone	Cement	Mosaic/ Floor Tiles	Any other material
State	78.60%	2.10%	1.20%	0.40%	16.60%	1.00%	0.10%
District	83%	0%	1%	0%	15%	0%	0%
NMB+OG	36%	0.20%	1.66%	0.61%	56.39%	4.76%	0.04%

5.1.6 OWNERSHIP STATUS OF HOUSES

According to census 2011, the housing sizes are classified as number of dwelling units with following categories.

1. Dwelling units with no exclusive rooms
2. Dwelling units with single room
3. Dwelling units with two and three rooms
4. Dwelling units with four and five rooms
5. Dwelling units with six and above rooms

Table 65 Housing Ownership Urban area

Area Name	Ownership status	Total no. of households	Households having number of dwelling rooms						
			No exclusive room	One room	Two rooms	Three rooms	Four rooms	Five rooms	Six+ rooms
Nagaon (MB + OG)	Total	28,515	296	6,942	7,251	5,457	3,812	2,351	2,406
	Owned	91.94%	43.24%	23.49%	47.73%	60.49%	75.81%	86.47%	91.94%
	Rented	7.23%	51.35%	72.05%	47.01%	36.34%	22.95%	12.38%	7.23%
	Any Other	0.83%	5.41%	4.45%	5.25%	3.17%	1.23%	1.15%	0.83%

(Source: Census of India, 2011)

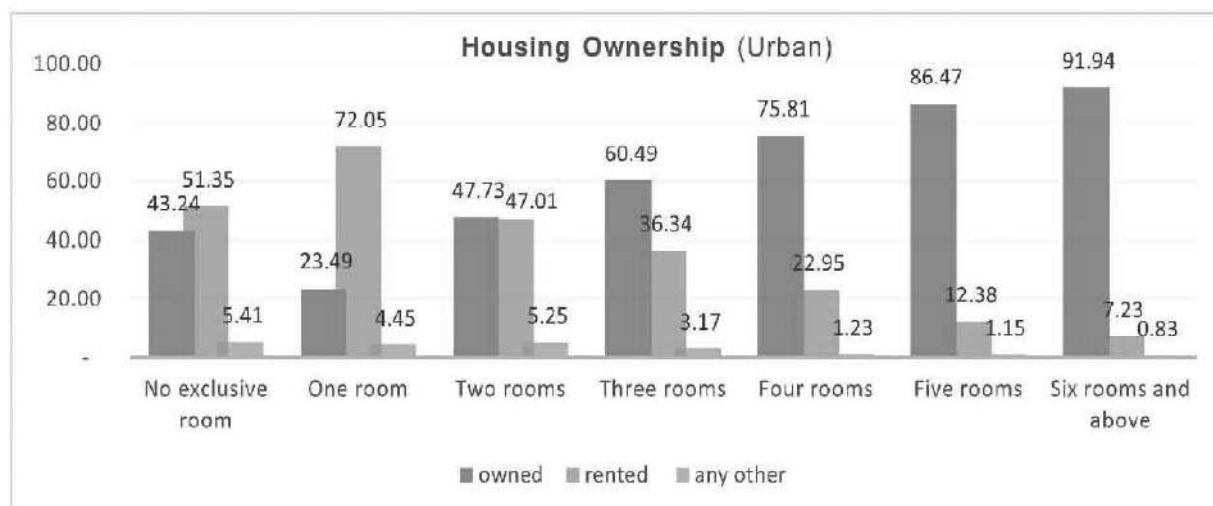


Figure 71: Housing Ownership by Dwelling Rooms

(Source: Census of India, 2011)

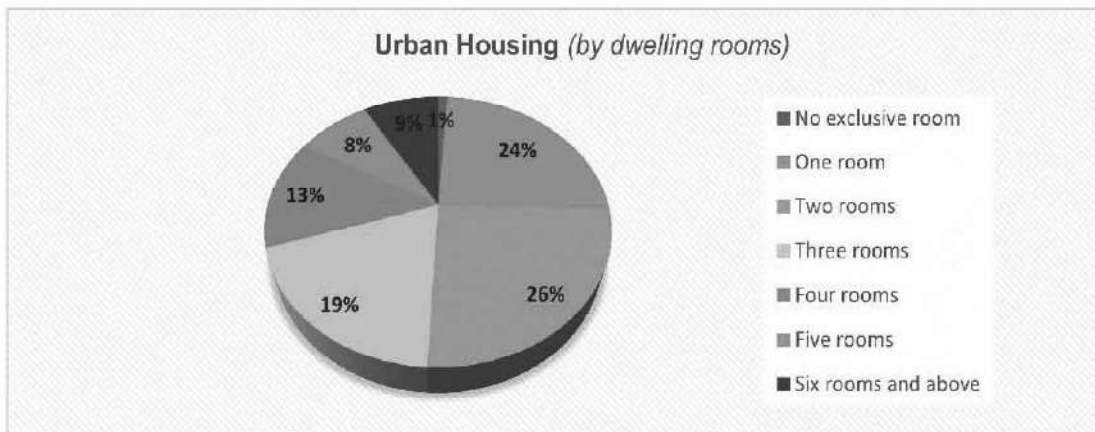


Figure 72: Housing ownership of dwelling in NMPA

From the figure 72 it is observed that 24% of total households are owning single room and 19% three-room units in the urban area while 26% households live in two room dwelling units. Out of 7251 two room units 47% are owned and 47% are on rent. It is also observed that 8% of the Households are living in five plus rooms where only 1.2% are rented and major units are under ownership status. In overall the 0.1% of the households are living without any exclusive room in urban area on the total urban household

Table 66 Housing ownership (Rural Area)

Area Name	Ownership status	Total number of households	Households having number of dwelling rooms						
			No exclusive room	One room	Two rooms	Three rooms	Four Rooms	Five Rooms	Six rooms and above
Nagaon (Rural)	Total	35816	174	1436	14446	5898	7875	3375	2612
	Owned	87.41%	50.57%	78.34%	86.97%	84.55%	94.65%	87.44%	81.81%
	Rented	9.69%	47.7%	19.15%	10.07%	11.48%	3.64%	9.69%	13.97%
	Any Other	2.91%	1.72%	2.51%	2.96%	3.97%	1.7%	2.87%	4.21%

(Source: Census of India, 2011)



Figure 73: Housing Ownership by Dwelling Rooms

(Source: Census of India, 2011)