পঞ্জীভুক্ত নম্বৰ - ৭৬৮ /৯৭ Registered No.-768/97

অসম ৰাজপত্ৰ

সত্যমেব জয়তে

THE ASSAM GAZETTE

অসাধাৰণ

EXTRAORDINARY

প্ৰাপ্ত কৰ্ত্তৃত্বৰ দ্বাৰা প্ৰকাশিত

PUBLISHED BY THE AUTHORITY

নং 377 দিশপুৰ, বুধবাৰ, 25 মে', 2022, 4th জেঠ, 1944 (শক)

No. 377 Dispur, Wednesday, 25th May, 2022, 4th Jaistha, 1944 (S. E.)

GOVERNMENT OF ASSAM

ORDERS BY THE GOVERNOR

DEPARTMENT OF HOUSING AND URBAN AFFAIRS

NOTIFICATION

The 7th May, 2022

No.UDD(T)197/2022/6. – In exercise of the powers conferred by the Section 9 and sub-Section (1) of Section 10 of the Assam Town & Country Planning Act, 1959 (as amended) and (Assam Act II of 1960) read with sub-rule (1) of Rules 3 of the Assam Town & Country Planning (Publication of Master Plan and Zoning Regulations) Rules 1962, the Governor of Assam is pleased to publish the following notice regarding the publication of the Draft Master Plan for Doboka.

Notice for publication of the Draft Master Plan for Doboka

1. It is notified that the Draft Master Plan for Doboka prepared by the Directorate of Town & Country Planning, Government of Assam, under Section 9 of the Assam Town & Country Planning Act, 1959 (as amended) as described in the schedule below is here by published.
2. Any person or persons affected by the Draft Master Plan may submit their objections or opinions in writing to the Director of Town & Country Planning within two months from the date of publication.
3. The Draft Master Plan with all relevant papers and maps may be inspected free of cost during the office hours at the office of the Director, Town & Country Planning, Dispur, Guwahati-6, Deputy Director, Town & Country Planning, Dist Office – Nagaon, office of the Chairman, Doboka Municipal Board & Doboka Circle Office. Copy of the Draft Master Plan is available in the office of the Deputy Director, Town & Country Planning, Dist Office – Nagaon for sale on payment.

SCHEDULE

A. Situation and area:

District : Hojai

Subdivision : Hojai

State : Assam.

Total Master Plan Area : 27.1 Sq Km

Municipal Board Area : 3.50 Sq Km.

Apart from the Doboka Municipal Board Area, Doboka Master Plan area covers 8 Nos. of nearby villages. The villages included in the Draft Master Plan for Doboka with Mouzas are as follows:-

SL.No.	Urban Area	Circle	Mouza
1	Doboka Municipal Board Area, (Doboka Revenue Town)	Doboka Circle	Jamunamukh
	Village Area	**Circle**	**Mouza**
1	MikirAti Huagaon	Doboka Circle	Jamunamukh
2	Sutargaon		
3	Nahargaon		
4	Burigaon		
5	Doboka Pather		
6	Niz Doboka		
7	Nam Doboka Pather	Hojai Circle	Jugijaan
8	Nam Doboka Gaon		

B. Description of boundaries:

NORTH : - Doboka Hills
SOUTH : - Borpather, Donkigaon
EAST : - Sadargaon, Pub Jarani, Kachari Para
WEST : - Bhedeoati, Changmaji

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

CHAPTER:-I: - INTRODUCTION TO MASTER PLAN AREA

1.1 Location: - **Dabaka** also called **Doboka** or **Dobaka** is a town in Hojai district (formerly in Nagaon district) of Assam state in India. It is a commercial place situated in the central part of Assam. Dabaka is located at an elevation of 61 m above MSL.[2] It is located 36 KM towards South of Nagaon Town and 18 KM from Hojai Town and 124 KM from State capital Dispur. Its co-ordinates are 26.1165° N, 92.8637° E.

It is one of the prominent trade and commerce centre of Hojai District as well as in the state. It is only the Town of 90 No Jamunamukh LAC, Assam. Dabaka is well connected by road & river with the other parts of the state & the country, NH-36 the famous east west corridor cross the Dabaka town. Dabaka town is a vital corridor linking with Karbi-anglong district & the state of Nagaland to the northern direction & in the western direction with Morigaon, Guwahati, and other districts. More than 230 surrounding villages are connected with Dabaka town by PWD & rural roads. One can journey through waterways from dabaka town to Karbi-Anglong by the river Jamuna towards northern direction and with Doboka, Raha to the southern direction. In the time of British rule one RCC bridge was constructed across the river Jamuna in 1942.

1.2 History:-

Davaka was a kingdom of ancient Indian subcontinent, located in current central region of Assam state. The references to it comes from the 4th century Allahabad pillar inscription of Samudra Gupta, where it is mentioned as one of five frontier kingdoms of the Gupta Empire, the Shung-Shu History of the Liu Song dynasty, where the kingdom is named Kapili (now the name of a river); the Gachtal stone pillar inscription written in Kamrupi Prakrit. N K Bhattasali has identified it with Dabaka in modern Hojai district, with the kingdom associated with the Kopili-Kolong river valley.

In 4th-century Davaka was mentioned as frontier kingdom with Kamarupa in the Samudra Gupta's Prayaga stone inscription, which was later absorbed by 6th or 7th century by western kingdom of Kamarupa though later historians like B N Puri (1968) and P C Choudhury (1959) claim that it was absorbed much earlier in the first half of the 5th century during the reign of Kalyana Varman (422-446).

Its capital was located near Kopili River. In the year 428 A.D, an ambassador was sent to China by Davaka king, whose name according to Chinese sources is Yuegnai or Yu Chai.

1.3 Climate, topography and Soil:-

Doboka is a hilly & alluvial plain. Shyam Yadu Pahar (Hill) is situated in the northern site of Doboka town. The Ruin capital of Doboka kingdom is in the Motban area of Doboka. The famous historical Mahamaya Than is located on the Doboka Jamunamukh Road.

Table:-1 Below tables shows the different parameters of Weather of Doboka

Sl. N o.	**Parameter**	**Description**
1	Topography	Mostly alluvial Plain
2	Temperature	42 C Degree (Max.) 5 C Degree (Minimum)
3	Extreme Hottest month of the year	July & August
4	Coldest month of the year	December
5	Humidity	85% (Max.)
6	Rainfall	3805 MM (Annually)
7	Monsoon Period	June to August
8	Winter Season	November to February

1.4 CITY INFLUENCE AND ITS CHARACTERISTICS INCLUDING SETTLEMENT PATTERN, RURAL-URBAN SCENARIO, HISTORY OF THE PHYSICAL GROWTH AND EXPANSION OF DOBOKA TOWN:

Rural-Urban fringe is an important concept in settlement geography. The rural-urban fringe is the boundary zone outside the urban area proper where rural and urban land uses intermix. It is the area where the city meets the countryside. It is an area of transition from agricultural and other rural land uses to urban use. Located well within the urban sphere of influence the fringe is characterized by a wide variety of land use including dormitory settlements housing middle-income commuters who work in the central urban area. Over time the characteristics of the fringe change from largely rural to largely urban. Suburbanization takes place at the municipal boundary of rural-urban fringe.

Doboka town is situated in the North-West of Hojai District & on the bank of river Jamunu. The Boundary of Doboka town, the Sutargaon & Nahargaon on the North, Jamuna River on the South, on the east Pachim Jarani, and the west is Niz Doboka. The Deorijaan small rivulet runs into the middle of the Doboka town. The town is divided into ten Nos. of wards. The commercial areas of the town are mainly lying on the state and central Highways. The small villages which are surrounding the town is influenced the trade & commerce of the town, ultimately on the economy of the town. A development plan for overall development of the town has been formulated. The preparation of Master Plan of the town is necessary for the infrastructure development of the town. It is essential to increase the present growth of the economy of the town by removing the weak economic base. The weak economic base is shortage of power, low flow of capital, lack of skill labour etc. Doboka town is a vital place for Hotel business. Flow of people, through Doboka town near about 10 thousand daily(average). Technical Educational institution if set up in Daboka town, the trainers from Karbi-Anglong, Dima Hasou and surrounding areas of Doboka town can find a convenience place. Entertainment centers can play an important role in the growth of the Doboka,s economy. If flood control measure carefully provided in the town, the town economy will be boast.

The private and public sector can establish medium & small scale industries like Hotel business, Technical Institution, vehicle repair and parts making industries, Household utensil industries, Agricultural goods processing industries, Household utensil industries, Agricultural goods processing industries & selling & purchasing center, warehouse of various goods & products, tourist attraction centers like development of Akashi-ganga, development of Buri-Ganga, proper gradation of shyam yadu pahar, proper conservation & development f the ruin capital of Doboka kingdom, development & construction of river front for enjoyment & refreshment center, facilities centers to the mountaineer & tourist to the nearby hills & mountain.

1.5 CONCEPT OF MASTER PLAN:

Master Plan is comprehensive that is it integrates various aspects of planning like housing, transportation, infrastructure etc. All the aspects are considered that affects the quality of life of people and all the interrelationships between various aspects; Multidisciplinary in nature: it encompasses various disciplines of studies like social aspects, economics, environment, engineering, architecture etc.; Master plan is a long term document. It clears out the vision for prospective year for the city and plans out development for future; Master plan focuses on rational use of land that is demarking land for the use most optimal for the activity at a place. It efficiently uses resources to meet the present and future requirements of the citizens; Master plan should consider the environmental and costs related to it.

The proposals for development should be environmentally sustainable. Master Plan is based on inclusive planning. It considers all sections of people in society in development proposals and focuses on affordability.; Master plan gives restrictions on ecologically sensitive areas, on heritage sites and traditional built up areas and gives special norms for these places. ; Master Plan leads to a balanced growth of the city. It prevents concentration of a particular activity at one place and takes into account efficient distribution of facilities, infrastructure, networks and housing and follows neighborhood concept of development.

1.6 NEED OF A MASTER PLAN FOR DOBOKA TOWN:

A master plan or a development plan or a town plan may be defined as a general plan for the future layout of a city showing both the existing and proposed Land use plan. A master plan is prepared either for improvement of an old city or for a new town to be developed on a virgin soil. A master plan is a blueprint for the future. It is a comprehensive document, long-range in its view; that is intended to guide development in the township for the next 20 to 25 years.

It helps in restricting the haphazard and unplanned growth, arranges the pattern of a town in such a way so as to satisfy the present requirements without introduction of future improvements by the coming generations. It also aims at intelligent and economic spending of the public funds for achieving welfare of the inhabitants in respect of amenity, convenience and health.

On the other hand Master Plan also serves as a guide to the planning body for making any recommendations for public improvement. It removes the defects of uncoordinated physical growth of the various components of a town due to the fact that it considers the entire city area or town as planning and development entity.

To offset the evils which have come up due to over-crowding of population such as acute shortage of houses, traffic congestion, inadequate open spaces and insufficiency in public amenities etc, to incorporate the unforeseen development and arranges the pattern of township and in restricting the haphazard and unplanned growth have lead to the thinking of Preparation of GIS based Master Plan for Doboka town.

1.7 DOBOKA AS A URBAN LOCAL BODY:

Initially, Doboka Town was administered by Dobaka Town Committee and latter it was upgraded to Doboka Municipal Board vide Govt. Notification No. UDD (M) 263/2017/13, Dated Dispur the 11th October, 2018.

At present Doboka Municipal Board consists of 10 Nos. of wards with a jurisdiction area of 3.50 Sq. Km with a population of 13,118 which 6,675 are males while 6,443 are females as per census 2011.

Doboka Municipal Board Office

CHAPTER-2 DEMOGRAPHY

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 enabling 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.

An analysis of demographic features like growth of palpation, its distribution & composition etc. is absolutely necessary to assess the various civic needs like housing facilities, urban infrastructure and other basic services and the amenities. These important aspects of demography both present and future have been thoroughly studied at the time of preparation of Doboka Master Plan.

2.1 GROWTH OF POPULATION:

To better understand the growth of population of the planning area had been calculated from 1971 Census. The population of Doboka town area in 1971 was 5621 and it has increased to 11,058 in 2001 and 13,118 in 2011 as per census of India. The population of Doboka Master Plan area shows a steady growth. Following table shows the growth of population Doboka Town Area as well as the rural area.

Table:2 Trend of Population Growth in Doboka Master Plan Area :

Year	Municipal Area			Rural Area (Excluding Doboka M.B. Area Population)			Total
	Doboka M.B. Area Population	Total increase	Growth rate per decade	Village Area Population	Total Increase	Growth rate per decade	
1971	5621	-		6003	-	-	11,624
1981	7703	2082	37.00	7505	1502	25.02	15,208
1991	8585	882	11.45	9568	2063	27.48	18,153
2001	11058	2473	28.80	15,710	6142	64.19	26,768
2011	**13, 118**	**2060**	**18.62**	**25,142**	**9432**	**60.50**	**38,260**

Source: - Census Data

2.3 Population Characteristics:

Table: 3 Existing population of Doboka Master Plan Area as per 2011 census

Sl. No.	Master Plan Area	Population (2011)	P.C (%)
1	Doboka Municipal Area with 10 wards	13,118	34.29
2.	8 Revenue village	25,142	65.71
	Total Population	**38, 260**	**100 %**

The total population of Doboka Master Plan area as per 2011 census is 38,260 out of which 19,665 were male and 18,595 were female. In municipality area, out of the total population of 13,118, 6675 are male while 6443 were female.

Table: 4 Village Wise Population for Doboka M.P area (Census Year "2011)

(Excluding D.M.B)

SL. No.	Name of Revenue Village	Area in Sq.Km	Area in Hectare	Population Density	Population				
					Total	M	F	ST	SC
1.	Mikir Ati Huagaon	3.25	325.47	1483	4821	2486	2335	184	13
2.	Sutargaon	0.67	67.42	1447	970	491	479	-	8
3.	Nahargaon	1.77	177.51	1417	2508	1298	1210	175	19
4.	Nam Doboka Pather	1.52	152.66	1444	2195	1181	1014	-	-
5.	Nam Doboka gaon	5.96	596.90	695	4146	2151	1995	-	-
6.	Burigaon	1.38	138.34	1206	1665	816	849	-	23
7.	Doboka Pathar	5.80	580.60	1007	5841	3007	2834	-	61
8.	Niz-Doboka	2.88	288.46	1040	2996	1560	1436	12	15
Total		**23.60**	**2360 (H)**	**1065**	**25,142**	**12990**	**12152**	**371**	**139**

2.4 DENSITY OF POPULATION:

The number of population and the size of development of the town or city implies the density of population. Generally, the pressure of population from rural to urban area increases in search of better jobs, educational facilities, source of income, trade and commerce etc. The density of population of Hojai District as per 2011 is 550 persons per Sq Km, where as the density of population of Doboka M.B is 3748 Sq Km. Accordingly, the density of Doboka Village area is 1082 person per Sq.km

Table: 5 WARD wise Population Density of Doboka M.B

Ward No.	Area (Sq. Km)	Population			No. of Household	Population Density (per sq.km)
		Male	Female	Total		
1	0.41	541	491	1032	172	2517
2	0.2	566	541	1107	212	5535
3	0.24	405	396	801	128	3337
4	0.13	365	355	720	151	5538
5	0.38	822	817	1639	262	4313
6	0.23	593	354	1147	227	4986
7	0.26	575	525	1100	197	3807
8	0.21	159	177	336	55	1600
9	0.33	442	397	839	172	2542
10	1.11	2207	2190	4397	799	3961
Total	**3.5**	**6675**	**6443**	**13118**	**2375**	**3748**

Table: 6 Population Density of Doboka Master Plan Area: 2011

Sl. No.	Doboka Master Plan Area	Area in Sq.Km	Population	Pop. Density /Sq.km
1	Doboka M.B Area	3.50	13,118	3748
2	Village Area	23.60	25,142	1065

2.5 SEX-RATIO AND LITERACY RATE

In Doboka M.B, Female Sex Ratio is of 965 against state average of 958. Moreover Child Sex Ratio in Doboka is around 1021 compared to Assam state average of 962.

The population of Children of age 0-6 years in Doboka (M.B) is 2118 which is 16% of the total population. There are 1048 male children and 1070 female children between the ages 0-6 years. Thus as per the Census 2011 the **Child Sex Ratio of Doboka (M.B) is 1,021** which is greater than Average Sex Ratio (965).

Literacy rate of Doboka M.B is 76.73 % higher than state average of 72.19 %. In Doboka, Male literacy is around 81.38 % while female literacy rate is 71.86 %. Population of Children with age of 0-6 is 2118 which is 16.15 % of total population of Doboka (M.B).

2.6 SIZE OF THE HOUSEHOLD:

The 2011 Census shown that more than half of the household in the region were medium sized with an average member more than 5.5 Nos. According to census 2011, the medium sized households (5-5.5) is predominant because of the increasing trends towards nuclear households densely settled and rapid urbanization are at higher rate, there will be considerable pressure on housing in coming future. The overall household size of Doboka Master Plan Area is 5.60, where as the Household size is Doboka M.B is 5.52 and Village areas is 5.65.

Table: 7 Area wise household details Doboka Master Plan Area

Sl. No.	Name of Area	Population	No. of Household	Percentage	Household size
1	Doboka M.B	13118	2375	34.78	5.52
2	8 villages	25,142	4452	65.22	5.65
Total		38,260	6827	100	5.60

(Source: Census of India, 2011 and T& CP Compilation)

2.7 POPULATION PROJECTION FOR THE YEAR 2045:

Population projections are attempts to show how the human population living today will change in the future. These projections are an important input to forecasts of the population's impact on this planet and humanity's future well-being. Models of population growth take trends in human development, and apply projections into the future. These models use trend-based-assumptions about how populations will respond to economic, social and technological forces to understand how they will affect fertility and mortality, and thus population growth.

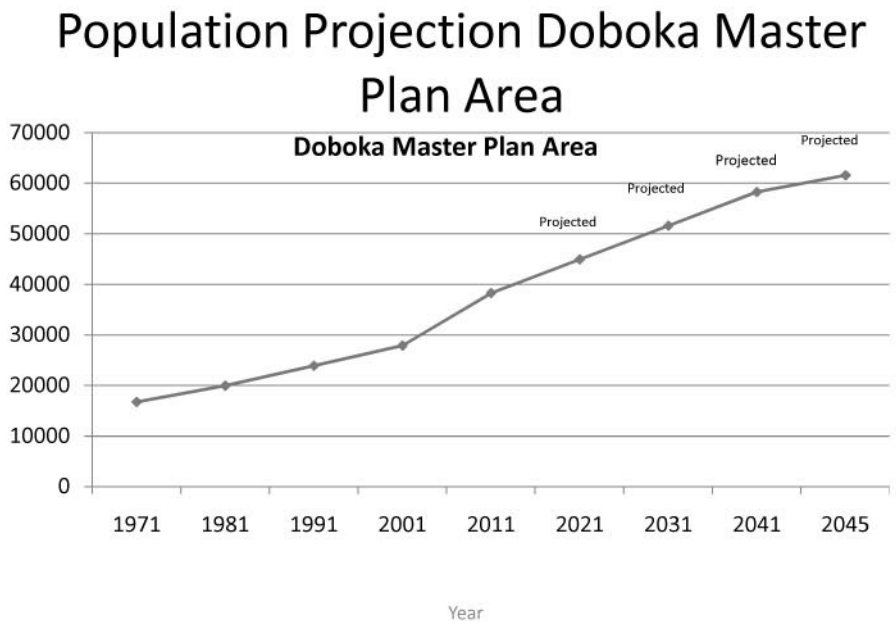
Population projection is a scientific/mathematical attempt to peep into the future population scenario, conditioned by making certain assumptions using data to the past available at the point of time.

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 demography characteristics.

The population projection of Doboka Master Plan area separately for Municipal area and rural area has been done by utilizing the maximum possible accuracy methods like Arithmetic Increase method and Incremental Increase Method to determine the future population which are shown in the table below:

Table 8: Population Projection of Doboka Master Plan Area

Year	**Doboka Master Plan Area**					
	Doboka M.B. Area Population	**Total Increase**	**Growth rate (%)**	**Village Area population**	**Total Increase**	**Population in the Planning Area**
1971	5621	-	-	6003	-	16726
1981*	7703	2082	37 %	7505	1502	19937
1991	8585	882	11 %	9568	2063	23894
2001	11058	2473	21 %	15,710	6142	27873
2011	13,118	2060	19 %	25,142	9432	38,260
2021	14,992 (P)	1874	14 %	29,926 (P)	4784	44,918 (P)
2031	16,866 (P)	1874	14 %	34,710 (P)	4784	51,576 (P)
2041	18,740 (P)	1874	14 %	39,494 (P)	4784	58,234 (P)
2045	19,677 (P)	937	5 %	41,886 P)	2392	61,563 P)



Population projection upto-2045 for Doboka Master Plan Area

2.8 Working population and non-working:

Out of total population of Doboka town, 4,034 were engaged in work or business activity. Of this 3,455 were males while 579 were females. In census survey, worker is defined as person who does business, job, service, and cultivator and labour activity. Of total 4034 working population, 83.59 % were engaged in Main Work while 16.41 % of total workers were engaged in Marginal Work

CHAPTER 3: ECONOMIC BASE AND EMPLOYMENT:

Socio-economic base employment is necessary and important in policy making issues, for the effective development of social policy and for evaluation of the impact of social and economic policies of a city or town.

Doboka has been one of the leading town after Hojai town in International Agar Exportation to Middle Eastern countries, Bangkok, Laos, Singapore etc. Dabaka is one of the developed town of Assam and it ranked 10th position in highest per capita income in Assam. Lower class families are engaged with farming of mostly Rice, Wheat and Sugarcane. Though it has very little land for farming, it has produced huge amount of Rice production. The natural fertility of the soil behind the foothills accelerates the production of farming.

Doboka as a Municipal Town provides various categories of employment related with both formal and informal sector such as Administrative units, Agriculture, Banks and financial institution, Civil Supply, Consumer affairs, Co-operatives, crime and law, economy, education, Health, Housing, industries, insurance, social welfare schemes, welfare, sports and welfare etc.

Employment comprises all persons of working age who during a specified brief period, such as one week or one day, were in the following categories of paid employment (whether at work or with a job but not at work); or self-employment (whether at work or with an enterprise but not at work).

The working- age population is the population above the legal working age, but for statistical purposes it comprises all persons above a specified minimum age threshold for which an inquiry on economic activity is made.

The classification by economic activity refers to the main activity of the establishment in which a person worked during the reference period. The branch of economic activity of a person does not depend on the specific duties or functions of the person's job, but on the characteristics of the economic activity.

3.1 FORMAL SECTOR EMPLOYMENT

Employment based on the formal sector economy is very less than the informal sector in Doboka. Doboka as a Municipal Board and Head Quarter of the Doboka Revenue Circle, people which are regular permanent Govt. employees were found in the Office of Doboka Municipal Board, Doboka Circle Office, Police and Fire brigade Stations, Civil Hospitals, Educational Institutions, Banks and NGO,s and any other Govt. Offices. These employees are permanent and regular based wages.

3.2 INFORMAL SECTOR EMPLOYMENT:

The majority of urban workers in developing countries earn their livelihoods in the informal economy. Therefore, understanding urban informal employment is critical to promoting inclusive cities and reducing urban poverty. But, many cities around the world are actively undermining or destroying urban informal livelihoods. Practices that exclude informal workers from participating in cities are the norm in many parts of the world: there are daily reports of slum and street vendor evictions and unreported harassment of informal workers by local authorities, including bribes and confiscation of goods, on a daily basis.

In response, organizations of urban informal workers are gaining in numbers, strength and solidarity; and are demanding more inclusive urban policies and practices in support of their livelihoods. Over the past year or more, with support from the WIEGO Network, some of these organizations have jointly sought to integrate a focus on informal livelihoods in the policy discussions before and at the Habitat III summit and in the New Urban Agenda document which will be adopted at that summit.

Home-based producers, street vendors, and waste pickers are all age-old occupations in which large numbers of urban workers around the world are still employed, especially in developing countries. Few have secure work; most have low and erratic earnings and few are protected against loss of work and income. Most operate outside the reach of government regulations and protection; yet many are harassed or repressed by the police or other local authorities and excluded from economic opportunities.

Informal Sector is playing an important role in the development for any place or region. The sector is contributing to Gross Domestic Product, employment generation, export of goods and products etc. In Daboka informal employment is more than the formal employment. As Doboka is a trade and Commercial town, most of the people were engaged in informal sector of economic activities, mainly secondary, tertiary and quaternary sector activities. Tertiary sector of economic activities were found along the major roads of Doboka town. Retailers of Grocery products, Vendors (fruits, vegetables, others) both permanent and non permanent, Stationeries stores, Drugs stores, Automobiles parts, Business, Hotels, restaurant, Banking, etc.

Secondary service activities like manufacturing of raw products into finished product. These type of services are also found in Doboka and surrounding area i.e Bricks klin, CC Block Pavement, Cement industry, Agar manufacturing, Rice mill, saw mill, Agarwatti manufacturing etc. Educational intellectual, ITI, Diploma, all these type of activities were falls under the category of Quaternary services.

3.3 OCCUPATIONAL PATTERN:

In census survey, worker is defined as person who does business, job, service, and cultivator and labour activity. The capacity of an urban area to provide variety of jobs, absorb its working population in various sectors of economy is an indicator of the economic viability of the urban area. The participation rate also gives us an idea of the share of gainfully employed persons against the dependent and non-working population. Generally the participation rate in the urban area is high compared to the rural area.

As per census, 2011 the total population of Doboka Master Plan area is 38,260, out of which about 13,456 persons are employed in various sectors. i.e 35.17 %.

In Doboka Municipal Area, out of total population, 4,034 out of which 3455 male and 579 female population were engaged in work activities. 3372 (3046 male and 326 female) workers describe their work as Main Work (Employment or Earning more than 6 Months) while 9084 were Non workers (3220 male and 5864 female). 278 were cultivators while 237 were Agricultural laborers, 54 Household Industry workers and 531 were other workers. Similarly, there are total 8467 workers (6992 M, 1475 F) in village areas, among them 6755 main workers, 4486 cultivators, 1281 agricultural labourer, 166 Household industries, 3250 Other workers, 1712 Marginal workers and 17363 Non Working persons.

CHAPTER 4: HOUSING AND SHELTER

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 play grounds etc. The urban form and character emerges from the quality of housing areas and inter relationship of housing areas with work centre and other non- residential areas.

The urban housing is mainly restricted to within the Municipal boundaries. The residential areas outside the municipal areas are rural housing. Normally the rate of housing spread of town should range between 3-4 hectare per 1000 persons and the rate of housing spread within The Master Plan Area is around 18 Hectare per 1000 persons.

Table:9 Ward wise population distribution and Nos. of households of Doboka Municipal Area as per census 2011.

Ward No.	Population as per 2011	No. of household	Housing size
1	1032	172	6.0
2	1107	212	5.22
3	801	128	6.25
4	720	151	3.4
5	1639	262	4.7
6	1147	227	5.05
7	1100	197	5.6
8	336	55	6.10
9	839	172	4.89
10	4397	799	5.50
Total	**13118**	**2375**	**5.5**

Table:10 Village wise population distribution and occupied residential houses of Doboka M.P. Area.

Sl. No.	Revenue Village Name	Area(in Sq.Km	Area Hectare	Population	No. of Household	Housing size
1	Mikir Ati Huagaon	3.25	325.47	4821	878	5.5
2	Sutargaon	0.67	67.42	970	166	5.8
3	Nahargaon	1.77	177.51	2508	415	6.0
4	Nam Doboka Pather	1.52	152.66	2195	404	5.4
5	Nam Doboka Gaon	5.96	596.90	4146	704	5.9
6	Burigaon	1.38	138.34	1665	288	5.8
7	Doboka Pather	5.80	580.60	5841	1073	5.4
8	Niz Doboka	2.88	288.46	2996	522	5.7
	Total	23.60	2360 (H)	25,142	4,452	5.7
	Total					

4.1 HOUSING CONDITION:

Housing is a major element of people's material living standards. It is essential to meet basic needs, such as for shelter from weather conditions, and to offer a sense of personal security, privacy and personal space. Good housing conditions are also essential for people's health and affect childhood development.

Housing condition includes the study of housing base on type of structure i.e., permanent/ semi- permanent, physical infrastructure, mass space relationship, condition of the material use for walls and floors etc. It is important to be studied because it indicates the efficiency and sustainability of the housing stocks, whether the houses are livable 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 of Doboka Municipal Area comparing with Hojai District.

Table No:-11 Housing condition

Residence (%)				
Area	**Total**	**Good**	**Livable**	**Dilapidated**
Assam	62,72,151	33%	56%	11%
Hojai District	1,30,577	34.8	57.4%	7.9%
Doboka M.B	2148	56.29 %	34 %	9.71 %

Source: Census of India, 2011 and T&CP, Nagaon Compilation

4.2 CONSTRUCTION MATERIAL OF HOUSE:

The survey carried out by Town and Country Planning, Nagaon in 2020-21 and as per Census of India, 2011, it is found that the overall housing condition in the Doboka Master Plan area is quite satisfactory but the distance between nearest settlement neighborhood is very less. The settlement pattern is very compact. Thought the percentage of Good Housing Condition is high (56.29%)but the livable condition household is needed to be upgrade in the Doboka Municipal Area The percentage of R.C.C structure is only confined in the Town area, specially the Market stores, Banks, Hotels along the major roads of the town and also some residential Buildings in the town area. Housing condition in the village areas were basically Livable and semi pucca type.

The following table shows the condition of existing housing stocks of Doboka Plan Area

Table:12 Materials used for roof

Area Name	Total Number of HHs	Grass/ Thatch/ Wood/ Mud	Plastic Polythene	Handmade Tiles	Machine made Tiles	Burnt Brick 27	Stone/ State 28	G.I./ Metal/ Asbestos/ sheets 29	Concrete 30	Any other Material 31
State	62,72,151	18.60 %	2.10 %	0.70%	0.3%	0.1%	0.80 %	74.20%	2.90 %	0.20%
Hojai District	1,30,577	24.1 %	0.2 %	0.3%	0.1%	0.1%	1.6%	70.4%	3%	0.2%
DMB	2148	0.14 %	0.33 %	1.33%	1.33 %	4.25 %	4.32 %	73.46 %	13.84 %	0.00%

Source: Census of India, 2011

Table:13 Materials used for walls

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 sheets38	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%
Hojai District	65.8 %	0.5%	5.1%	2.3 %	1.5%	4%	0.2%	17.4 %	2.7%	0.6%
DMB	49.15 %	4.43 %	5.75 %	2.99 %	8.03 %	2.74 %	0.78	21.22 %	4.22 %	0.79 %

Source: Census of India, 2011

Table: 14 Materials used for 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
Hojai District	83%	0%	1%	0%	15%	0%	0%
DMB	67.24 %	0.23 %	1.36%	4.98%	25,33 %	0.72 %	0.06 %

Source: Census of India, 2011

4.3 AVAILABILITY OF BATHROOM AND LATRINE

As per 2011 Census about 88.8% of households have sanitary latrine and Bathroom and 14.6% of the households have other type of latrine in the Doboka Master Plan Area.

4.4 HOUSING STOCK AND FUTURE REQUIREMENT:

The housing requirement is more in the urban area than that in the rural areas. Almost all people in rural area have got their own house. The total housing stock and future requirement of houses up to 2045 in the Doboka Master Plan Area were calculated based on the city/ town level data on the houseless population and pavement dwellers, the houseless population is derived from the data published as part of Census of India, 2011. The total requirement of dwelling unit in the planning area as per the planning norms is as follows:-

4.5 Housing Requirement for future Population of Doboka Master Plan Area till 2045:

61563-44918=16645 Nos.

Assuming family size of 5 persons, new houses will be required

16645/5 =3329 Nos.

Table: 15 Total housing stock and future requirement of houses:

Sl. No	Area	Total no. of housing stock as per 2011	Housing requirement up to 2045
1	Doboka Master Plan Area	6827	**3339**

CHAPTER 5: TRANSPORTATION

Transportation plays a major role in the daily life of human beings. It is necessary for things to be moved around and as transportation systems have developed over time, the speed and efficiency of these systems have improved drastically.

The importance of transportation is showcased in how individuals, businesses, and governments rely on it to access resources. A society cannot function optimally if it does not have measures in place to facilitate transport. From movement to work to travel around the world, being able to arrive at various places or deliver different items on time is vital for overall productivity and sustainable development.

In consideration of healthy growth, economic prosperity and improved living standards of a town or a city, a high- quality transportation network is essential. In addition, transportation and land use are to be integrated to achieve reduction in trip length, increase in public transports usage etc.

5.1 TRANSPORTATION NETWORK:

5.1.1 Regional Connectivity of Dokoka:

Doboka is well connected to Assam major cities like Nagaon, Guwahati, Hojai Diphu, Silchar, through PWD roads to State highways via National highways which further connects to rest part of Assam in particular and India as a whole.

5.1.2 Interstate Connectivity from Doboka:

Doboka is connected to major cities of Assam and other state of India by road. Table manifests the time taken (in hrs) and distance (in km) from Doboka to important cities of Assam and other state by different modes of transportation.

Hojai is the nearest major city and district headquarters, from which covers minimum distance i.e. 18 km. From state capital Guwahati to Doboka it covers a distance of 153 km. Other, important cities of different states capital like Kohima, Imphal, Shillong, Silchar, Dibrugarh, Jorhat, Tezpur, Itanagar etc, which takes approx. minimum 12 hrs by road.

Table: 16 Connectivity from Doboka to other state regions.

Connectivity from Doboka	Distance (KM)	Time (hrs.)	
		By Road	
Nagaon	36.9	43 mins	
Guwahati	153	2 hrs 51mins	
Kohima	198	4hrs 39 mins	
Imphal	332	8 hrs 52 min	
Shillong	213	4 hrs	
Silchar	252	8 hrs 16 min	
Dibrugarh	352	8 hrs 8 min	
Jorhat	214	4hrs 30 min	
Tezpur	87	1 hrs 50 min	
Itanagar	153	3 hrs 45 min	

5.2 NETWORK OF ROAD:

Roads are part of urban and rural infrastructure. These roads are required for both intra-city and intercity movement and render much higher level of service compared to Regional Roads, State Highways and National Highways. Quality of life is depends on efficient and effective road system, of course, with the support of other infrastructural services such as water supply, sewerage, drainage, electricity, telephones etc. in order to perform social, economical & cultural activities.' Urban transportation network is required to facilitate movement of people and goods and therefore efficient network is necessary for their efficient movement.
Importance of Urban roads is increasing on account of the fact that urban areas are increasing in their size and number.

5.3 INTERCITY CONNECTIVITY (From Doboka):

Doboka has the intercity connectivity by road. The table below shows to various modes of transportation and its connectivity with the nearest cities.

Table: 17 Modes of transportation and its connectivity with the nearest cities/ towns.

Urban centers from Doboka	Distance (km)	Duration (In hrs)	
		By Road	
Lumding	62.6	1 hrs 5 min	
Lanka	26	30 min	
Hojai	18	26 min	
Nagaon	36	44 min	
Raha	53	52 min	
Jamunamukh	32	17 min	
Boithalangso	52	1 hrs 15 min	
Hamren	66.6	2 hrs 13min	
Morigaon	75.3	1 hrs 19 min	
Diphu	95	1 hrs 57 min	
Chaparmukh	57.5	59 min	

Table: 18 Road Lengths (in Km) of Doboka M. B. Area

Total Length	Surfaced			Un-surfaced		
	Black tapped	Gravel	Paver Block Road	Motor able	Non Motor able	
8-9 Km (approx.)	3	1	4	8	0.5	

Table:19 Road connectivity and Distance:

Sl. No.	Road type	Connectivity	Distance
1	National Highway-27	Doboka Town to Hojai Sankar Dev-Nagar	18.5 Km
2.	Via NH-27 and NH-329	Doboka Town to Diphu	95.8 km
3	PWD Road, Doboka Jamunamukh Road	Doboka Town to Jamunamukh	12. km
4	NH-29	Doboka Town to Akashi Ganga picnic spot.	12.4 km
5	NH-28 and State Highway -18	Doboka to Boithangso	52.2km
6	Doboka Main Road	Dobaka town to Mahamaya Than	0.9 Km
7	NH-29 and Howraghat and Parokhowa Road	Doboka Town to Howraghat	29.9 Km

Source:- Doboka Municipal Road

5.4 OVERVIEW OF CRITICAL ROADS:

The identification of critical road links is greatly important to the management and control of the transportation system. Existing works fail to fully consider the influence of the distribution of traffic flow and its dynamic characteristics on critical road link identification.

The study of critical roads mainly depends upon several factors like traffic conditions, road geometry characteristics, environmental factors etc. Field traffic surveys were carried out to capture the classified volume count for major arterial, sub-arterial and collector roads spread across Doboka Town. Based on the field survey data and traffic volume survey conducted by the T&CP, Nagaon at some major points were ascertained during peak hours. The critical roads in Doboka town as mentioned below:-

Table-20 Critical Roads of Doboka Municipal Board

Sl.No.	Critical Roads	Length	Overview
1	Doboka Main Road	0.9 Km (appox.)	Connects S.B.I interjection and Mazjid Road near Marun Tower Passes through Heart of the Town and always Busy.
2.	Diphu Road	1.11 Km (approx.)	Connects M.G Road, Mondol Road and join Bye-Pass NH-27, One of the busiest Raod of Doboka Town.
3.	College Road	0.99 Km (approx.)	One of the important Raod od Doboka Town connects Doboka main Road near Ambari and joins at BSNL office.
4.	Thana Raod	0.95 Km (approx.)	Always Busy starts from Jame Mazjid and connects college Road.
5	Mazjid Road	1.83 Km (aprox.)	It starts near Marun Tower and connects Rajbari Roads.

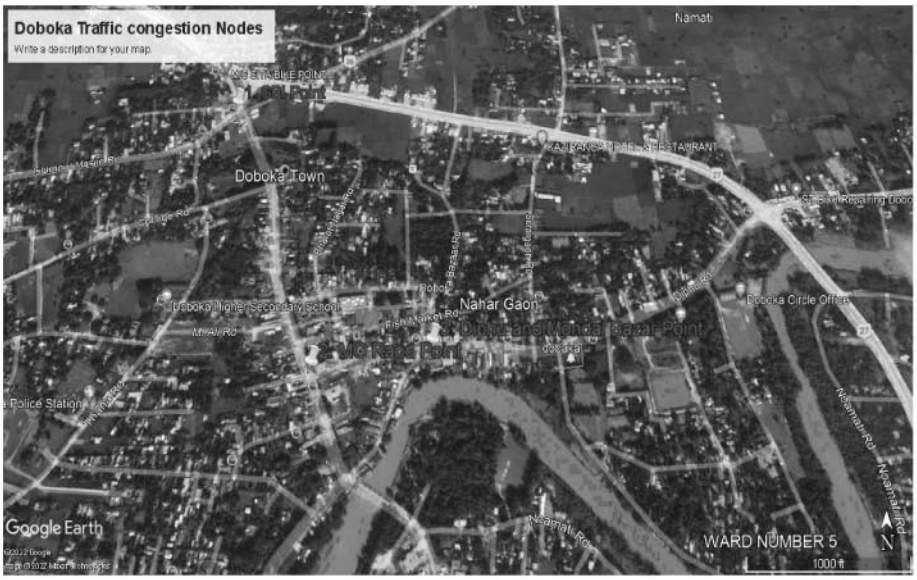
Critical Roads of Doboka Town Area

5.5 ANALYSIS OF TRAFFIC NODES:

Table-21 The major traffic nodes in Doboka identified which are detailed as below:-

Area	Location of point	Description
Doboka Town Area	(i) Near State Bank of India, Doboka	It's an inter-junction of Road between Doboka Main Raod and Islampur Mazjid Road. Traffic congestion point due to different shops, Automobiles, schools, Banks etc.
	(i) Mahatma Gandhi Road point	It a fully busiest daily Market with Banks, ATM,s Mechanic Workshop, Garages, Communications way to Diphu Raod
	(ii) Diphu Road and Mandal Bazar Road point	It is an important traffic intersection and transfer point and consists of commercial and business activities, Mandir and entry Doboka M.B and way to Mandal Bzar Road.

Source:- Doboka Municipal Board



Traffic Congestion Roads of Doboka Town Area

5.6 BUS AND TRUCK TERMINUS:

Public and Private Bus stands are mostly temporarily located at along the main road sides of Doboaka town which causes the traffic congestion and traffic hindrance. There is no any permanent bus stand at Doboka Town, however there are some stoppages were people catch vehicle for their destination. Doboka Municipal Board is planning to construct a Bus Terminus and Truck Terminus covering 11 Bigha of Land area at Ward No-10.

5.7 TRAFFIC VOLUME SURVEY:

The traffic volume survey conducted by the T&CP, Nagaon only at some main points and it is restricted only to peak hour survey from 08:00 a.m to 10:00 a.m, 11:00 A.M to 12:00 P.M, 12:00 P.M. to 01:00 P.M. identify better and efficient traffic operation plan. The following table shows the traffic volume of the main points within Doboka Town.

1. MAIN BAZAR POLICE POINT:

Sl. No.	Vehicle	Number	Time/Date
1	Bus	07	11:00 A.M
2	Tempo	15	
3	Rickshaw	03	
4	Thela	07	
5	Bicycle	50	
6	Truck	06	
7	J.C.B	01	
8	Bike	74	
9	Tractor	01	
10	Car	40	
11	E- Rickshaw	25	
12	Magic	13	
13	Tata Mobile	20	
14	Soil Truck	03	

2. Diphu Road Point :

Sl. No.	Vehicle	Number	Time/Date
1	E- Rickshaw	20	12:00 P.M
2	Tempo	15	
3	Rickshaw	04	
4	Thela	09	
5	Bicycle	51	
6	Truck	03	
7	J.C.B	02	
8	Bike	61	
9	Car	36	
10	Magic	11	
11	Tata Mobile	26	

3. Mahatma Gandhi Road point:

Sl. No.	Vehicle	Number	Time/Date
1	E- Rickshaw	21	01:00 P.M.
2	Tempo	17	
3	Rickshaw	07	
4	Thela	08	
5	Bicycle	39	
6	Truck	09	
7	J.C.B	02	
8	Bike	73	
9	Car	28	
10	Magic	11	
11	Tata Mobile	16	
12	Soil Truck	07	
13	Tractor	01	
14	Dumper	04	
15	Bus	02	

Source:-T&C.P, Nagaon Survey

5.8 PARKING:

Vehicle parking is a major problem in urban areas. With rapid growth of the urban area, the parking generation rate goes on increasing very quickly which creates major problems of parking in most of the urban areas. In the recent years, with the rapid development of economy and exorbitant increase in the motor-vehicles, parking problems in urban area have become increasingly prominent.

On street parking is found all over Doboka Town, parking usually spills over to other use areas like road carriageway and footpaths, open spaces. In turn they affect safety and environmental quality. Parking characteristics within the town vary by areas, by land use activities and by time period. In residential areas it is by time period.

At present there is no municipal identified parking area designated for public and private parking within Dokoka town as well as Planning Area. As per parking survey conducted by the Town and Country Planning, Nagaon it is observed that on street parking is found all over Doboka town.

On- Street parking is observed to be high on M.G Road, Diphu Road, College Road, Thana Road.On Street parking at different places of Doboka town are observed as below:

On street illegal parking alongside Diphu Road

5.9 MAJOR ACCIDENT PRONE AREA:

As per records available from the Doboka Municipal Board ,there are frequent accidents are being happened in Town due to non traffic signal points and un controlled speed of the vehicles. Major accident prone areas of Town are mentioned as below:

1. Diphu Bye-Pass
2. Near S.B.I Point

5.10 TRANSPORTATION ISSUES AND REQUIREMENTS:

5.10.11 ILLEGAL VENDING ZONE:

- One of the major issues is of illegal vending on walking shoulders on the main streets.
- Due to illegal vending sometimes the actual accessible patch of road decrease to half lane only.
- If proper spaces are being allocated to street vendors in every zone the issue can be eliminated.
- Due to illegal possession of shoulders the pedestrian come down to road for their local trip and some time proves unsafe on congested area.
- Narrow road network with restricted capacity, particularly due to the illegal vending, resulting in congestion and loss of productivity.
- The problematic areas include intersection points between MG Road-Diphu Road, Diphu Raod-Mondal Bazar Road and S.B.I intersection point.

The photographs below depict the current scenario of the illegal vending zones which restricted the capacity of road resulting lead to congestion.

Illegal Vending alongside the road of Ward No-4 at Doboka Town

5.10.2 TRAFFIC CONGESTION:

- Traffic congestion is quite common in Doboka Town and it takes a lot of time to commute for the commuters.
- At many places geometry of the town is very less as they have not followed any norms and standards for the road pattern as well as for other related things like road cross sections and railway level crossing etc.
- Observed encroachments on the footpath by vendors, which acutely rise the traffic congestion between include intersection M. Road-Diphu Road, Intersection point between Diphu and Mondol Road, S.B.I intersection points.
- Many vehicles, due to lack of adequate parking facilities, were parked on the Doboka Main Road bazaar road, Thana Road, College causing inconvenience to people who use the field for recreational purpose like walking and playing and people had to face inconvenience as that road leads to many importance place like Higher Secondary School, Police Thana, Doboka CHC, Mazjid etc.

The highlighted light green dots on map within town area shows the frequent congested road patches.

5.10.3 ROAD ENCROACHMENTS:

- Many factors can be listed out for such happenings, but few observations are mentioned below, which are
- Unauthorized parking of vehicle on pavement only.
- Many spots with exposed electric poles on pavement sides which leads to make space dead and potential for parking wheels.
- The town suffers from parking problems due to encroachment by vendors on road and off-street parking. As a result, the road width decreases and there is no space remaining to pass the vehicles or to give space to other vehicles.
- There is no designated space for parking in whole town,
- Due to lack of space, it is difficult for vehicles to pass on.
- Also, Proper facilities are needed for loading, uplifting, and downloading.
- Encroachment on both sides of the road decreases the effective width which may cause road accidents and disturbs the smooth flow of traffic.

5.10.4 TRAFFIC SIGNAL POINTS:

There are no organized traffic signal points in Doboka town. Various junctions without traffic signals are there in the town area like- S.B.I point Doboka, MG Rd-Diphu Rd., Diphu-Bye Pass

CHAPTER 6: INFRASTRUCTURE, PUBLIC UTILITIES & SERVICES

The development pressure on towns and cities is increasing with the rising urban population and growth of urban areas. The development of cities in itself is dependent upon the public infrastructure services. The creation of urban infrastructure is expensive and time consuming. Therefore it requires the Government to play a major role in making lumpy investments.

A country's economic and social development is directly dependent on a country's infrastructure. Many developed countries make a lot of progress because of the enormous growth of economic and social infrastructures. A good infrastructure makes the work process easier, resulting in a positive and high productivity.

Urban infrastructure development is the foundation of every city and remains the key to ensuring basic services like water, sanitation, drainage, energy, and transport. With proper and planned urban infrastructure development, residents can enjoy better living conditions & live healthier lifestyles while benefiting from enhanced environmental sustainability.

Social Infrastructure is a subset of the infrastructure sector and typically includes assets that accommodate social services like Health, Education, Housing, Civic and utilities, Transports etc.

6.1 SOCIAL INFRASTRUCTURE:

Social infrastructure plays and important role to provide quality of life to the residents of the city. The effectiveness of social infrastructure in achieving the objective of city development plan would depend upon its capacity to contribute to improvement in the quality of life, enhanced self-dependency and city's sustainability. The level of social infrastructure shall aim the creation of liveable city through reducing the sense of alienation among the residents with less dependence on other settlements for basic infrastructure.

Social infrastructure refers to the facilities and mechanisms that ensure education, health care, community development, and social security, recreational and social welfare. The development cannot be looked at in isolation without considering the basic needs of the people, and a significant level of investment is needed in this sector. Usually this development referred to as the commitment towards realizing the vision of the city.

6.1.1 EDUCATION

Education is an important factor influencing the quality of life of the people and future development of an area. It empowers them with skills and knowledge and helps them to better lead their life and access best of the employment opportunities available in the market. This is turn will impact the work force participation rate and economy of the area. There are many government and private schools, colleges in Doboka town. The existing scenario of Primary, Middle school and Higher secondary school and Govt. and private Colleges in Doboka area is shown in the table given below:

Table:22 Educational Facilities available in Doboka Master Plan Area

Sl. No.	Category of Educational Institutions	Institutions in DMB Area	Institutions in Village Area	Total Number of Institutions	Enrolment	Teachers
1	Lower Primary Schools	5	17	22	2765	83
2	Middle School	5	10	15	2034	63
3	High School	3	Nil	3	836	26
4	Higher Secondary School	1	Nill	1	864	22
	1) College	2	Nill	2	854	37
	2) Junior Colleges	3	1	4	1256	73
	3)B.Ed College	Nill	Nill	-	-	-
	4)Commerce College	Nill	Nill	-	-	-
	5) Law College	Nill	Nill	-	-	-
	6) Homeopathic	Nill	Nill	-	-	-
	7) Polytechnic	Nill	Nill	-	-	-
	8) I.T.I	Nill	Nill	-	-	-

Source: Inspector of Schools, Elementary and Higher education

Md. Haji Anfar Ali College Doboka

6.1.2 HEALTH:

The medical facilities in Doboka town are not sufficient to the needs of the demand of the peoples. Doboka CHC 30 beds civil hospital including maternity section has been providing the medical facilities to the peoples of Doboka area. In addition, one private Hospital namely-Doboka Life care Hospital provides Health provides health facilities to the entire planning area. Therefore Doboka CHC Hospital is always over crowded with patient and needs its immediate expansion.

6.1.3 WATER SUPLLY:

In Doboka town, piped water is supplied to a section of the people by PHE Deptt, Hojai and rest of the population depends upon individual source of water like ponds, ring wells and tube wells. The underground water reserve of the town is in a satisfactory condition hence it is felt that there will not be shortage of water for distribution in the town. Besides this Jamuna river is passes near the town from which water can be trapped for distribution if required in future for the projected population.

At present, there are about 623 household get tapped water from treated source, 63 Household from untreated source, 20 Household as covered well and 22 has uncovered well, 2372 Hand pump, within Doboka Municipal Area.

6.1.4 POLICE STATIONS:

The whole Doboka Master plan Area is controlled by Doboka police station which is located in the heart of the Doboka town.

6.1.5 TRADE AND COMMERCE:

The Commercial activities in Doboka Town have potential for growing like other towns of Hojai District. As per data available from the Doboka Municipal Board the total No. of retail shops in the Town Area is 1246 units and 51 No. of wholesale units.

There are several daily markets in the town along the major road of Doboka town for shopping for various items, 1 fish market, and 1 cattle market. Following table depicts the commercial activities in Doboka Town.

Table: 23 Data regarding Trade and Commerce within Doboka Municipal Area:

Sl. No.	Type of business Units	Nos. of business Units	
		Wholesale	**Retail sale**
1	Grocery	12	155
2	Cloth	10	175
3	Medicine	4	34
4	Cycle shop	-	10
5	Hardware(cement dealer)	-	2
6	Electrical shop	-	45
7	Radio & T.V	-	10
8	Fruit shops	1	2
9	Egg shop		
10	Jeweler	-	40
11	Hardware	-	25
12	Rice	2	5
13	Motor tyre dealer	-	5
14	Fertilizer	1	5
15	Optical shop	--	1
16	Meat shop	-	3
17	Timbers	-	5
18	Radio & Sewing machine	-	
19	Diary	-	2
20	Scooter & Motor cycle dealer	-	5
21	Book stall	-	10
22	2nd Hand two wheeler showroom	-	5
23	2nd Hand four wheeler showroom	-	10
24	Pan shop	3	100
25	Shoe shop	-	50
26	Stationary	-	100
27	Utensil	-	10
28	Mobile shop	3	20
29	Industry	-	10
30	Mobile Repairing	-	70
31	Vegetable shop	12	60
32	Tea stall	-	40
33	Hotel & Restaurant	-	25
34	Motor parts shop	-	55
35	Garage	-	37
36	Battery shop	-	13

37	Black smith shop	-	9
38	Fish shop	7	24
39	Beauty Parlour	-	5
40	Barber shop	-	15
41	Banks	-	3
42	Furniture	-	33
43	Gas agency	-	1
44	Nursing Home	-	1
45	Dry fish	-	10

Source:-Doboka Municipal Board

6.1.6 CREMATION /BURIAL GROUND:

There are 1 cremation grounds and 2 (Two) burial grounds and 1 Kabarstan in each of the Revenue Village.

6.1.7 FIRE STATION:

The entire Doboka Master Plan Area is covered by one fire station located at Ward No-6 to take care of fire hazards.

6.1.8 POST OFFICE:

There are 2(two) post office within Doboka Master Plan area, one is within Doboka Municipal Area and the another is out side Municipal Area serves the Doboka Planning area .

6.1.9 BANKS/FINANCIAL INSTITUTIONS:

The entire planning area is served by only 4 nos. Banking institution located within the Municipal area, which is not sufficient to serves the planning area.

The banks located within the planning area are shown in the table below:

Table: 24 Banks in Doboka Municipal Area:

Sl. No.	Name of Banks	No. of banks
1	STATE BANK OF INDIA	1
2	HDFC BANK	1
3	CENTRAL BANK OF INDIA	1

6.1.10 RECREATIONAL FACILITIES:

The Following table depicts the available of recreational facilities in the Doboka Municipal Area as well as the Planning Area.

Table: 25 Recreational facilities within Doboka Master Plan Area:

Sl. No.	Recreational facilities	Nos. along with Name and Location
1	Parks	--
2	Playground	--
3	Stadium	Nehru Stadium (Near Doboka, H.S school
4	Library	--
5	Museum	--
6	Cinema Hall	--
7	Public Auditorium	M.A.J.C Memorial Hall (Private)
8	Swimming Pool	

Source: Doboka Municipality Board

6.2 DRAINAGE SYSTEM:

With the rapid urbanization as well as the expansion of the area of Doboka town, the existing drainage facilities are not sufficient to the needs of the demand of the people. Most of the new residential areas have grown without having drainage facilities. The existing drains both side of the road do not have proper slopes or not properly linked up with the main drains and the alignments of the natural drains are also not properly defined, resulting in water logging at different areas of the town, mainly during the heavy rainy season (June to October) most of the busy roads in the residential area of Doboa town is inundate with the stagnation of rain water.

As the Jamuna River passes near the Doboka town, a major part of the storm water generated in the town flowed out to the Jamuna River. During the rainy season when the Jamuna River is increase in volume than it is not in a position to discharge the rain water and consequently all the low-lying areas within the town causing flood.

6.3 SEWERAGE SYSTEM:

At present there is no sewerage system in Doboka town as well as in the planning area. The mode of disposal is through the septic tanks with soak pits arrangement. Most of the families day to day washables dirty water and the bathroom water is disposes in own soak pits. Some of the families washable water discharge is into the open municipal drains. Almost all the holdings in the town have individual septic tank. There are no dry latrines.

6.4 STROM WATER DRAINAGE:

The existing natural storm water drains in Doboka town are not properly defined and is slow being encroached by the growing population. Presently road side drain carries the rain water. Below table shows the length of drains.

Table: 26 Storm water Drain/Drain (In Km)

	Total Length	**Pucca Drain**	**Kutcha Drain**
Storm water Drain	NA	NA	NA
Drain	9-8 (approx.)	9-8	NA

Source: Doboka M.B

6.5 SOLID-WASTE MANAGEMENT:

The collecting, treating, and disposing of solid material that is discarded because it has served its purpose or is no longer useful. Improper disposal of municipal solid waste can create. Unsanitary conditions and these conditions in turn can lead to pollution of the environment and to outbreaks of vector-borne disease that is, diseases spread by rodents and insects. The tasks of solid-waste management present complex technical challenges. They also pose a wide variety of administrative, economic, and social problems that must be managed and solved.

The management of municipal solid waste is one of the main functions of all Urban Local Bodies (ULBs) in the country. All ULBs are required to meticulously plan, implement and monitor all systems of urban service delivery especially that of municipal solid waste. With limited financial resources, technical capacities and land availability, urban local bodies are constantly striving to meet this challenge.

As per data received from Doboka Municipality Board total waste generated per day in Doboka town is approximately 2-2.5 metric tons and collects about 2 tons (65%) from various source like households, commercial establishments , hotel, marketplace, drain cleaning and street sweeping, construction waste etc. Presently, following table depicts the nos. of vehicles and other equipments used for solid waste management system by the Doboka Municipality Board. Dumping Ground for 11 Bigha within town area at present used by Doboka Municipal Board.

Table: **27** Vehicles and other equipments used for solid waste management system.

Sl. No.	ITEM	NUMBER
1	Roller	--
2	Tractor	--
3	Tempo van	--
4	Rog Machine	--
5	Tripper	2
6	Mini JCB	1
7	Water tank	--
8	Hydraulic Dustbin	--
9	Auto Tripper	1
10	Safai Kormosari	19

6.6 SLUM:-

In Doboka town, there are 12 Nos. of identified slum pockets at Ward No-1 and 6.

Source:- Doboka Municipal Board

CHAPTER 7:

ENVIRONMENT AND CITY BEUTIFICATION PLAN

7.1 Description of eco-friendly areas like water bodies; beels; forests; and also heritage areas

Environment friendly processes, or **environmental-friendly processes** (also referred to as **eco-friendly**, **nature-friendly**, and **green**), are sustainability and marketing terms referring to goods and services, laws, guidelines and policies that claim reduced, minimal, or no harm upon ecosystems or the environment. Companies use these ambiguous terms to promote goods and services, sometimes with additional, more specific certifications, such as ecolabels. Their overuse can be referred to as green washing. To ensure the successful meeting of Sustainable Development Goals (SDGs) companies are advised to employ environmental friendly processes in their production.[5] Specifically, Sustainable Development Goal 12 measures 11 targets and 13 indicators "to ensure sustainable consumption and production patterns.

The International Organization for Standardization has developed ISO 14020 and ISO 14024 to establish principles and procedures for environmental labels and declarations that certifiers and eco-labellers should follow. In particular, these standards relate to the avoidance of financial conflicts of interest, the use of sound scientific methods and accepted test procedures, and openness and transparency in the setting of standards.

7.2 Eco-Friendly areas of Doboka:

7.2.1 **Jamuna:-** Jamuna River is originated in the Kaunbaman Hills of the green hilly districts of Karbi-Anglong. Initially it is known as chota Jamuna and merges with Langmelt nadi and other streams near Laitul and took the name Jamuna. After travel through hilly regions, it enters the plain area near Manja. During its course Jamuna river flows through many places like charpo teron, Manja, Majhgaon etc. Then it enters Langnit and kaki reserved forest and again flows through Hathipuragaon, shitalmari, Haoraghat, Jamaunagaon, Doboka, Baliramgo etc. and finally merges with kopili River.

After crossing NH-36 near Doboka town, it reaches Bhaluwat and now jamuna River divide into two parts. One part flows North West direction and takes the name Batamari. Another flows in south west direction as Jamuna river and takes Dimaru river near Bhadreswari. This stretch crosses railway line near Majgaon and merges with Kopili River in Jamunamukh. The stretch between valuwati and jugijan merging point of Jamuna and Dimaru became dry and only become active in monsoon season.

Jamuna River at Doboka

Issues

(a) Flood:-

Flood is one of the issues of Doboka region. According to the Assam State Disaster Management Authority (ASDMA), nearly 95,000 people have been affected in Hojai district along with the Doboka Circle. Jamuna River during monsoon season inundated areas of Doboka circle in Hojai district mostly village area, low lying area, pather etc. In 2004 flood even disrupting road communication between Doboka and Diphu road.

(b) Mining:-

Mining of sand took place in River Jamuna at Doboka. Although main flow of the Jamuna River is not flown through the mining area but in monsoon season some amount of transported mineral (sand) is transported by the flow of river water. Excessive sand mining can **alter the river bed, force the river to change course, erode banks and lead to flooding**. It also destroys the habitat of aquatic animals and micro-organisms besides affecting groundwater recharge. Mining contributes to erosion, sinkholes, deforestation, loss of biodiversity, significant use of water resources, dammed rivers and ponded waters, wastewater disposal issues, acid mine drainage and contamination of soil, ground and surface water, all of which can lead to health issues in local and regional level.

(c) Acid contamination due to open cast mining threatens viability of lower course of the river.

(d) Ground water depletion in downstream areas in lower course of the river.

(e) Environmental issues.

Impact assessment and Strategies:

(a) The Environment Impact Assessment should be done to mitigate damaged controlled of flood of River Jamuna.

(b) There should be a detail analysis on the impact of changing silt flows downstream from de-silting chamber, from silt flushing in monsoon, on the downstream areas. And also detailed account of how the silt from the dam will be flushed out annually and what will be the impact of this in the downstream.

(c) Environment impact Assessment also includes a study on the impacts of mining on the people as well on the local environment and thorough analysis regarding ground water depletion and existing wetlands, watercourses and other water bodies in the region. Necessary steps should be taken for the management and conservation of the wetlands, Beel, etc so that degradation of the bio-diversity can be controlled.

7.2.2 Deori jaan:-

A **stream** is a continuous body of surface water flowing within the bed and banks of a channel. Depending on its location or certain characteristics, a stream may be referred to by a variety of local or regional names. Long large streams are usually called rivers, while smaller, less voluminous and more intermittent streams are known as streamlets, brooks or creeks, etc.

The flow of a stream is controlled by three inputs – surface runoffs (from precipitation or meltwater), daylighted subterranean water, and surfaced groundwater (spring water). The surface and subterranean water are highly variable between periods of rainfall. Groundwater, on the other hand, has a relatively constant input and is controlled more by long-term patterns of precipitation. The stream encompasses surface, subsurface and groundwater fluxes that respond to geological, geomorphologic, hydrological and biotic controls.

Deorijaan is small stream or rivulets originates from the nearby Hilly tract of Doboka region an passes throw the main town ward no-1, 2, 3, 6, 8, 10 of Doboka town. This small stream has been almost polluted by the garbage disposal, plastics, sewerage of the Municipal Area. The stream dried up in the winter season and flow of water increases by the time of monsoon. Earlier, this small stream has been a name for its natural beauty for the local masses. Water of the stream is also used for drinking and other domestic uses. At present, this beautiful stream has been neglected from proper management and conservation. By Proper management and conservation, this small stream should be recycling again for proper utilization.

Deorijaan at Doboka

7.3 Historical sites or a Place:

A historic site or heritage site is an official location where pieces of political, military, cultural, or social history have been preserved due to their cultural heritage value. Historic sites are usually protected by law, and many have been recognized with the official national historic site status. A historic site may be any building, landscape, site or structure that is of local, regional, or national significance. Usually this also means the site must be at least 50 years or older.

As Doboka is ruled by several kingdoms in different time, it has immense historical significance. In Doboka town and its surrounding area, there are so many Archeological site having historical importance and significance. Among them are Akashiganga Archeological site, Na-Nath Archeological site, Gachtal Archeological site, Mikirati Archeological site etc.

7.3.1 Regional Level Heritage:

Conservation of Buildings, Artifacts, structures, areas, and Precincts of Historic, aesthetic, architectural, cultural significance will fall under the norms prescribed by the ASI, would need redevelopment and redesign without hampering the fabric of area. Following are the tangible and intangible identified heritage site which falls under the regional and local context.

(1) Akashiganga Archaeological site, Parokhowa, Doboka

Remains of about three temples exist at Akashiganga Archaeological Site. Akashiganga is a rocky spot on a stream surrounded by forests. The beauty of the site is enhanced by a waterfall locally called Akashiganga and this waterfall serves as a natural picturesque background for the temple ruins. A large section of the stone temple remains have been shifted to an archaeological park and a site gallery installed nearby. Besides numerous fragments, carved temple relics, other evidence of the site include stone pillar capitals, some with carvings, *amalakas*, door frame, doorsills and jambs, pedestals, horizontal lotus moulded architraves and*angasekharas* of temples. Figures of Ganas, dancing ganas and floral designs are also to be found here. It is 12.5 Km from Doboka Town.

The ruins indicate the existence of a Siva temple in the site. Its unique natural beauty, hilly topography and forest attract people and the site remains a place for recreation over the ages.

Archeological site of Akashiganga

(2) **Mikirati Archaeological Site, Dabaka**

This site is 3 km away from Doboka town. Mikirati Archaeological Site has at least ten brick mounds containing evidence of brick temple structures in them. One such brick mound unearthed in the years 2005-06 reveals the brick-built plinth of a temple with a *pranala*. The evidence is datable to c. 700 – 800 AD. The other brick mounds remain yet to be explored.

The site has evidence of a stone temple. The stone sculptures and temple relics of Mikirati display a lingering trend of Indian Classical Art. Native cultural belief and practices also manifest in the expression of art. A temple plinth with its *mandapa* and *garbhagrha* with a *linga* and *yonipith* are found here. These pieces of evidence point towards the development of a stone temple architecture since 10^{th}-11^{th} century CE.

Mikirati Archeological sites near Doboka

(3) **Gachtal Archaeological Site, Dabaka**

Gachtal Archaeological Site has two stone temples dedicated to Siva. There is evidence of a*garbhagrha* and *mandapa* with at least four doorways. The carvings on the door lintels and jambs consists of Ganesa, worshippers, a figure of Siva standing with a rosary in the right and a trident in the left hand, water vases flanked by vyalas, elephants, flowers, foliage, animals, twisted serpents and vases placed on *amalaka*. Figures of Saivite characters such as doorkeepers holding *sula* and *pasa* are notable. The evidence indicates development of stone temples at the site during 10 -11th century CE. A stone inscription datable to c.1200-1300 CE has been recovered from this site.

Gachtal Archeological sites near Doboka Town

(4) **Na-Nath, Archaeological Site, Kenduguri, Near Doboka**

This is situated at distance of 31 Km from Doboka Town, an old water channel to the west of the Rajbari and Sankhya Devi Archaeological Sites. The site has eight brick temples divided in symmetrical plan facing each other in two lines. The temple structures have components of stone pillar posts, bases, door jambs, doorsills, Siva linga and Yonipith.

This group of brick-built temples is unique in Assam for these structures have been found embellished with terracotta plaques laid horizontally on the outer face of the walls. The variety of representation includes diverse aspects of nature, figures of gods and goddesses, human and animal figures, floral designs, scenes from public life, religious life and other aspects -all carved to decorate the brick temple walls.

Such decorative arrangement in walls of temples as seen at Nath Archaeological Site recalls artistic development of temple architecture during the Gupta period. Judging by the style, these pieces of archaeological evidence at Na-Nath can be dated to c.800 CE. The eight brick built Siva temples with one at Kenduguri nearby make altogether nine temples for which the site is known as Na-Nath.

Na-Nath Archeological sites

7.3.2 Local level Heritage:-

True to its historical importance, Daboka is marked by the presence of several ancient temples and monuments Rock carved statues of Siva, Bishnu and Laxmi have been excavated at **'Math-ban'** near Daboka which has its importance in local level also. Mahamaya Than is also one of the ancient Than located near Doboka Town.

Moha-Maya Than, Doboka

Issues:

(a) **Dilapidated condition of structure: -** Most of the Heritage Structure is in dilapidated condition due to the unavailability of conservation, restoration and preservation practices. These structures need periodic preservatory treatments in order to enhance their cultural and Historical life for coming generations.

(b) **Unavailability of infrastructure and services:** There is an absolute absence of proper infrastructures and services in the immediate areas around the possible Archeological sites as well as tourist spots surrounding Doboka. The basic amenities also lack at these places which have to be planned accordingly.

(c) **Absence of Monitoring:** There is no nodal body responsible for periodic monitoring of the Archeological structure around Doboka. Such nodal bodies are too constituted in order to provide proper jurisdiction to such capable heritage areas so that there's no threat to them in future.

(d) **Lack of awareness among Public:** The Citizens are unaware about the cultural assets owned by them and they are to be made aware in order to have proper public participation in order to preserve such important historic sites. Public participation is an out most important aspect for the conservation of any site.

(e) **Absence of legal Plan:-**There is an absence of a visionary master Plan available specifically for the Archeological sites in around Doboka. Such important sites require a separate space in the administrative framework of the authorities in the legal document which has been prepared after consulting proper stakeholders and experts.

(f) **Documentation of Heritage structure:** The heritage structures of Doboka Region are not documented till date. There is a need of proper listing and documentation of heritage sites. Such sites are to be properly listed under various grades of their importance and documented specifically so that a proper conservation approach can be implemented for such important sites.

7.4 PROPOSED STRATEGIES:

7.4.1 Heritage Management and organizational structure:

There is a need to setup a Heritage Committee for Doboka Planning Area. The concerned Development authorities/municipalities as well as local stakeholders, NGO,s have significant role to play in successful implementation of strategies proposed for Doboka surrounding Areas. Formulations of special regulations to control or mediate development within the available heritage areas are a prerequisite for effective implementation of the proposed recommendations. Special regulations for all development within heritage areas, including new construction, demolition or modification to existing buildings around historic structures or within historic precincts must be formulated by the concerned authority with the advice of Heritage Committee. Detailed plans must be prepared by respective Municipalities. It is necessary to prepare an inventory of build, cultural and natural heritage resources of the special areas**.** The inventory must include both protected and unprotected resources. The cost for most of the new developments in special heritage areas in already covered in budget allocation for "Tourism, Recreation and Culture' and hence not included in this table. Estimates for projects those are specific for preservation of heritage resources are only included. River Front Development is treated as a separate item of budgetary allocation.

The relevant policy guidelines and management of culture and natural heritage can rejuvenate and revitalize the Doboka region and support the existing cultural identity. It can also promote tourism, boost local economy and contribute a great sense of pride amongst the residents and became a touchstone for future development.

7.4.2 Strategies for Development of Recreational Areas:

Recreation is any physical or psychological revitalization through the voluntary pursuit of leisure time. It is an activity which is relaxing to people and provide diversions from their normal routine. Generally there are four types of Recreational activities:

Revitalization: Restoration and enhancement of mental and physical health.

Play:-relaxation and exercise

Adventure: - Excitement and challenge

Education: organized and incidental

Indoor Facilities consist of library, clubs, cinema hall, auditorium, multiplex, art and craft centre, shopping mall, food courts, cyber, gymnasium etc.

Outdoor recreation facilities consist of gardens, parks, play ground, golf courses, zoo, and botanical garden, race course, stadium, exhibition ground, water sports complex, green ways etc.

Proposal for augmentation and development of Recreational Facilities:

Development of green belts, plantation, parks, ghats, plazas, along the salandi riverfront abreast the urban set up and invite nature harsh environment through myriad ways. Amusement parks to be developed along with horticulture, pisi culture, herbal parks, etc. Development of eco-tourism with provision of water theme parks, lagoon resorts, weekend resorts, clubs, etc at planning area level.

7.4.3 Proposed strategies to boost tourism:

As a service industry, tourism has numerous tangibla and intangible elements. Major tangible elements include transportation, accommodation, and other components of a hospitality industry. Most intangible elements relate to the purpose or motivation for becoming a tourist, such as rest, relaxation, the opportunity to meet new people and experience other cultures, or simply to do something different or have an adventure.

Tourism is vital for every place, due to the income generated by the consumption of goods and services by tourist, the taxes levied on business in the tourism industry, and the opportunity for employment and economic advancement by working in the industry. For these reasons government and private agencies sometimes promote a specific region as tourist destination, and support the development of advancement by working in the industry. For these reasons government and some private agencies sometimes promote a specific region as tourist destination, and support the development of a tourism industry in that area. The contemporary phenomenon of mass tourism may result in overdevelopment; however alternative forms of tourism such as ecotourism seek to avoid such outcomes by pursuing tourism in a sustainable way.

Doboka Region offer substantial potential for tourism development. According to the existing scenario analysis, it has been observed that the following categories of tourism have immense potential for this region.

(1) Historical Tourism with historically important structures at different archeological sites namely-Mathban, Mikiati, Gachtal, Na-Nath, Akachi-Ganga Archeological sites having ancient rock cutting of Lord Shiva, Bishnu, Earth works, temples etc. These historical places should develop in infrastructure and services facilities for tourist attraction.

(2) Nature based outdoor recreation and eco-tourism for forest, riverfront, hills, River Banks, picnic spots, sightseeing etc. Presence of this entire tourism products cal for the growth of Adventure Tourism. Akashi Waterfall Picnic spot (12 Km), Burhi-Banga (10 Km) and other local picnic spots on the Ghats Jamuna River can be developed for the attraction of tourist. Deorijaan, a small stream should rejuvenate and developed for tourist attraction.

7.5 City Beautification Plan/Proposals:

7.5.1 Roadside plantation:

Roadside plantation acts as a buffer between the people and government- owned forests, and it will help to reduce the extensive indiscriminate destruction of forests. Roadside tree planting can make significant improvements to the quality of roads and the environment and can protect key natural resources, especially in ASAL regions where vegetation is essential in binding the soil with organic matter that aids in enhanced infiltration and water retention in the soil.

Planting trees along the road sides, highways and pathway is known as avenue plantation. Avenue plantation is generally practiced for the aesthetic value, Beautification, shade purpose, control of soil erosion and for its economic use of timber, flowers & fruits. Best trees for roadside plantation are Neem, Krishna Chura, Radha Chura, Sonaru. etc .Trees also give us fresh air as they produce oxygen. Trees are planted along the roadside as they provide shade to the travelers during summers.

Table:-18 Below table shows the Proposal of Roadside tree Plantation alongside the major Road of Doboka Town Area.

SL. No.	Name of the Road	Length
1	Doboka Main Road	2 Km (Both side)
2	College Raod	2 Km (Both side)
3	Thana Road	1 Km (Both side)
4	Diphu Road	1 Km (Both side)

7.5.2 Requirements and strategies:

(a) One Kind of Flowering Trees on Both Sides

(b) Two Kinds of Flowering Trees Blooming at one Time on both Sides of Road

(c) Two Kinds of Flowering Trees Blooming at Different Time on both Sides of the Roads

(d) Shady Trees Only on both Sides of Roads.

(e) The trees should be planted at least 12 m apart from the centre of the carriageway.

(f) If the road is constructed on the embankment, the trees should be planted as possible as high on the sides of the embankment.

7.6 Urban agriculture and urban forestry:

Urban agriculture, urban farming, or urban gardening is the practice of cultivating, processing, and distributing food in or around urban areas. Urban agriculture is also the term used for animal husbandry, aquaculture, urban beekeeping, and horticulture. These activities occur in peri-urban areas as well. Peri-urban agriculture may have different characteristics.

Urban agriculture can reflect varying levels of economic and social development. It may be a social movement for sustainable communities, where organic growers, "foodies", and "locavores" form social networks founded on a shared ethos of nature and community holism. These networks can evolve when receiving formal institutional support, becoming integrated into local town planning as a "transition town" movement for sustainable urban development. For others, food security, nutrition, and income generation are key motivations for the practice. In both scenarios, more direct access to fresh vegetables, fruits, and meat products through urban agriculture can improve food security and food safety.

7.6.1 Types of Urban Farming:

Backyard Gardens:- This is the growing of food on home property.

(a) Tactical Gardens. This involves using the limited space available to practice agriculture without having to incur hefty expenses.
(b) Street landscaping.
(c) Forest gardening.
(d) Greenhouses.
(e) Rooftop gardens.
(f) Green walls
(g) Vertical farms.

Strategies:

(a) Allotment gardens: An allotment garden is a plot or parcel of urban or suburban land made available for individual, non-commercial gardening or food growing and recreation.

(b) Community gardens: Community gardens are an emerging form of urban farming.

(c) Inventory of your town land (and rooftops)

(d) Partnerships and Cultivate market access

Urban forestry is the care and management of single trees and tree populations in urban settings for the purpose of improving the urban environment. Urban forestry involves both planning and management, including the programming of care and maintenance operations of the urban forest. Urban forestry advocates the role of trees as a critical part of the urban infrastructure. Urban foresters plant and maintain trees, support appropriate tree and forest preservation, conduct research and promote the many benefits trees provide. Urban forestry is practiced by municipal and commercial arborists, municipal and utility foresters, environmental policymakers, city planners, consultants, educators, researchers and community activists.

The urban forestry comprises all green elements under urban influence such as, Street trees and road plantations, Public green areas, such as parks, gardens, cemeteries, Semi-private space, such as green space in residential areas and in industrial or specially designated parks.

Strategies

(a) Increase tree planting in neighbor hoods with low urban forest cover.
(b) Increase Street and park tree diversity.
(c) Plant trees to support green infrastructure and reduce climate change
(d) Enhance biodiversity through tree planting.
(e) Update inventory and data management for public trees.
(f) Manage public trees for public safety and support tree health.
(g) Work together with local people and the urban NGO related to forestry.
(h) Raise awareness of the importance of the urban forest.
(i) Support volunteers, NGOs, schools, and neighborhood groups in urban forest stewardship.

7.7 Public Rain Water Harvesting Scheme:

Rainwater harvesting (RWH) is the collection and storage of rain, rather than allowing it to run off. Rainwater is collected from a roof-like surface and redirected to a tank, cistern, deep pit (well, shaft, or borehole), aquifer, or a reservoir with percolation, so that it seeps down and restores the ground water.

Harvesting rainwater allows the collection of large amounts of water and mitigates the effects of drought. Most rooftops provide the necessary platform for collecting water. Rainwater is mostly free from harmful chemicals, which makes it suitable for irrigation purposes. There are two ways of harvesting rainwater, namely; surface runoff harvesting and rooftop rainwater harvesting.

There are two major techniques of rainwater harvesting.

1. **Surface runoff harvesting**: In this method, rainwater flows away as surface runoff and can be stored for future use. Surface water can be stored by diverting the flow of small creeks and streams into reservoirs on the surface or underground. It can provide water for farming, for cattle and also for general domestic use. Surface runoff harvesting is most suitable in urban areas.
Rooftop rainwater/storm runoff can be harvested in urban areas through:
• Recharge Pit
• Recharge Trench
• Tube well
• Recharge Well

2. **Ground water recharge**: Groundwater recharge is a hydrologic process where water moves downward from surface water to groundwater. Recharge is the primary method through which water enters an aquifer. The aquifer also serves as a distribution system. The surplus rainwater can then be used to recharge groundwater aquifer through artificial recharge techniques. Rainwater in rural areas can be harvested through:

• Gully Plug
• Contour Bund
• Dugwell Recharge
• Percolation Tank
• Check Dam/Cement Plug/Nala Bund
• Recharge Shaft

Although rainwater harvesting measure is deemed to be a desirable concept since the last few years, it is rarely being implemented in rural India. Different regions of the country practiced a variety of rainwater harvesting and artificial recharge methods. Some ancient rainwater harvesting methods which includes Madakas, Ahar Pynes, Surangas, Taankas, etc.

7.8 Water Harvesting Schemes in India:

Steps taken by the Central Government to control water depletion and promote rain water harvesting / conservation areas under:

1. Government of India launched Jal Shakti Abhiyan (JSA) in 2019, a time bound campaign with a mission mode approach intended to improve water availability including ground water conditions in the water stressed blocks in India. Ministry of Jal Shakti visited water stressed districts and to work in close collaboration with district level officials to undertake suitable interventions. In addition, 'Jal Shakti Abhiyan – Catch the Rain' campaign has been launched by Hon'ble Prime Minister of India on 22 March 2021.

2. National Water Policy (2012) has been formulated by Department of Water Resources, RD & GR, inter-alia advocates rainwater harvesting and conservation of water and highlights the need for augmenting the availability of water through direct use of rainfall. It also inter-alia, advocates conservation of river, river bodies and infrastructure should be undertaken in a scientifically planned manner through community participation. Further, encroachment and diversion of water bodies and drainage channels must not be allowed and wherever, it has taken place, it should be restored to the extent feasible and maintained properly.

3. In compliance to the decision taken by the Committee of Secretaries, an 'Inter Ministerial Committee' under the Chairmanship of Secretary (WR, RD & GR) has been constituted to take forward the subject of 'Push on Water Conservation Related Activities for Optimum Utilization of Monsoon Rainfall'.

4. Ministry has circulated a Model Bill to all the States/UTs to enable them to enact suitable ground water legislation for regulation of its development, which also includes provision of rain water harvesting.

5. Master Plan for Artificial Recharge to Groundwater- 2020 has been prepared by CGWB in consultation with States/UTs which is a macro level plan indicating various structures for the different terrain conditions of the country including estimated cost. The Master Plan envisages construction of about 1.42 crore Rain water harvesting and artificial recharge structures in the Country to harness 185 Billion Cubic Meter (BCM) of monsoon rainfall.

6. CGWB has taken up Aquifer Mapping and Management Programme during XII Plan, under the scheme of Ground Water Management and Regulation. The Aquifer Mapping is aimed to delineate aquifer disposition and their characterization for preparation of aquifer/ area specific ground water management plans with community participation. The management plans are shared with the respective State governments for taking appropriate measures / implementation.

7. Best practices of water conservation by various entities including private persons, NGOs, PSUs etc have been compiled and put on the web site of the Ministry for the benefit of general public. An interactive link on best practices has also been created for receiving inputs from public, which, after necessary evaluation/validation are put on the website for the benefit of the public.

8. Department of Water Resources, RD& GR has instituted National Water awards to incentivize good practices in water conservation and ground water recharge.

9. Mass awareness programmes (Trainings, Seminars, Workshops, Exhibitions, Trade Fares and Painting Competitions etc.) are conducted from time to time each year under the information, Education & Communication (IEC) Scheme of DoWR, RD & GR in various parts of the Country to promote rain water harvesting and artificial recharge to ground water.

10. The Ministry of Rural Development in consultation and agreement with the Department of Water Resources, RD & GR and the Ministry of Agriculture & Farmers' Welfare has developed an actionable framework for Natural Resources Management (NRM), titled 'Mission Water Conservation" to ensure gainful utilization of funds. The Framework strives to ensure synergies in Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS), Pradhan

Mantri Krishi Sinchayee Yojana (PMKSY), erstwhile integrated Watershed Management Programme (IWMP) now PMKSY Watershed Development Component and Command Area Development & Water Management (CADWM), given their common objectives. Types of common works undertaken under these programmes schemes are water conservation and management, water harvesting, soil and moisture conservation, groundwater recharge, flood protection, land development, Command Area Development & Watershed Management.

11. Central Government supports construction of water harvesting and conservation works primarily through Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) and Pradhan Mantri Krishi Sinchayee Yojana – Watershed Development Component (PMKSY-WDC).

12. Atal Bhujal Yojana (ABHY), a Rs.6000 crore scheme with World Bank funding, for sustainable management of ground water with community participation is being taken up in the identified over-exploited and water stressed areas fall in the States of Gujarat, Haryana, Karnataka, Madhya Pradesh, Maharashtra, Rajasthan and Uttar Pradesh. This scheme is expected to contribute significantly towards water and food security of the participating states.

Strategies at Local Level:

At local level, Urban Local Body/Municipal Board in compliance with Rain water Harvesting should strictly follow the Government Guidelines, Circulars, Manual, model circulated time to time. In different Structural construction, Planning, Drawing, there should be the provision of Rain water harvesting system. In this regards, authority related to the permission of construction of Houses, Building, Structure should follow the rules, Byelaws of Building rules. Regarding rain water harvesting in the Doboka Planning Area, Doboka Municipal Board should strictly follow the Building Rules-2014 Govt. of Assam in issuing Building construction permission and also to create Public awareness among people of the locality in rain water harvesting techniques.

7.9 Development of parks and recreational spaces with Identification and demarcation of Open Space for sports, Cultural function, fairs etc in Doboka Planning Area:

Due to rapid growth of population, the present recreational facilities are not sufficient to fulfill the needs of the people of the Doboka Town. In Doboka Town there is no any organized Parks for the Children and Playground as well as Stadium available of the people.

Proposal for Construction of Playground Infrastructure and Parks & other recreational Facilities in Doboka Planning Area:

Table-29

SL. No.	Name of the Open space	Proposal
1	Nehru Stadium	Development of Playground infrastructure with Spectators Gallery, Pavilion, Indoor Stadium, Gymnasium
2	Suitable Plot of Land within Municipality Area.	Construction of Public Auditorium with all modern facilities
3	Suitable Plot of Land within Municipality Area.	Construction of Open theater with all modern facilities
4	Suitable Plot of land	Proposal of construction of 4 Nos. of Modern Parks out of which 3 for Children parks and 1 for senior citizen within the Doboka Municipal Board.
5	Suitable Plot of land within the each Revenue Village.	Proposal for construction of 1 Children Parks and 1 Community centre at each Revenue village of the Doboka Planning Area.

The sports and youth welfare activities are one of the major sectors of Human Resource Development Programme. Doboka Nehru Stadiu is the main playground of Doboka Town which is controlled by Doboka Sports Association.

The other playgrounds are also should be upgraded providing with all modern facilities. Besides, there should be Modern Parks, Community centre in each Revenue Village of the Doboka Master Plan Area. Considering the growth of population in Doboka town and the planning area new parks and play grounds like Mini stadium, Gymnasium Hall, Hockey field are to be created in future.

CHAPTER 8: LAND USE PLAN

8.1 EXISTING LAND USE OF D MASTER PLAN AREA -2022:

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 urban centre. The main purpose of land use study is to provide 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 great significance for future planning. The main purpose of land use classification is to provide 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.

The Existing Land Use pattern of Doboka Master Plan Area was updated based on ground reality on the scientific base map prepared with the help of Satellite and Revenue records like village level cadastral sheets, Field Measurement Book sheets and Town Survey Sheets. The Doboka Planning Area is administratively divided into two entities, Urban and Rural. Urban area comprises of Doboka Municipal Board (Doboka Revenue Town) area of 3.50 Sq.Km and Rural area of 23.60 Sq. Km including 8 Villages. This chapter presents the existing land use analysis, 2021 for the planning area.

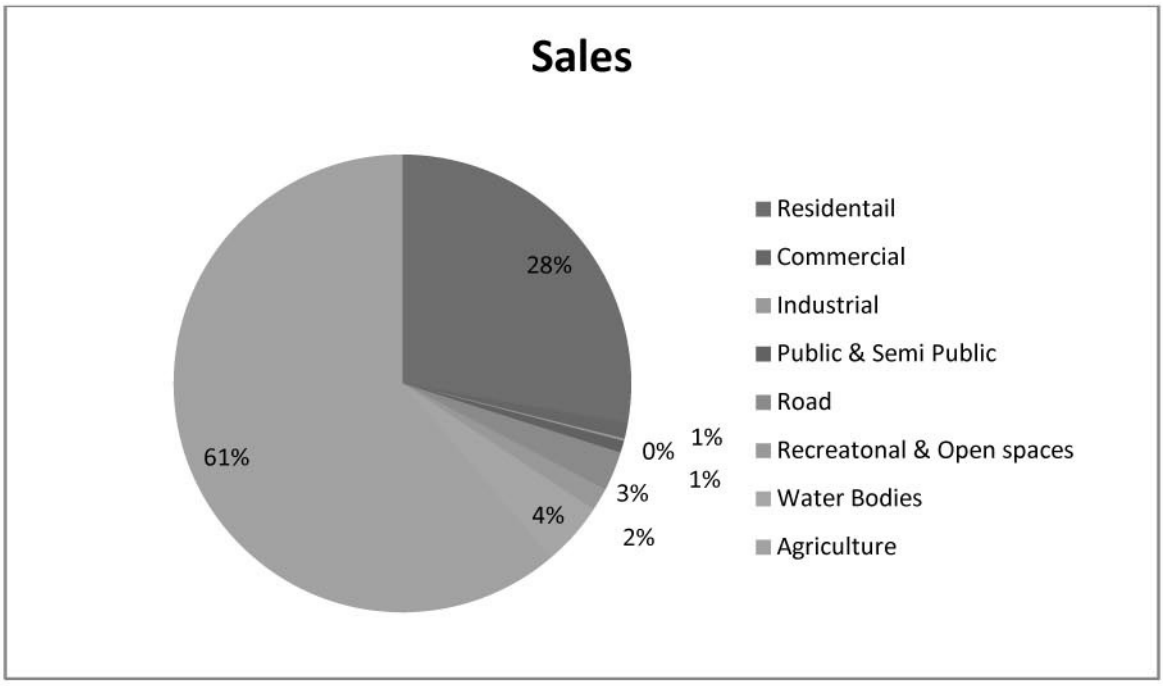
As a part of the preparation of GIS Based Master Plan- 2045, the study of the existing Land use pattern of Doboka Master Plan area was carried out by a survey conducted by T&CP, District Office, Nagaon in order to formulate future policies so that a balanced approach can be made in allocating the future land uses. The existing landuse in Doboka Master plan area has been grouped into the following 8 (Eight) Categories

Table 30: Existing Land use of Doboka Master Plan Area

SL. NO.	LAND-USE CATEGORY	AREA (IN SQ. KM)	% OF DEVELOPED AREA	% OF TOTAL PLANNING AREA
1	RESIDENTIAL	7.59	81.00	28.00
2	COMMERCIAL	0.31	3.32	1.14
3	INDUSTRIAL	0.04	0.42	0.14
4	PUBLIC & SEMI-PUBLIC	0.23	2.45	0.84
5	ROAD	0.76	8.11	2.80
6	RECREATIONAL & OPEN SPACES	0.44	4.69	1.62
	TOTAL DEVELOPED AREA	9.37	100.00	
7	WATER BODIES	1.23		4.53
8	AGRICULTURAL	16.5		60.88
	TOTAL UNDEVELOPED AREA	17.73		
	TOTAL AREA	27.1		100.00

The detailed land use analysis of the Doboka Master Plan Area-2022, gives the picture of the shape of the Urban and Rural land for various activities. From the above table it is seen that out of the total land, Agriculture land use being the predominant land use which occupies 16.5 Sq. Km. (60.88 %) of the total planning area, residential land use is spread over 7.59 Sq. Km.(28.00 %).

Out of the undeveloped land area about 1.23 Sq. km (6.9 %) occupies by water bodies covered by River Jamuna, Deorijaan , Burhi-Ganga, some ponds and wetlands etc. It is also observed that about 0.76 Sq. Km (2.80%) area occupies by transport and communication (only Roads) and 0.23 % occupies by public and semi public use which includes various Physical and social infrastructure like Educational institutes, Government Offices, Hospitals, District and Special jails, Circuit House, Govt. Residential Buildings etc. about 0.31 Sq Km.(1.14%) occupies by commercial.



From the table it is seen that there is huge scope of future development of the planning area .The rural area has concentration of good amount of Agricultural land , open space and water bodies and urban area also has large amount of vacant land and open spaces.

Thus the Planning area has a good scope of development of existing residential buildings and construction of new residential buildings or redevelopment in conformity with the heritage importance and special regulations for the Planning Period up to 2045.

CHAPTER 9: PROPOSED LAND USE PLAN:

On the basis of planning policies, techniques, principles and projections, various recommendations and proposals for the future growth of Doboka Master Plan Area have been formulated. As such recommendation and proposals have been translated into land use plan to give them spatial dimension .The land use shown in the map indicates the functional relationship between various urban activities visualized up to 2045 and aims at to provide the most economics use of urban land.

The land requirement for various urban activities have also been proposed on the basis of projected population of 61,563 by 2045.The distribution of land into various broad categories of land use have been made keeping in view the minimum desirable standards of development and functional linkages between them. The following table shows the land proposed for various major uses.

9.1 PROPOSED LAND USE FOR DOBOKA MASTER PLAN AREA:

The Proposed Land use in Doboka Master Plan Area for 2045, considering all the above analysis can be summarized as below:

Table 31: Proposed Land Use classifications for different uses of Doboka Master Plan, 2045

Sl no	Land use Category	Area (in Sq. Km.)	% of Developed Area	% of Total Planning Area
1	Residential	15.17	83.13	40.32
2	Commercial	1.04	5.72	2.78
3	Industrial	0.28	1.54	0.75
4	Public & Semi-Public	0.34	1.88	0.91
5	Road	0.69	3.77	1.83
6	Recreational & Open Spaces	0.44	2.42	1.17
7	Railways	0.28	1.53	0.74
	Total developed area	**18.25**	**100.00**	
8	Agricultural	15.75		41.85
9	Water Bodies	2.74		7.29
10	Green belt	0.73		1.94
11	Eco-Zone	0.16		0.42
	Total area	**37.63**		**100.00**

9.2 PROPOSED RESIDENTIAL USE:

To accommodate the projected population of about **61, 563**, an area of about **10.91 sq. km**. is earmarked for residential use in Doboka Master Plan Area. The plan provides the following pattern of residential density.

High Density Zone: Doboka Municipal area has been proposed as high density residential zone with a population of 75 to 100 persons per acre.

Medium Density Zone: Within the residential areas of the villages just adjacent to the Municipal boundary have been proposed as Medium Density residential zone with a population of 50 to 75 persons per acre.

Low Density Zone: The residential areas of the other villages have been proposed as low density residential zone with a population of 20 to 50 persons per acre.

9.3 PROPOSED COMMERCIAL LAND USE:

With the rapid population growth in Doboka the existing commercial area concentrated along the NH-27 and Doboka Main Road, Diphu, NN-29 and surrounding the town area will not be sufficient to meet the need of future projected population.

Therefore, an additional area of about **0.80 sq. km.** is proposed for commercial purposes in the Doboka Master Plan area.

9.4 PROPOSED INDUSTRIAL LAND USE:

There are good prospects for setting up of forest and agricultural based small and medium industries in Doboka Master Plan area. There are also good scopes for setting up of service and light consumer goods producing industries like agriculture implements, readymade garments, soap making, brick making, backery, plastic goods, power loom, mineral water Plant etc. In addition to the existing industrial area, an area of about **0.165 sq. km.** of land has been earmarked for setting up of medium and light industries in the Doboka Master Plan Area.

9.5 PROPOSED PUBLIC AND SEMI-PUBLIC USE:

In the Doboka Master plan area land proposed for public and semi-public use is **0.231 sq. km**. which is required for proposed as public and semi-public use. The public and semipublic uses have been proposed on Govt. land of Doboka Master Plan Area.

9.6 PROPOSED CIRCULATION PLAN:

The land is proposed under Road &Transportation will be **0.77 sq.km**. of Doboka Master Plan -2045.The proposals for improvement and widening of roads within Doboka Master Plan Area.

All the major junction points should be developed in a planned manner. Modern traffic signaling system is to be proposed within the Doboka Master Plan Area.

Hierarchy of Road proposed with width:

1) Primary road - 75" width
2) Secondary road - 50" width
3) Tertiary road - 20" width

9.7 LAND PROPOSED FOR GREEN BELT:

The land is proposed for Eco- Zone is 0.068 **sq.km**. of the total Area of Doboka Master Plan.

9.8 INFRASTRUCTURE PROPOSALS:

The availability of existing social / physical facilities and their services of Doboka Master Plan area have been studied. The existing deficits and future requirements are calculated as below:-

9.8.1 Education:

To accomplish the social and economic upliftment of the society is not possible without the modern and up to date educational system capable of eradicating illiteracy and ignorance and providing skilled and trained up man power required by changing economic condition.

The educational requirement for Doboka Master Plan area up to the year 2045 has been estimated considering a higher standard as mentioned in the table below:-

Table-32

Sl. No	Type of Educational Institute	Norms	Existing Numbers	Deficit	Total area required(in hectare)
1	Primary school	1 in 2500 population	22	--	--
2	Middle school	1 in 5000 population	15	--	--
3	High school	1 in 7500 population	3	6	1
4	Higher Secondary school	1 in 90,000 population	3	--	--
5	General college	1 in 1,25,000 population	1	--	--
Health					
6	Intermediate Hospital	1 in 1,00,000 population	1 Nos	--	--
7	Nursing Home , Maternity home	1 in 45,000 population	--	2	2
8	Dispensary	1 in 15,000 population	--	4	4
Socio-Cultural Facilities:					
9	Community Room	1 in 5000 population	--	13	13
10	Community Hall/ Library	1 in 15,000 population	--	4	4
11	Music Dance & Drama etc.	1 in 1,00,000 population	--	1	1
12	Religious	1 in 5000 population	--	13	13
Communication					
13	Post Office	1 for 15,000 population	1	3	3
14	Police Station	1 for 90,000 population	1	--	--
15	Fire Station	1 for 2,00,000 population	1	--	--

9.8.2 ROAD PROPOSALS:

Within Doboka Master Plan Area total 5 Nos. of roads are proposed for future improvement and widening which are shown in the table below :

Table 33: Under improvement and widening of roads Doboka Municipal Area

Sl. No.	Name of Road	Length (appx)
1	Mahatma Gandhi Road, Ward No4	300m
2	Dathuram Bora Path, Ward No-4	150 m
3	Acharjee Road, Ward No-6	250 m
4	Digen Laskar Path, Ward N-9	500 m
5	Bairagitala Path, Ward No-9	300 m

Source:-DMB

Table 34: Following Roads are proposed for future improvement and widening within Doboka Master Plan Area

S.L No.	Name of the Road	Length (approx.)
1.	Doboka Diphu Road,Ward No-4	1.50 K,M
2.	Lanka-Nagaon Road (Doboka town main Road, W/No-4)	1.50 K.M
3.	Daturam Bora Path W/No-4	0.15 K.M
4.	Acharjee Road, W/No-6	0.25 K.M
5	M.G Road, Ward No-4	0.30 K.M
6	Digen Laskar Path Ward No-9	0.500 Km
7	Boiragi Dada Path Ward No-9	0.500 Km
8	Raja Chowdhury path Ward No-8	1.50 Km
9	Abdul Kalam Azad Path Ward No-5	2.00 Km
10	Internal Road at Ward No-10	5.00 Km
11	Improvement of Doboka H.S school Road & Fire brigade Road at Ward No-6 &10	2.00 Km

Source:-DMB

9.8.3 PROPOSALS FOR WATER SUPPLY:

1. Pipe Water Supply Scheme (PWSS) Near Nehru Stadium
2. PWSS at Ward No-1,2,3,4,5,6,7,8,9,10

9.8.4 PROPOSAL FOR STREET LIGHT

1. Street Light-1,2,3,4,5,6,7,8,9,10
2. LMV & Motor Cycle Parking
3. 3 Nos. of Automatic Traffic signal at (1) S.B.I Point, (2) Doboka Main Road Town, (3) Diphu Bye Pass
4. 2 Nos of Entry Gate at (1) S.B.I Point (2) Diphu Bye Pass

9.8.5 PROPOSALS FOR DRAINAGE SYSTEM:

Table 35: Following Drain Proposal for Doboka Master Plan Area

S.L No.	Name of the Road	Length (approx.)
1.	Drain on Doboka-Diphu Road, Both side	1.50 K,M
2.	Drain on Both side Doboka Town main road, Ward N-4	2 K M
3.	Darin on Both side Daturam Bora Path W/No-4	0.70 K.M
4.	Drain on Both side Sir Saddullah Path, Ward No-3	2.00 K.M
5	Drain on Both side N.H 54, Ward No-1	2.00 K.M
6	Drain on Both side Abul Kalam Azad Path, Ward No-5	2.00 Km
7	Drain on Both side Acharjee Path Ward No-6	0.30 Km
8	Drain on Both side O.K.A.Ali Path Ward No-7	1.50 Km
9	Drain on Both side Raja Choudhury Path Ward No-8	1.50 Km
10	Drain on Both side Ashraf Ali Path Ward No-8	1,50 Km
11	Drain on Both side of Digen Laskar Path Ward No-9	0.70 Km

CHAPTER 10: DISASTER PLAN

Disaster is an undesired calamities event that seriously disrupts the functioning of a community or society and causes human, material and economic or environment losses that exceed the community's or society's ability to cope using its own resources. Disasters are usually caused by nature but in some cases, it can be caused by human actions as well. Disaster can be broadly classified into water and climate related geology related and accidental related. Assam has been traditionally vulnerable to natural disasters on account of its unique geo-climatic conditions. Flood, drought, cyclones, earth quakes and landslides have been recurrent phenomena.

At national level, the ministry of Home affairs is the nodal Ministry for all matters concerning disaster management and at state level State Disaster Response force under Ministry of Home, Govt. of Assam is the responsible agency to tackle any disasters within the State.

Doboka in Hojai district comes under Brahmaputra valley and one of the town located on the banks of Jamuna River, a tributary of River Kopili. After entering Assam kopili separates the karbi Anglong district from the Dima Hasao Hill District up to Diyung river confluence and enter Nagaon District flows North-Westerly direction. Nagaon district has got very high reserves of Glass sand. Thus, it can be unanimously vouchsafed that the geology of Assam depicts a rich repository of minerals with its diversified geographical structure.

10.1 Flood:-

The Jamuna River, the main tributary of the Kopili originates from the Khanbamun hills in Karbi Anglong District and flows from east to west for a length of 120 Kilometers and falls in the Kopili near Jamunamukh. The river is fed by several small tributaries namely the Lenghit, Disama, Disa, Dighalpani, Dikharu, Buriganga, Dimaru etc.

At Jamunamukh in Hojai district it is met by its eastern tributary the Jamuna and flows past Raha after taking a westerly turn. Here it is joined by a branch channel with the Kolong River and at Jagi, It finally meets the main stream of the Kolong after a course of 262 Kms. from its origin. As Doboka is situated on the Bank of River Jamuna, it is vulnerable to flood during the monsoon season. During this period, River Jamuna inundated the areas in Doboka circle of Hojai district disrupting road communication between Doboka and Diphu.

:-

Flood Affected Doboka Village

10.2 Earthquake:

The Major consequences of any earthquake are widespread human and material losses, excessive damage to infrastructure and services. According to the geological survey of India, seismic Zoning map of the country, silchar region lies in zone-V which is said to be the most active seismic zoning Map of the country. Like rest of Assam, the Nagaon district has always been subject to earthquake as it lies in the zone of seismic disturbances. The Great earthquake which occurred on june 12, 1897 had its epicenter in the shilling plateau. It had a magnitude of 8.5 Richter scale and was probably one of the greatest earthquakes ever recorded. The shock was felt over an area of 1,750 km2 and destruction of stone buildings was almost universal in an area of 30,000 km2 including shilling, Goalpara, nagaon and sylhet area of Bangladesh. Land slips and an earth fissure was very abundant over the whole of the epicentral area.

In Nagaon, most of the government buildings including the circuit house, Court building and the Deputy Commissioner's Bungalow were rendered unfit for habitation. Part of the District jail wall collapsed. The earthquake of August 15, 1950 had its epicenter at 28.5 E N and 96,7 E L and had a magnitude of 8.6 Richter. The estimated area of North-Eastern Assam over which extensive and heavy damage occurred was 1900 sqmt.

Kopili Fault line: In recent studies done in the river kopili basin it is found that the kopili fault extends from western part of Manipur up to the tri-junction of Bhutan, Arunachal Pradesh Assam, covers a distance of about 400 km. During the last 140 years, the kopili fault has experience 2 earth quakes of magnitudes greater than 7 in R.s and several of magnitude 4.5 to 6 in R.S. The study concludes that the North East region, more specially the kopili fault area is a geologically unstable region, surrounded by faults and lineaments and seduction zones in the east.

Table-36

SL No.	Disastrous	Year of occurrence	Area Affected	Name of localities
1	Earthquake	1897, 1950	Nagaon, Hojai District	All the Revenue Circle of the Districts.

Sources:-Department of Disaster Management, Nagaon

10.3 Drought:

The Lumding, Hojai, Doboka in central Assam valley and adjoining parts of Karbi-Anglong form a rain Shadow zone where annual rainfall is as low as 800-1200 mm. Water scarcity is a potential constraint for the people living in these areas. Absence of effective irrigation systems or water harvesting practices adds to the Vulnerability of the people.

Table-36

SL. No	Disastrous	Year of Occurrence	Area affected	Name of the localities
1.	Drought	2009	Hojai District	All the circles of District

Sources:-Department of Disaster Management, Nagaon

10.4 River erosion:

River erosion took place on the Jamunu River in the time of monsoon due continuous downpour the volume of water increase beyond its carrying capacity leads to corrosion and river bank erosion. Moreover, continuous mining of sand from the rivers leads to river erosion.

10.5 Seasonal Hazard Analysis:

Table-38

Hazards	January	Feb.	March	April	May	June	July	August	Sept	Oct	Nov.	Dec.
Cyclone	X	X	X	X	X	X	X	X	X	X	X	X
Flood					←	—	→					
Drought					←	—	→					
Earthquake	←	—	—	—	—	—	—	—	—	→		
Fire		←	→									
Lightening				←	—	→						
Epidemic	←	—	—	—	—	—	—	—	—	→		

10.6 Department of Disaster Management, Hojai Vulnerability (Risk and Hazards Analysis):

Table:-39

Types of Hazards	Potential	Vulnerability	Vulnerable areas
Cyclone	Nil	-	-
Flood	Loss of crops, Human lives and animals and properties damage	Communication facility, Agriculture & Horticulture, Private infrastructure Houses, Irrigation sources, Electrical installations, Drinking water sources, Educational institution, and livestock	All the Revenue Villages of Doboka Circle
Drought	Drought human life and pets	Loss of Human lives & pets	Entire Doboka circle
Earthquake	Human lives & Structures both public & Pvt.	Loss of Human lives & structures both public & pvt.	Entire Doboka Circle
Fire	Lives and property	Loss of Human lives & structures both public & pvt.	Entire Doboka Circle
Epidemic	Human lives & Pets	Loss of Human lives and pets	Entire Doboka Circle
Lightening	Human lives	Loss of Human lives	Entire Doboka Circle

Source:-District Disaster Management Plan, 2020, DDMA, Nagaon

10.7 Infrastructure vulnerability against Hazards:

Table:-40

Vulnerability	Flood		Accident		Fire	
	Population	Area	Population	Area	Population	Area
Road network	15, 00,000 appx.	Total 2800 sq k.m including Doboka circle	6,25,000 appx	Doboka and Diphu Road	---	---
Water Supply	15, 00,000 appx.	Total 2800 sq k.m including Doboka circle	-----	-----	----	---
Hospital	50,000 appx.	All Development block areas	-----	-----	1500 appx.	
Food stocks & Supplies	15, 00,000 appx.	Total 2800 sq. km including Doboka circle	-----	-----	15,00,000	Total 2800 sq. km incuding Doboka Circle
Communication (system)	15, 00,000 appx.	Total 2800 sq. km including Doboka circle	----	-----	-----	-----
Embankments	15,00,000 appx	Total 2800 sq. km including Doboka circle	----	----	----	-----
Bridges	15,00,000 appx	Total 2800 sq. km including Doboka circle				

Source:-District Disaster Management Plan, 2020, DDMA, Na**gaon**

10.8 Mitigation Plan:

Any disaster management plan or emergency management plan consists of four phases, namely: Mitigation, Preparedness, Response and Recovery. The Mitigation component in an emergency management plan is aimed at reducing the risk, impact, effects of a disaster. Hence careful planning eliminate the phase is important to reduce or eliminate the long-term risk to human life, property from natural and manmade calamities. It's important to have mitigation plans led by local community, working together to identify, plan for in the event of a disaster and reduce vulnerabilities and promote long term personal and community resilience and sustainability. Mitigation Plans can concentrate on both pre-disaster and post disaster efforts to reduce the impact of the disaster.

Pres-disaster Mitigation should focus on projects and interventions to address natural and man-made disaster to reduce risk to the population and property. This is mainly achieved by strengthening the resilience of National/state infrastructure. Post- disaster Mitigation efforts are primarily designed to reduce future damage in an affected area and decrease the loss of life and property and life due to the incidents following the disaster. The essential steps of hazard mitigation are:

(1) Hazards identification
(2) Vulnerability Analysis
(3) Defining a Hazard Mitigation Strategy.
(4) Implementation of Hazard Mitigation Activities and projects

Doboka region is prone to floods than any other natural disasters hence the disaster vulnerable area mitigation plan focuses on flood related eventualities and how can it be mitigated and have better preparedness. It is important to note that disaster management is an integrated task involving various government departments of region and the plan should focus on prevention, preparedness, mitigation, response, and measures.

10.9 Prevention:

As part of the said natural disasters the following measures can be adopted by concerned govt. departments to avoid and minimize the impacts of natural disasters.

= The public work department should monitor the major water bodies like river, streams lakes for constant flow of water, rising level and identify potential areas along the water bodies which need additional embankment or revetments, and these works should be implemented on priority before the onset of the season.
= Power and communication should carry out through inspection of power lines, communication lines for defects and rectify them. Trees and branches which may damage power and communication lies should the trimmed or removed.
=Health department should ensure the primary and community health centers are equipped with medicines and medical staff. Preventive vaccines for epidemics should be stocked in adequate quantity. Chlorination of drinking water should be ensured to avoid the outbreak of epidemics in the event of cyclones and floods.
= The department of disaster management is the nodal agency in the Nagaon region and has already handled several flood and cyclone situation in the region. From this experience, it should be able to identify the low lying and vulnerable areas and the population of such places must be warned to be alert and to be ready to safer areas or to the relief camps in case of warning disaster.
= The department of civil supplies & consumer affairs should decide for creation of buffer stock of food grains by making required withdrawal from the food corporation of India. Also, adequate quantities of kerosene and diesel should be procured and made available through the fair price shops.
=Department of Agriculture should take steps to publicize precautionary measures to be taken to save the standing crops in the vulnerable areas. Farmers should be encouraged to have platforms in their fields to stock the crops. De-silting of the public and private irrigation cannels should be ensured for quick drainage of paddy fields.
=Fisheries Department shall alert all the people residing on river bank villages and hamlets about the impending natural calamities and advice the fisherman not to venture into sea till normalcy is restored.

=Department of School education shall keep all schools ready for accommodating the evacuees and keep the central kitchens to function around the clock with in charge of the centers. NCC and NSS students shall also be grouped to send them for relief works.

=Department of Animal Husbandry should store fodder, cattle feed, and poultry food etc. and also carries out the inoculation of animals against epidemics. The Key village units should harbor stray cattle with shelters.

=Transport Department should keep ready the list of sufficient numbers of earthmoving vehicles, transportation vehicles such as trucks, tractors, tippers, proclaims, mini buses etc. Further, all the listed vehicle allocated in connection with calamity has to be kept in roadworthy condition for using them in emergency.

=Local Urban Bodies/Municipal Board shall make rearrangement for availability of Generators and pump sets at short notice. For areas with water logging and artificial flood local bodies should clear the L & U type drained which normally clog due to plastic materials and silt.

=Police department shall set up a Search & Rescue Team which shall contain at least 20 police personal for each jurisdiction of the superintendent of police.

=Similarly, the fire services department shall set up search & Rescue Team consisting of at least 6 members of each fire station.

10.9.1 Mitigation and Preparedness:

Pre-disaster planning consists of activities such as disaster mitigation and disaster preparedness. Disaster mitigation focuses on the hazard that causes the disaster and tries to eliminate or drastically reduce its effects. The best example of mitigation is the construction of embankments and construction of proper drainage system in flood prone areas to avoid floods. The other example includes retrofitting of weak buildings to make them earthquake resistant. And preparedness focuses on plans to respond to a disaster threat or occurrence. It takes into account estimation of emergency needs and identifies the resources to meet the needs.

The first objective of the preparedness is to reduce the disaster impact through appropriate actions and improve the capacity of those who are likely to be improving the capacity of those who are likely to be affected most. The second is to ensure that ongoing development continues to improve the capacities and capabilities of the system to strengthen preparedness efforts at community level.

Finally, it guides reconstruction so as to ensure reduction in vulnerability. The best example of preparedness activities are the development of community awareness and sanitization system through community education and administrative preparedness by way of stockpiling of supplies, developing emergency plans for rescue and relief. For successful mitigation plan it is necessary to identify short-medium-long term mitigation measures risks and damages.

The following steps can be taken te reduce the risk in the unfortunate event of the said natural disasters.

=Restore communication networks
=The task force in association with reach and rescue teams of police and fire should thoroughly search the affected area for survivors and injured.
=In case of heavy flooding and inundation, vehicular access may be restricted and hence suitable rafts/boats should used to rescue and evacuate the people affected by the floods
=Water logging in low lying residential areas should be pumped out and the pump out water could be let out through the nearest natural drain or canal. Also fire engines can be deployed to pump out water from affected areas during emergencies.
=Any breach in rivers, streams or natural drains should be protected with adequate sand bags or creation of temporary embankments to avoid further damage to property and human life
=In case of heavy storms, power supply to areas which are in the primary path of the storm can be disconnected to avoid hazards due to breakage of power lines. Provisions should be made to provide generations for temporary power supply to storm affected areas.
=Relief camps should be opened in appropriate location where a large number of people are affected.

Table 41:- Mitigation

Type of Sector	Sub-sector	Mitigation Measures	Responsible Dept.	Time frame
Infrastructure Development	Road	Repair, Restoration of vulnerable points on roads before unset of monsoon	PWD/DRDA	During Normal time and immediately
	Embankments	Repair of vulnerable points in river/canal embankment during free flood period	Water Resources/Irrigation	During Normal time and immediately`
	Bridge	Repair, restoration of vulnerable points on bridge before onset of flood	PWD, NH	During Normal time
	Communication	Ensure maintenance and proper functioning of electronic communication system	BSNL	Round the year
	Drinking water	Replacement of tube well/pipe water	PHE/ Health Deppt.	During Normal time and immediately`
	Power	Immediate response for repair of electric line and supply	PWD, ASEB	Round the year
Health	Vaccination	Adequate stock piling of vaccines should be ensured	CMO, DVO, NGO,s	During Normal time and immediately`
	Training	Training Programe of common people should be programmed for Health care, sanitation and first aid from village level to district	CMO, DVO, NGO,s	During Normal period
Livelihood	Awareness	Creating awareness among general public during normal time to insured human life	Leading NGO,s	During Normal time
	Agriculture	Alternant cropping pattern/flood resistance crops/crops insurance etc	Dy. Director Agriculture	During normal time and immediately after disaster.
Planning and Response	Relief/Rehabilitation	Regular updation of departmental contingency plan, Community awareness and involvement of NGO,s Regular conduct of mock drill	Line Departments	During Normal time

10.9.2 Response Plan:

Response measures are those taken immediately prior to and following disaster impact. It is important to have clear organizational chart structures with established line of authority within the Government mechanism to handle the response plan in case of natural calamities. Response plans include formation of functional teams and providing plans for the transportation, evacuation, search and rescue and rehabilitation. Survey and assessment part should be the part of response activity. Coordinated IEC activities should be initiated well in advance

=Mock Drill should carry out twice a year.
=Make separate plan of operation and list of required materials, tools, machineries for each kind of disaster.
=Train the rescue team with equipments
=Train the panchayat leaders, Municipal leaders, Volunteers etc.
=Approach to NDMA and SDMA for any kind of assistance.
=Incident Command Officer shall organize regular coordination meeting with all DM committee members, Head of Offices, Public leaders, NGO,s and Senior citizen in consultation with the chairman
=The RRT,s (Medical & Police) will be alerted by the incident Command Officer.

10.9.3 Aim of Disaster Response:

= To ensure the survival of the maximum possible number of victims, keeping them in the best possible Health in the circumstances.
= To re-established self sufficiency and essential services as quickly as possible for all population group.
=To repair or replace damaged infrastructure and regenerate viable economic activities.
=In situation of civil conflict the aim is to protect and assist the civilian population.
=In case involving population displacement the aim is to find durable solutions as quickly as possible.

10.10 Relief:

10.10.1 During the disaster

=Disseminate the warning of disaster from DDR & IC to all concerned destination in single attempt by using mass sms, announcement through radio, social media, print media and ask the people who are likely to be affected, to take shelter in safer places.
=Immediate deploy the forces to clear the route of search & rescue and also to clear the traffic from the route of rescue
=Command to the forces, NGO,s. SHG,s & volunteers to rush immediately to the affected area for search and rescue with all pre listed tools, equipment for disaster.

10.10.2 City Disaster Management Plan:

The points mentioned above should be part of a city or region level disaster management Plan. The Disaster Management Act, 2005 has brought a change from response & relief oriented approach. This has encouraged many cities to formulate a city disaster management plan,the same should be worked for Doboka MPA as well to enable it to be better prepared in case of natural disasters in the future. As part of Master Plan 2045 the authority feels there is a need for a CDMP for the Planning area covering the following general principles-

=Risk & Hazard Assessment
=Planning
=Organization
=Resource Utilization
=Need for Specialist
=Training

Generally, the CDMP prepared for the planning area should include sectoral plans covering the following aspects of disaster & emergency management:-

=Overall Preparedness
=Emergency Response
=Prevention
=Mitigation
=Recovery
=Reconstruction
=Capacity Building Plans

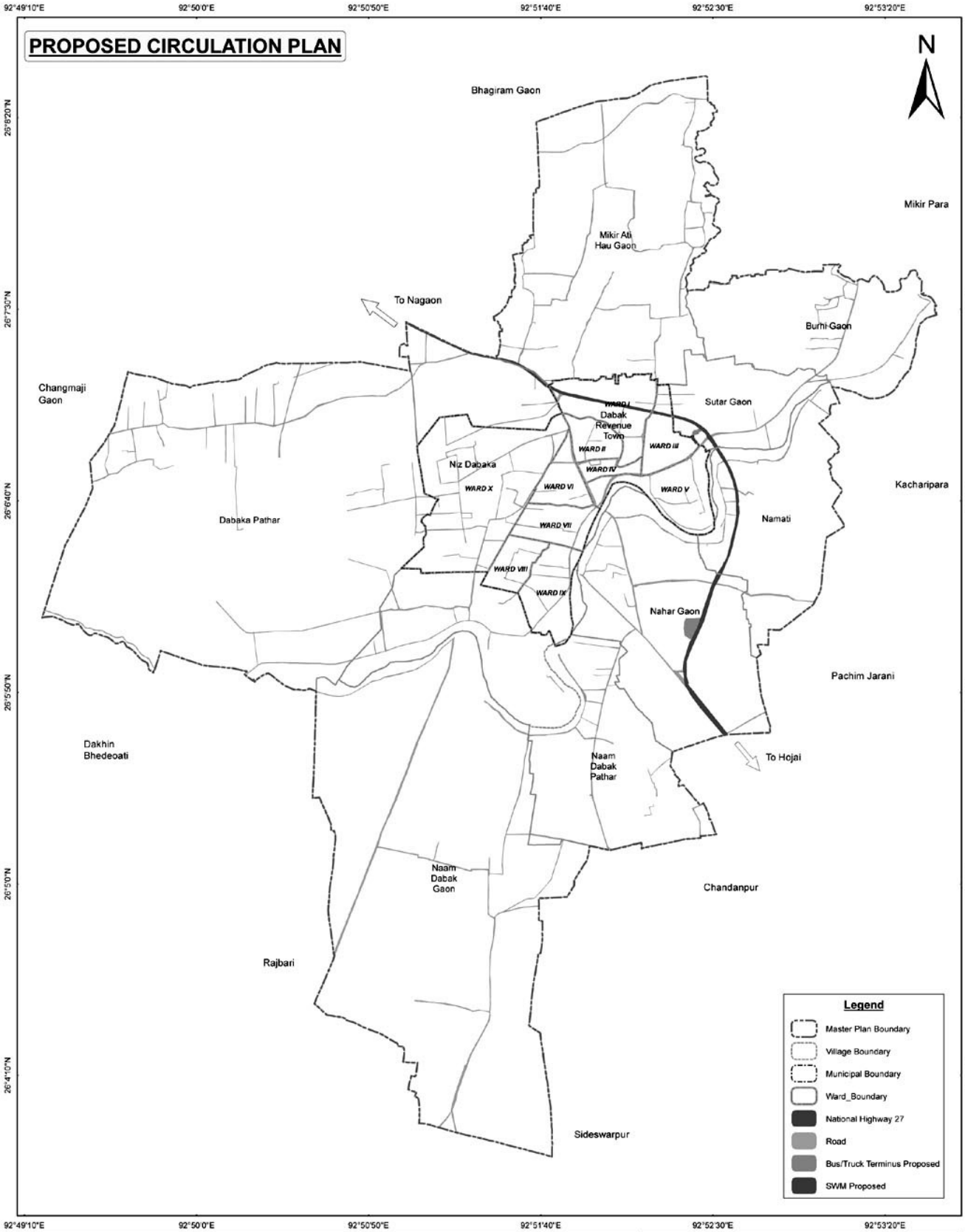
10.11 SECTOR -WISE INVESTMENT PROPOSAL:

The sector wise requirement of implementation of various projects of Doboka Master Plan Area is detailed as table below:

Table-42

SL. No.	Location	Project Name
Neighborhood Centre		
1.	Mikiati Huagaon	Neighbourhood Centre(1 Hac)
2.	Doboka Pather	Neighbourhood Centre (1 Hac)
3.	Niz Doboka	Neighbourhood Centre (1 Hac)
4.	Burigaon	Neighbourhood Centre (1 Hac)
5.	Nahargaon	Neighbourhood Centre (1 Hac)
6.	Sutargaon	Neighbourhood Centre (1 Hac)
Solid Waste management		
7.	Doboka Planning Area	Improvement and Modernization of Solid Waste Collection, Transportation and Disposal System of Doboka
8.	Ward No-10, DMBA	Development of Solid Waste Engineering Landfill Site on 11 Bigha of Land.
Drainage System		
9.	Doboka Planning Area	Preparation of DPR for Drainage System for Doboka Area
10.	Doboka Town	Construction and Improvement of Existing Storm Water Drains
11.	Doboka Town	Cleaning and Maintenance of existing Drains
Water Bodies		
12.	Doboka Planning Area	Rejuvenation and recycle of Water Bodies in Planning Area specially Deorijaan.
14.	Doboka Planning Area	Development of Green Belt around all water Bodies
15	Doboka Planning Area	Development of Jamuna River front as recreational zone
Traffic and Transportation		
16.	Doboka M.B, Ward No-10	Bus Terminus, Truck Terminus
17.	Doboka Planning Area	Construction of Entry Gate, S.B.I point, Diphu Bye Pass.
18.	Doboka Town Area	Construction of Cycle Parking
19.	Doboka Town Area	Construction of street Parking

20.	Doboka Town Area	Construction of Traffic Signals Point.
Recreational Facility		
21.	Doboka Planning Area	Improvement of Parks and Playgrounds
22.	Doboka Town Area	Improvement of existing Nehru Stadium
23.	Doboka Town Area	Development of Eco-Tourism Park at Burhiganga
24.	Near Akashi Ganga	Park & Recreational Centre on the outskirt of Doboka Town near Akashi Ganga
Industrial Area		
25	Doboka Planning Area	Development of industrial estate Nam Doboka Gaon
Infrastructure		
26	Construction of 3 storied Modern Fish Market	



DRAFT MASTER PLAN (2045) FOR DOBOKA TOWN, NAGAON

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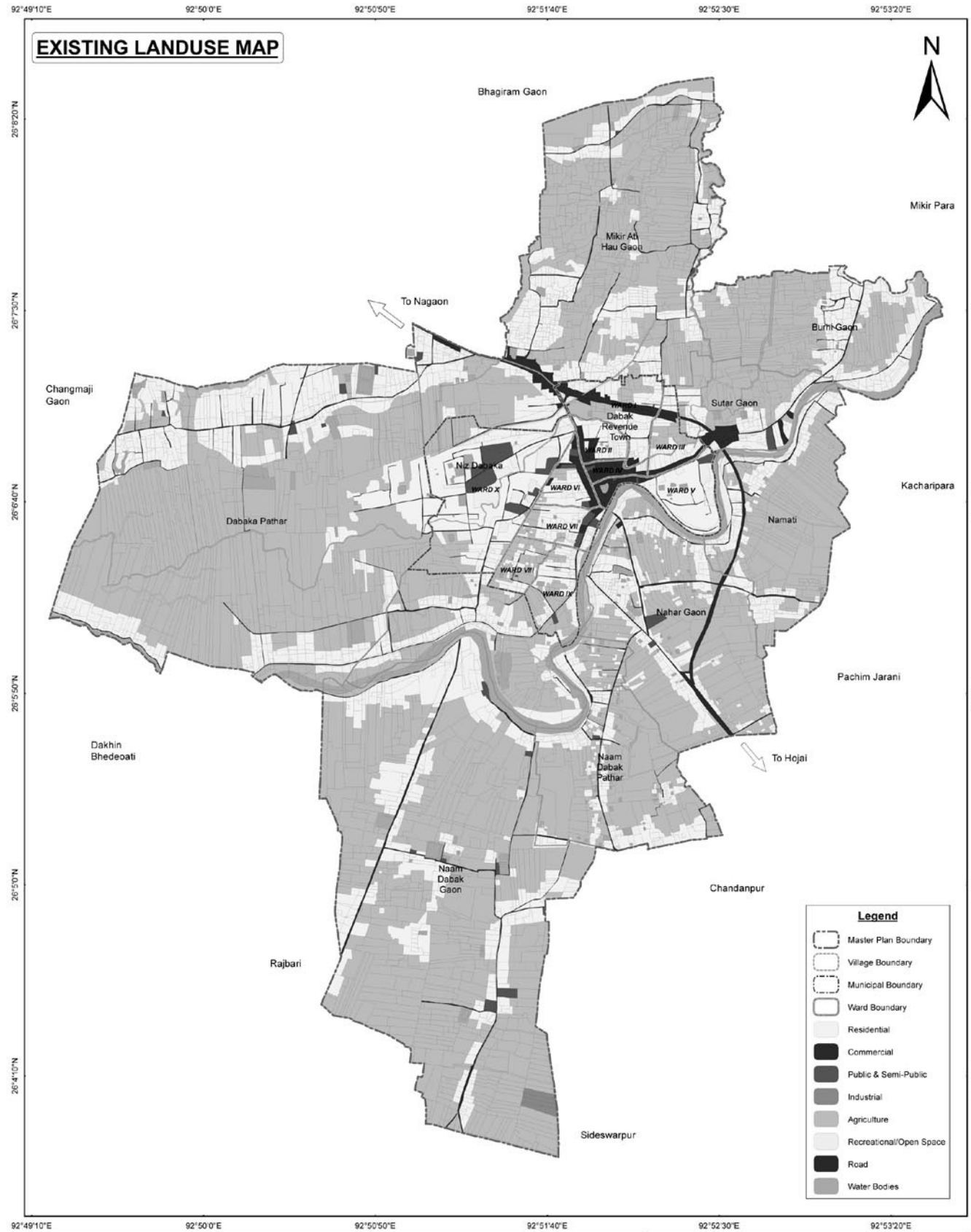
Prepared For : Town and Country Planning Dist. Office: Nagaon

Prepared by : LIVING SPACE STUDIO Building Ecology



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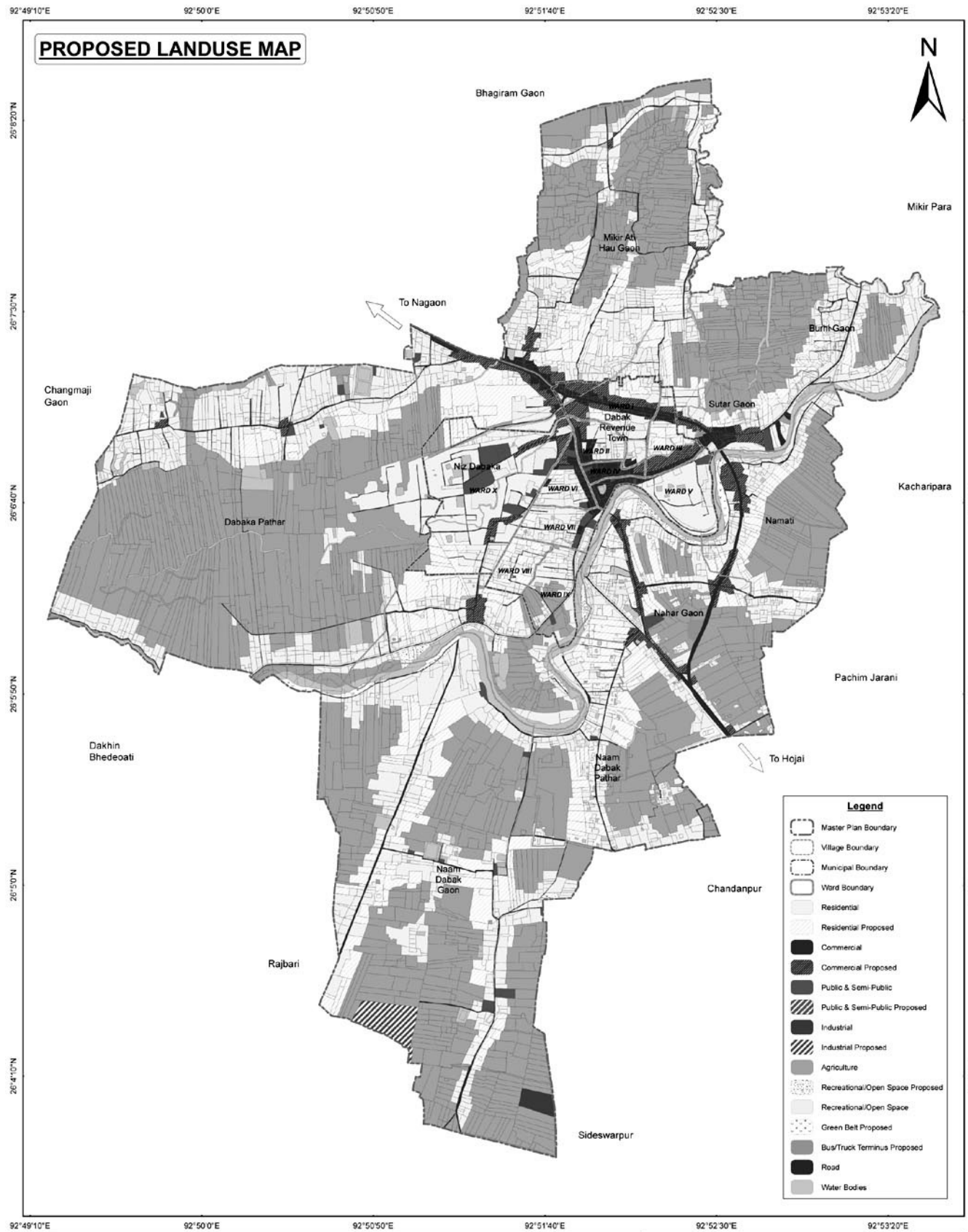

DRAFT MASTER PLAN (2045) FOR DOBOKA TOWN, NAGAON

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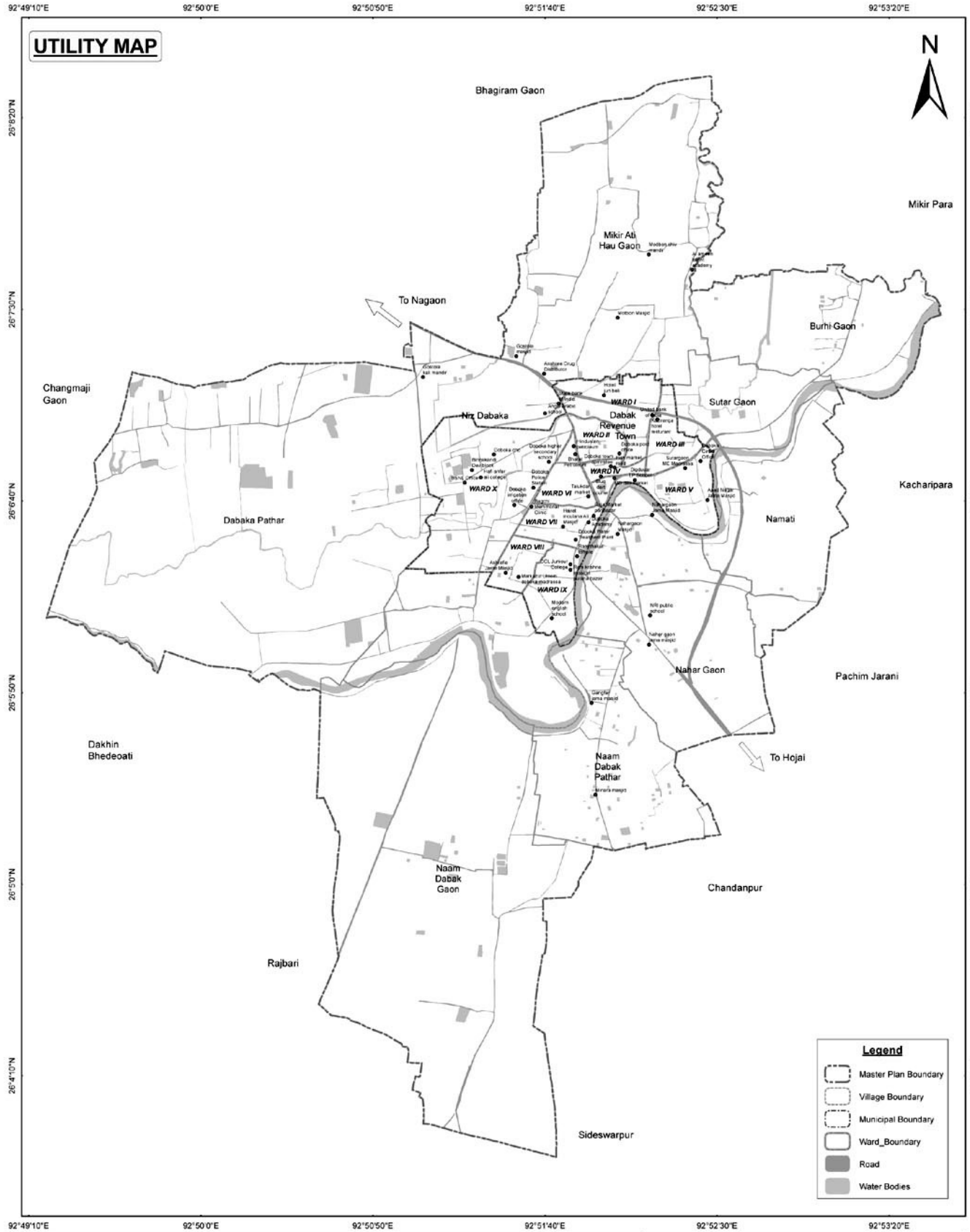

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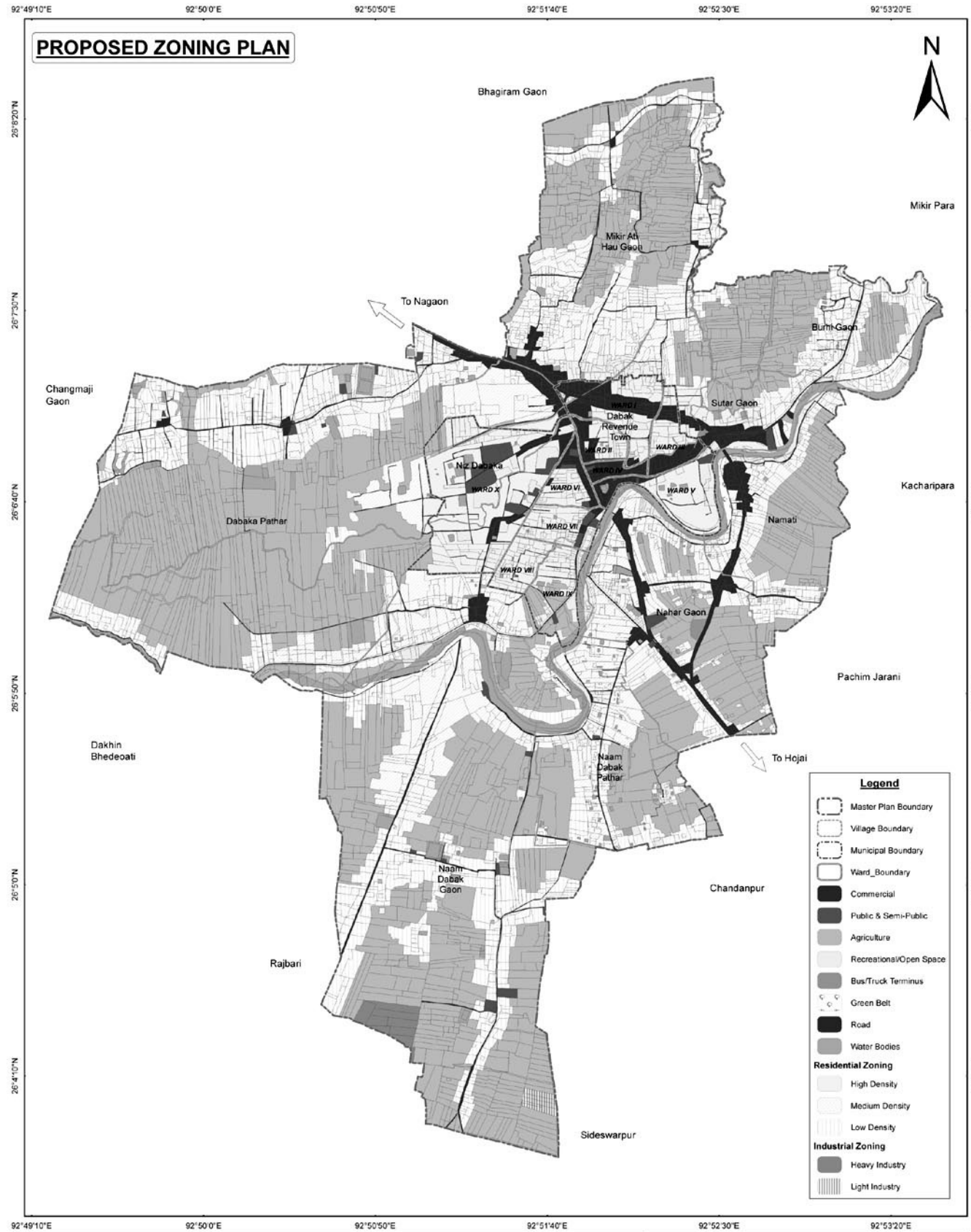

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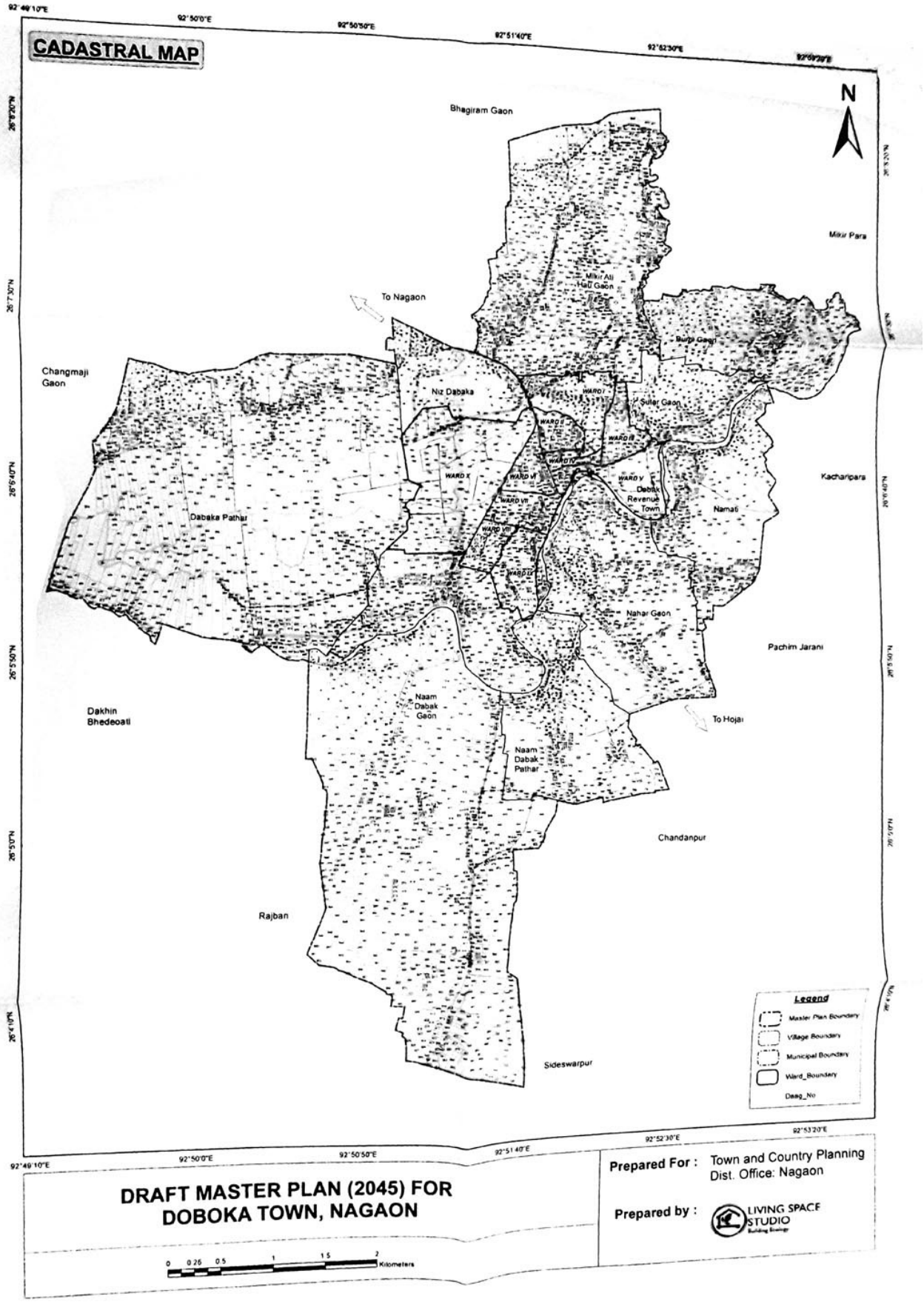

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