



# THE ASSAM GAZETTE

অসাধাৰণ

EXTRAORDINARY

প্ৰাপ্ত কৰ্তৃত্বৰ দ্বাৰা প্ৰকাশিত

PUBLISHED BY THE AUTHORITY

নং 379 দিশপুৰ, বৃহস্পতিবাৰ, 26 মে', 2022, 5th জেঠ, 1944 (শক)  
No. 379 Dispur, Thursday, 26th May, 2022, 5th Jaistha, 1944 (S. E.)

GOVERNMENT OF ASSAM  
ORDERS BY THE GOVERNOR  
DEPARTMENT OF HOUSING AND URBAN AFFAIRS

## NOTIFICATION

The 2nd May, 2022

**No. UDD(T)202/2022/6.-** In exercise of the powers conferred by the Section 9 (nine) of the Assam Town & Country Planning Act.1959 (Assam Act II of 1960) read with Sub-section I of Section 10 (Ten) of Assam Town & Country Planning Act (As amended), the Governor of Assam is pleased to published the following notice regarding the publication of Draft Master plan for Barpathar.

### Notice for the Publication of Draft Master Plan for Barpathar:

1. It is notified that the Draft Master plan for Barpathar prepared by the Directorate of Town & Country Planning, Government of Assam, Town & Country Planning Act.1959 read with Sub-Section I of Section 10(Ten) of Assam Town & Country Planning Act (As amended), for the area described in the schedule below is hereby published.
2. Any person or persons affected by the Draft Master plan may submit their objection or opinion in writing to the Director, Town & Country Planning, Government of Assam, Dispur, Guwahati-6 within two months from the date of publication.
3. The Draft Master plan for Barpathar with all relevant papers and maps may be inspected free of Cost during office hours at the Office of the Director, Town & Country Planning, Government of Assam, Dispur, Guwahati-6, the Deputy Director, Town & Country Planning, District Office, Golaghat, the Circle office, Barpathar Revenue Circle, Sarupathar, Office of the Chairman, Barpathar Municipal Board, Barpathar. Copies of the draft master plan for Barpathar are available at the Office of the Deputy Director, Town & Country Planning, Golaghat on payment.

**SCHEDULE****A. Situation and Area**

District:	Golaghat
Sub-Division	<b>Sarupathar</b>
Area covered	20.81 sq.kms
Municipal Area:	3.15 sq.kms

**B. Villages included in the Draft Master Plan for Barpathar**

Village	Mouza
1. Barpathar Gaon	Barpathar
2. Borpavojan	
3. Deghali Pathar Matikhola	
4. No.1 Duborani	
5. Kordoiguri	
6. Pavojan Bagan	
7. Simolu Chapori	
8. Singimari	
9. Singimari No.2	
10. Singimari No.1	

**C. Description of Barpathar Master Plan Boundaries**

East:	Chakhalipathar, Jorhotia
North:	Dighali Matokhola, Changpool
West:	Dhansiri River
South:	Borpothar Gaon, Kordoiguri

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

# Chapter 1: Introduction to Barpathar

## 1.1. Barpathar town: Location and relevance

Barpathar town falls within Golaghat district of Assam. The district is bounded by state of Nagaland to the south and east, Jorhat to the north and Karbi Anglong to the west. Thus the hills of Karbi Anglong and Nagaland has forced Golaghat into a physical cul de sac for the Dhansiri river valley on which the Barpathar town is located. Golaghat district has five notified towns, which includes Golaghat, Dergaon, Bokakhat, Sarupathar and Barpathar, of which Barpathar is the smallest. On the Map, Barpathar is located at 26.2765° N and 93.8974° E, to the south of the Brahmaputra river. It is at a distance of 45 kms away from Golaghat town towards the south, separated by the Nambor Forest Reserve and various large tea estates, like Bhagaban Tea estate. Due to its distance from the Golaghat head quarter town and the National Highway 39, the Barpathar along with Sarupathar town form an important urban hub for the surrounding areas in the southern end of the district, Golaghat South.

The National Highway 39 is 9kms away from Barpathar, and it is well-connected via state roads. The NF railway line passes through the Barpathar town, making it a busy railway station in the district.

The Barpathar town was notified as Town Committee in 1999, with 4 wards covering an area of 2.5856 sq.kms. The district of Golaghat itself was formed only 12 years earlier in 1987, separated from Jorhat district. Barpathar has been upgraded to Municipal Board, with 10 wards and area of 3.1527sq.kms. Barpathar is an important agricultural hub and has significant production of paddy, vegetables, betel nuts and sugarcane, along with mustard, sesame and tea.

In the last couple of years, the local peasantry of Barpathar has shifted to small tea growing businesses and many people have set up small tea gardens in their land. This has seen an upsurge in tea production and new tea factories have come up in the area.

On a different note, the emergence of Olympic medal winner Lovlina Borgohain from Barpathar has put some focus on the sports infrastructure in the town, with the initiation of the Lovlina Borgohain Sports Complex for which the government has sanctioned Rs. 2 crores.

## **1.2. Historical relevance**

Barpathar has been in the news in recent times, due to the recovery of ruins of the Kachari Kingdom of Assam, dating back to the 7<sup>th</sup> to 8<sup>th</sup> century AD by a team of the Archeological department of Assam in 2019. The Kachari dynasty was established in the Dhansiri valley, with their capital set up at Duarani. The stone inscription signed by King Basundhar Barman recovered in Dhansiri sub-division of Golaghat is the oldest stone inscription of Assam. The stone inscriptions found in Barpathar reveal the names of Maharajadhiraj Shriji Bora and Maharajadhiraj Diglekh Barman. Historians thereby state that presence of ruins of Kachari Kingdom in the area is common and the hope is to trace out evidences of historical settlement systems like Mohenjodaro at Barpathar.

## **1.3. Climate and topography**

Like the rest of Assam, the climate ranges from warm and rainy from May to October, with average temperatures ranging between 19<sup>o</sup>C to 38<sup>o</sup>C, while it is cooler from November to April, with average temperatures ranging between 10<sup>o</sup>C to 26<sup>o</sup>C.

The town is at an average elevation of 99 meters (324 feet) from sea-level. The Dhansiri river flows on the south-west border of the Barpathar town, while the Doiyang flows on the north-east. Barpathar is an low-lying, flat flood plain, drained by the two rivers on the east and west of the district.

## **1.4. Need for the Master Plan**

The Dhansiri River valley has a liner development of hierarchical towns from north to south -starting from Golaghat District HQ near the NH 39, to Barpathar, Sarupathar Municipal Boards and Bokajan, a border town near Nagaland at the southernmost point. Barpathar and Sarupathar form the only commercial hub in the area, due to the presence of the sub-divisional offices located here, along with presence of important markets, weekly haats, rice mills, tea factories, colleges and hospitals. It is evident that the town of Barpathar shall grow in tandem with Sarupathar and towards each other, with a possibility of the two towns merging into one in the future. As a railway town with commercial activities, Barpathar serves a large threshold of the surrounding rural settlements and shall continue to grow in commercial activities. Also keeping in mind that the Lovlina Sports Complex and Sports Academy may infuse increase of sports related activities and grow the student population in the town, the town needs a plan to firm up its urban infrastructure and governance.

In an effort to better the existing conditions of the town and support the further urbanization induced by rising commercial activities and transport connectivity, the master plan is proposed to development guideline towards building a healthy urban centre.

### 1.5 Proposed Master Plan area

The Barpathar town has grown from an area of less than 3 sq. kms in 1999 with 4 wards to currently 3.25sq.km with 10 wards. The town is already expanding along the existing roads, Which have now been brought in to the larger master plan area. The proposed Barpathar Master Plan area includes,-

Sl No.	Area	Area (Sq.Km)
<b>1</b>	<b>Borpothar Municipal town</b>	<b>3.25</b>
i	Barpathar Gaon	2.03
ii	Borpavojan	1.93
iii	Deghali Pathar Matikhola	2.743
iv	Kordoiguri	2.431
v	No.1 Duborani	2.659
vi	Simolu Chapori	2.672
vii	Singimari	0.558
viii	Singimari No.1	4.874
ix	Singimari No.2	0.304
x	Pavojan Bagan	0.68
<b>2</b>	<b>Barpathar Municipal area</b>	<b><u>16.66</u></b>
<b>Total Area Covered under Master Plan</b>		<b>20.81</b>

## Chapter 2 : Demographic characteristics and population projection

### 2.1. Urban Population

Barpathar is essentially a small town in the Upper Assam district of Golaghat. Set away from the District head quarter and National Highway, Barpathar serves a largely rural population. As evident from the decadal population growth rate, the district of Golaghat is growing at a lower rate of 1.27 per cent as opposed to 1.71 per cent of Assam, while Barpathar town's growth rate is even lower at 0.8 per cent.

Table 1: Total Population and Decadal Growth Rate

Area	2001	2011	Pop Growth Rate (%)
Assam	2,66,55,528	3,12,05,576	1.71
Golaghat	9,46,279	10,66,888	1.27
Barpathar	7,079	7,657	0.82

Source: District Census Handbook, Golaghat,, Census 2011

As per the Census 2011, the population of the town is 7,657, with 3,968 male population and 3,689 female population. While the town area has 1,687 households, the larger planning area takes up the total households to 6,754 by adding 5,067 households.

Table 2: Gender-wise Population in Barpathar Master Plan Area

Area	Male	Female	Total Population
Barpathar Municipal area	3,968	3,689	7,657
Additional Master Plan area	11,865	11,258	23,123
Total Barpathar Master Plan Area	15,833	14,947	30,780

Source: District Census Handbook, Golaghat, Census 2011

The population recorded in the surrounding villages which have been included in the Barpathar Master Plan has added a considerable increase to the total population of Barpathar Planning Area. While the population of the municipal area stands at 7,657, the population in the extended planning area contributes 23,123 persons, taking the total population to 30,780 persons in the Barpathar Master Plan area.

Table 3: Barpathar Town Ward-wise Population, 2011

Sl.No.	Ward	No.of Households	Population
1	Ward 1	239	990
2	Ward 2	252	1156
3	Ward 3	486	2218
4	Ward 4	710	3293
	Total Barpathar Municipal Town	1687	7657

Source: Census 2011 data from Directorate of Census Operations, Guwahati

Table 4: Village-wise population for the extended Barpathar Master Plan Area, excluding Barpathar town, 2011

Sl no	Villages	Households (HHs)	Population
1	BarpatharGaon	208	967
2	Borpavojan	263	1129
3	DeghaliPatharMatikhola	389	1932
4	Kordoiguri	256	1076
5	No.1 Duborani	401	1824
6	SimoluChapori	47	204
7	Singimari	439	2085
8	Singimari No.1	38	157
9	Singimari No.2	52	231
10	PavojanBagan	155	680

Source: Census 2011 data from Directorate of Census Operations, Guwahati

## 2.2 Decadal Urban Population Growth Rate

The population recorded for Barpathar Town in 2001 Census was 7,079 persons, indicating at 0.8 per cent decadal growth in urban population. Assam has a low urban growth rate 2.8%, while the district has a lower decadal growth at 2 per cent. In comparison, Barpathar municipal town shows even lower rate of growth in its urban population at 0.8 per cent, indicating towards its small town character.

Table 5: Comparison of Decadal Growth Rate of Barpathar Urban Population with the state and district

Comparison	2001	2011	Decadal growth rate
Barpathar Town	7,079	7,657	0.8%
Golaghat (Urban)	81,138	97,736	2%
Assam (Urban)	34,39,240	43,98,542	2.8%

*Source: District Census Handbook Golaghat,, Census 2011 and Census 2001*

### 2.3. Population Density

In the year 2020 all the Town Committees (comprising of less than 10 wards) in Assam were changed to Municipal Boards (comprising of 10 wards or more). This means that Barpathar increased its number of wards to 10, which has consequently, increased the municipal population to 9,566 and increasing its municipal area to 3.71 sq.km (Barpathar MB, 2020).

Table 6: Population Density: Comparison

Comparison	Population Density (Persons per sq.km)
Barpathar Town	2578
Barpathar Master Plan area	1479
Golaghat	305
Assam	398

*Source: Census 2011 data from Directorate of Census Operations, Assam*

Taking the newly formed municipal area for the Barpathar Town as provided by the Barpathar Municipal Board, the population density has been calculated. It is found that the population density in Barpathar is very high at 2578 persons/sq.km., which is much higher than the district density at 305 persons/sq.km and state density of 398 persons/sq.km. Thus, this is indicative of the need to prepare for the growing urbanizing population in the town by expanding municipal infrastructure and services to serve the increasing population.

### 2.4. Sex-Ratio, Literacy and SC/ST population

The demographic status of Barpathar is analyzed here in comparison to the national, state and district figures. Assam has a sex-ratio of 958 women, while Golaghat district has an average of 964 women per 1000 males. Barpathar's status is poorer in comparison with 944 women per 1000 males. However, in comparison to the national average, Assam's status is higher at the state, district and Barpathar town level, as India's average sex-ratio is 940 women per 1000 males.



Barpathar town has a literacy rate of 81, while the extended area has a rate of 77.30 per cent. Likewise in literacy rate, Barpathar town and Extended Planning area have better performance than national rate of 74.4 and state literacy rate of 72.19.

In terms of SC and ST population to total population, the trend in Assam is to have higher Schedule Tribe population, due to presence of larger number of Plains tribe communities in Assam. This trend of higher ST population than SC population is seen in Golaghat district demography as well. However, within the Barpathar town area, the presence of SC persons is greater (5.4 per cent) while the ST population stands at 2.2 per cent.

Table 7: Sex-Ratio, Literacy Rate and SC/ST population: Comparison

Comparison	Sex-ratio	Literacy Rate	% of SC Population	% of ST Population
Barpathar Town	930	81.00	5.4	2.2
Extended area, other than Municipal area	944	77.30	5.0	5.9
Golaghat	964	91.74	5.8	10.5
Assam	958	72.19	7.0	12.0
India	940	74.04	16.6	8.6

Source: District Census Handbook Golaghat, 2011 and Census 2011 data, Directorate of Census Operations, Guwahati

## 2.5. Population Projection

Population is the most important factor which is directly related to the various needs of the area. The prime objective of any Master Plan is to assess the present situation and project the future population for plan period, and accordingly calculate the requirements of both physical and social infrastructure in order to cater to the needs of such population. Therefore, population projection is the basic requirement for the projection of other needs of the area. From all these projections the developmental plan of an area should be prepared which can fulfill the different needs of the people living therein.

To arrive at a conclusive projection figure, three methods of population projections have been used for the city as well as the whole Master Plan Area. The methods used for projecting population are:

Table 8: Population projection for Barpathar using various methods

Year	Arithmetic Progression Method	Geometric Progression Method	Incremental Increase Method
1991		5,066	
2001		7,837	
2011		17,942	
2021	24,380	33,010	31,714
2031	30,818	1,11,734	52,820
2041	37,256	6,95,830	81,260

# Chapter 3: Economic Base and Employment Scenario

## 3.1. Workforce participation

Barpathar is largely an agricultural town, with presence of few cottage, small and medium industries. The Barpathar Planning Area reports a Work Participation Rate of 25 per cent, indicating that there is a large dependent population in the area. The Barpathar Town area shows a slightly higher work participation rate at 32.77 per cent.

Table 9: Work Participation Rate, 2011

	Barpathar Town	Extended Planning Area	Total Barpathar Master Plan Area
Work Participation Rate	32.77%	22.42%	25%

Source: Calculated from Census 2011 data

Taking a gendered view, it is seen that in Barpathar town close to 30 per cent of the work force comprises of men, while women comprises of only 3.19 per cent. In the extended planning area, only 4.21 per cent women have reported to be working. In the total Barpathar Planning area, 21.04 per cent men and only 3.95 per cent women form the working population. This indicates that women do not have adequate opportunities for economic engagements and are constrained to work within their homes or work without formal means of income. The scenario seems similar for the male population who are also poorly engaged in work, with only 21 per cent claiming to form part of the work force in the Barpathar Planning Area.

Table 10: Gender-wise Participation Rate, 2011

	Barpathar Town	Extended Planning Area	Total
Male	29.58%	18.22%	21.04%
Female	3.19%	4.21%	3.95%

Source: Calculated from Census 2011 data

## 3.2. Types of workers

As per the Census of India, the population can be divided into main workers, marginal workers and non-workers. They can be defined as:

- a) Main Worker: One who has worked in any economically productive work for at least 183 days/6 months in a year.
- b) Marginal Worker: One who has engaged in economically productive work for less than 183 days/6 months in a year.

c) The ones who have not participated in any economically productive activity constitutes the 'Non-Workers'.

The analysis of types of workers in Barpathar depicts that the share of non-workers is the largest within the Barpathar Master Plan area. There are 63 per cent non-workers, while 21.86 per cent are main workers and 3.13 per cent are marginal workers. Within Barpathar town, the share of non-workers is higher at 67.63 per cent, with remaining 30.21 per cent main workers and 2.56 per cent marginal workers.

Table 11: Percentage of Workers and Non-workers to Total Population, 2011

Area	Main Workers	Marginal Workers	Non-workers
Barpathar Town	30.21	2.56	67.63
Extended Master Plan Area	19.09	3.33	61.67
Total	21.86	3.13	63.05

Source: Calculated from Census 2011 data

The Census categories workers into four main types. They are, -

- a) Cultivators: person engaged in cultivation of own land or otherwise, for payment in money, kind or share
- b) Agricultural labourers : person engaged in the cultivation of another person's land as a sub-cultivator or labourer for wages. Such a person has no right of lease on the land or contract on land in which they work.
- c) Household industry worker: Such a worker is engaged in an industry which is run by one or more members of a family within the home where they live in urban areas or within the village in rural areas.
- d) Other workers: Workers who are not engaged in any of the above three kinds of work and includes government services, private job or other professionals, trade and commerce, etc. Plantation workers are included in this category as per Census.

Table 12: Types of Workers, 2011

Types of workers	Barpathar Town	Extended Planning Area	Total Master Plan Area
Cultivators	53	794	847
Agricultural Labourers	77	169	246
Household Industry Workers	37	88	125
Other workers	2146	3364	5510

Source: Census 2011 data

The above table 11 indicates that most of the workers in the Barpathar Master Plan area are engaged in Other works. This means that as an urbanizing area, most of the workers are engaged in non-agricultural activities. Most workers are engaged in various small government and commercial services and business within the district, if not within the town area.

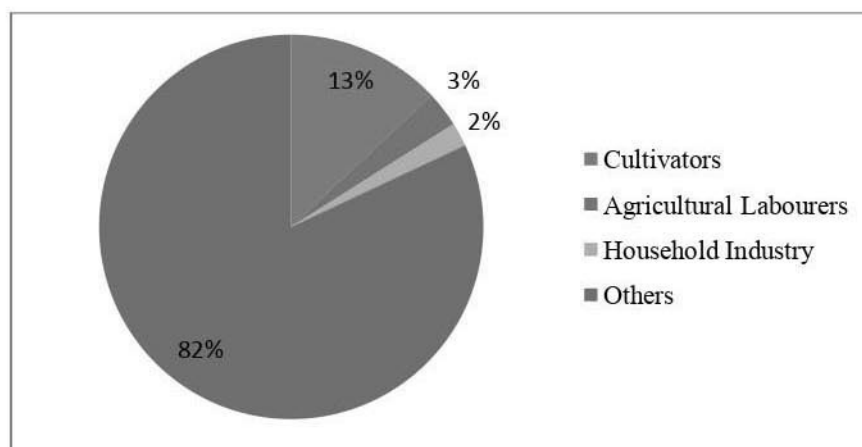


Figure 1: Types of Workers in Barpathar Master Plan Area, 2011

The household and other small and medium industries existing in Barpathar are listed in Table 12 below. There is presently only one tea factory in Barpathar town, amongst the 37 industrial units listed with the Barpathar Municipal Board. Metal fabrication is reported to have 11 units, while there are 16 food processing units which are all household industries.

Table 13: House-hold industries and Small and Medium Industries in Barpathar

Sl.	Industries	No. of units
1	Tea Industry	1
2	Rice Mill	3
3	Agar Oil	4
4	Drinking Water	2
5	Saw Mill	1
6	Bag making	1
7	Furniture	3
8	Biscuit Bakery	4
9	Rice processing Mill	1
10	Spice Grinding	2
11	Soap Factory	1
12	Printing Press	3
13	Fabrication	11
	<b>Total</b>	<b>37</b>

Otherwise, Barpathar is surviving on its growing character as a commercial hub with a reported 897 shops running within the Barpathar Municipal area. The Municipality has issued 930 trade licenses as per their records. Thus, it is evident that Barpathar is growing as a commercial town, with a few industrial units, engaging the residents in income generation.

# Chapter 4: Housing

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## 4.1. Housing and its relevance

The United Nation's Universal Declaration of Human Rights, 1948, recognizes the need of housing along with food, clothing, medical care, etc. as a right to a standard living required for health and well-being of everyone. The Census of India defines a house as a building or part of a building having separate main entrance from the road or common courtyard or staircase, etc. used or recognized as a separate unit. The Pradhan Mantri AwasYojna-Urban (PMAY-U), a flagship mission of the Government of India for providing pucca housing to low and middle income groups characterizes housing as providing,

- a) All-weather housing unit with water, kitchen, electricity and toilet,
- b) Women empowerment
- c) Better quality of life for urban poor
- d) Security of tenure
- e) Adequate physical and social infrastructure.

The housing scenario in Barpathar Master Plan Area has witnessed a change in the recent years due to government schemes and spread of loan related financial literacy, but there still persists a gap between the demand and supply of dwelling units. The issue is somewhat pronounced in Barpathar Municipal Area, which has seen influx of job seekers especially menial workers in search of better economic prospects. This has necessitated the development of shelters and low cost houses to prevent sprouting of slums and squatters without basic amenities. The problem regarding housing in Barpathar Municipal Area is overcrowding and congestion with poor quality housing. In the rural areas, the problem is of inadequate facilities like lack of electricity, all-weather housing materials, availability of pucca toilets, etc.

While changes are happening in the housing scenario of Barpathar, the process has been slow primarily due to high construction costs which most people are unable to afford. As a result, Barpathar is lagging behind in terms of adequate housing backed by proper facilities and basic amenities to lead a dignified life.

## 4.2. Types of House structure

The Census enumerates houses on their sub-classification of 5 categories: permanent, semi-permanent, serviceable, non-serviceable and unclassifiable. The Census definition of the structures are as follows, -

**a) Permanent:** Houses with wall and roof made of permanent materials. Wall can be made of G.I., Stone packed with Mortar, Stone not packed with Mortar, Metal, Asbestos sheets, Burnt bricks, tone or Concrete. Roof can be made of Hand-made tiles, Machine made tiles, Slate, G.I., Metal, Asbestos sheets, Brick, Stone or Concrete.

**b) Semi-Permanent :** Either wall or roof is made of permanent material, and the other is made of temporary material.

**c) Temporary:** Houses with wall and roof made of temporary material. Wall can be made of Grass, Thatch, Bamboo etc., Plastic, Polythene, Mud, Unburnt brick or Wood. Roof can be made of Grass, Thatch, Bamboo, Wood, Mud, Plastic or Polythene.

- **Serviceable temporary:** Wall is made of Mud, Un-burnt brick or Wood.

- **Non-serviceable:** Wall is made of Grass, Thatch, Bamboo etc., Plastic or Polythene.

**d) Unclassifiable :** Houses not classifiable under any of the above category.

In Barpathar, like the rest of Assam, there are 3 types of houses -

**a) Kutcha House (Temporary):** A house having mud floor, bamboo wall plastered with mud and thatch roof.

**b) Assam Type (Semi pucca/Semi permanent):** A house having brick wall, cement concrete or mud flooring, CGI/AC sheet roofing. Assam type houses may have any one or more of the house component (wall, roof, floor) in non-permanent material and are thus considered semi-pucca units.

**c) Pucca House or Permanent House:** A house having cement concrete flooring, brick wall and RCC slab roofing.

Table 14: Housing condition in Barpathar Master Plan Area, 2011

(% of households)

Housing Condition		Barpathar Municipal Area	Barpathar Master Plan Area excluding the municipal Area	Total Barpathar Total Master Plan Area
Permanent		13.59 %	24.90 %	18.44 %
Semi-Permanent		66.71 %	65.00 %	65.98 %
Temporary	Serviceable	0.40 %	0.20 %	0.31 %
	Non-Serviceable	19.17 %	9.60 %	15.07 %
Unclassifiable		0.13 %	0.30 %	0.20 %

Source: District Census Handbook, Census 2011

In the Barpathar Master Plan area, nearly 66 per cent of housing units are semi-permanent, indicating to the greater presence of Assam-type dwelling units which are considered semi-permanent units. Otherwise 18.44 per cent of total units are permanent within the Master Plan area, while 15 per cent are temporary as well as non-serviceable housing units. In The Barpathar Town as well as in the Extended master plan area, the semi-permanent houses claim the highest share of 66.71 per cent and 65 per cent, respectively. In the extended Master Plan area the share of permanent houses is higher at nearly 25 per cent, while in the municipal area 13.59 per cent units are permanent. In the Barpathar town area, temporary un-serviceable units claim a higher share (19.17%) than in the extended Master Plan area (9.60%). This is because the urbanizing areas have greater occurrence of slum-like condition in housing due to higher demand of low-cost housing by poor migrant population. Such houses cannot provide healthy living environment to their inhabitants and are vulnerable to the vagaries of nature, especially floods and heavy rain.

The houses constructed in Barpathar are either self-occupied or rented. Rented accommodation is particularly noticeable in Barpathar Municipal Area due to the presence of migrant workers and students from peripheral villages. In Barpathar Master Plan Area excluding the Municipal Area, an insignificant proportion of houses are rented. The table below shows the percentage of owned and rented houses in Barpathar as per Golaghat District Census Handbook, 2011:

Table 15: Housing Tenancy Typology in Barpathar Master Plan Area

Tenancy Status	(% of HHs)		
	Barpathar Municipal Area	Barpathar Master Plan Area excluding the municipal Area	Total Barpathar Master Plan Area
Owned	74%	96%	<b>86%</b>
Rented	22%	3%	<b>11%</b>
Any others	4%	2%	<b>3%</b>

Source: District Census Handbook, Census of India 2011

As evident in smaller town area, majority of the households live in owned houses. In the Barpathar Master Plan Area, 86 per cent households have their own house, 11 per cent live on rented property, while 3 per cent live on other types of accommodation like guest, paying guest, employer housing, etc. Within Barpathar Municipal Area, the share of rented housing is 22 per cent, much higher than in the extended Master plan area, where rented houses comprise 3 per cent. The rise in rental housing indicated towards rising urbanization, as people shift to the urbanizing



areas in search of job, for higher education and other opportunities. In Barpathar Master Plan Area excluding the Municipal Area, 96 per cent of the houses are owned and only 2 per cent are rented.

### 4.3. Housing Supply Mechanism

Majority of the houses in Barpathar are self-built. However, to provide assistance for house construction and renovation, especially to the Economically Weaker Section (EWS), Low Income Group (LIG), Middle Income Group (MIG), minorities, socially backward sections of society and physically challenged, the government has put in place various affordable housing schemes over the years, like Indira Awas Yojana, Integrated Housing and Slum Development Programme, Pradhan Mantri Awas Yojana Urban and Rural, Apun Ghor Asoni, etc. These have brought about a perceptible change in the housing scenario. The various housing schemes available in Assam are, -

**a) Prime Minister Awas Yojana (Urban) {PMAY (U)}:** This scheme launched in 2015, aims to provide housing for all in the urban areas by 2022. The mission seeks to address the housing requirement of urban poor including slum dwellers through the following programme verticals:

- i) Slum rehabilitation of slum dwellers with participation of private developers using land as a resource.
- ii) Affordable housing through credit linked subsidy.
- iii) Affordable housing in partnership with public and private sector.
- iv) Subsidy for beneficiary led individual house construction/enhancement.

**b) Individuals Household Latrine (IHHL) under Swachh Bharat Mission (SBM):** IHHL under SBM aims to eliminate open defecation in the country. Here applicants can approach the local authorities in their area to get central assistance for construction of toilets. They can also complete the process online through an official portal of the central government. Conversion of old toilets can also be applied for.

**c) National Urban Livelihood Mission (NULM):** Launched in 2013, NULM aims to provide permanent shelter equipped with essential services to the urban homeless in a phased manner under the scheme of Shelter for Urban Homeless (SUH). The objectives of the Shelter for Urban Homeless (SUH) component of NULM scheme are to:

- i) Ensure availability and access of the urban homeless population to permanent shelters including the basic infrastructure facilities like water supply, sanitation, safety and security.

ii) Cater to the needs of especially vulnerable segments of the urban homeless like the dependent children, aged, disabled, mentally ill and recovering gravely ill, by creating special sections within homeless shelters and provisioning special service linkages for them.

iii) Provide access to various entitlements, viz. social security pensions, PDS, ICDS, identity, financial inclusion, education, affordable housing etc. for homeless populations.

iv) Formulate structures and framework of engagement for development, management and monitoring of shelters and ensuring basic services to homeless persons, by state and civil society organizations including homeless collectives.

**d) Apun Ghar Home Loan :** The Government of Assam has initiated a housing scheme known as Apun Ghar Home Loan scheme to provide home loan for State Government employee on subsidized interest rates. Assam Government has signed a Memorandum of Understanding (MOU) with State Bank of India for the same. Under the home loan scheme, the eligible beneficiaries who are permanent residents and employee of State Government can avail a maximum loan amount of Rs.15 Lakhs without collateral security from the concerned bank. The Assam Government will provide 3.5% subsidy of interest to the Government employee under this scheme. Once the application is approved, the interest of home loan will be 5% for women and 5.05% for men.

#### **4.4. Living Condition of Dwelling units in Barpathar Master Plan Area**

Housing condition indicates the physical state of the house or dwelling unit. Census has classified dwelling units into good, livable, and dilapidated. They can be defined in the following manner-

a) Those houses which do not require any repairs and are in good condition may be considered as 'Good'.

b) Those houses which require minor repairs may be considered as 'Livable'.

c) Those houses which are showing signs of decay or those breaking down and require major repairs or those houses decayed or ruined and are far from being in conditions that can be restored or repaired may be considered as 'Dilapidated'.

The percentage distribution of households based on different housing condition in Barpathar can be understood from the following table:

Table 16: Livability condition of houses in Barpathar Master Plan Area, 2011

Condition of Census houses as	(% of HHs)		
	Barpathar Municipal Area	Barpathar Master plan Area excluding the Municipal Area	Total Master Plan Area
Good	34%	43%	<b>38%</b>
Liveable	62%	53%	<b>58%</b>
Dilapidated	3%	5%	<b>4%</b>

Source: District Census Handbook, Census of India 2011

The table 15 above reveals that 58 per cent households in Barpathar Master Plan Area live in 'livable' houses. The share of 'livable' houses in Barpathar town is higher at 62 per cent, while in the extended area the share is 53 per cent. However, 'good' houses have a greater share in the extended Master Plan area at 43 per cent, compared to 34 per cent in the Barpathar town area, indicating to poorer quality of housing in the urban area. 3 per cent units in Barpathar town and 5 per cent units in the extended area 'dilapidated'.

#### 4.5. Housing Construction material: Roof, Wall and Floor

The condition of housing can be analyzed through the study of the materials used in the construction of the roof, floor and walls. These three components help in understanding the viability of the house as an all-weather house. This is especially important in the flood plains of Assam, where floods are an annual occurrence across various locations in the state.

The housing census information reveals that across the Barpathar Master Plan area, majority households have used G.I./Metal/Asbestos sheets for the roof construction. In Assam, slanting roofs constructed from such material hold up the best during the the torrential rains of the Monsoon season. Nearly 82 per cent households in the total Master Plan area report G.I./Metal/Asbestos sheets for the roof construction, while in the Barpathar town the figure is 79 per cent and in the Extended master plan area it is 86 per cent. The other material used in some significance is the practice of using Grass and Thatch from crop residue to build the roofs, with 15.3 per cent households reporting it in the total master plan area, while 20 per cent households have report it in the Barpathar town area.

Table 17: Roofing Material of Barpathar Master Plan Area, 2011

(% of HHs)

Roof Material	Barpathar Municipal Area	Barpathar Master Plan Area (excluding MB area)	Total Master Plan Area
Grass/Thatch/Bamboo/ Wood/Mud etc.	20%	10%	15.3%
Plastic/ Polythene	0%	0%	0%
Handmade Tiles	0.2%	0%	0.3%
Machine made Tiles	0%	0%	0%
Burnt Brick	0%	0%	0%
Stone/ Slate	0.1%	1%	0.6%
G.I./Metal/Asbestos sheets	79%	86%	81.9%
Concrete	1%	2%	1.7%
Any other material	0%	0%	0%
Total	100	100	100

Source: District Census Handbook, Census of India 2011

The Table 17 below shows that the wall material used most dominantly in the Barpathar Master Plan area is Grass/Thatch/Bamboo, etc., with 78 per cent households reporting such usage. In the Barpathar town area 92 per cent households, while in the Barpathar Extended Master Plan Area 73 per cent households have reported such usage. This indicates that majority houses in the area are semi-permanent houses.

Table 18: Wall Material used in the Barpathar Master Plan Area, 2011

(% of HHs)

Wall Material	Barpathar Municipal Area	Barpathar Master Plan Area (excluding MB area)	Total Master Plan Area
Grass/ Thatch/ Bamboo etc.	82%	73%	78%
Plastic/ Polythene	0%	0%	0%
Mud/ Unburnt brick	4%	1%	3%
Wood	0%	0%	0%
Stone not packed with mortar	0%	1%	0%
Stone packed with mortar	0%	1%	1%
G.I./ Metal/ Asbestos sheets	0%	0%	0%

Burnt brick	10%	23%	16%
Concrete	3%	0%	2%
Any other material	0%	0%	0%

Source: District Census Handbook, Census of India 2011

The Table 18 below analyses the floor material used in the Barpathar Master Plan Area and it shows that 78 per cent households have reported using mud as the dominant material used in the construction of their floors. Within the Barpathar town, 74.1 per cent households and in the Extended Master Plan Area, 53.6 per cent households have mud floors. Other significant material used for floor construction is cement.

Table 19: Floor material used in Barpathar Master Plan Area, 2011

(% of HHs)

Floor Material	Barpathar Municipal Area	Barpathar Master Plan Area (excluding MB area)	Total Master Plan Area
Mud	74.1%	53.6%	78.5%
Wood/ Bamboo	0.1%	0.1%	0.1%
Burnt Brick	2.1%	4.4%	3.7%
Stone	0.1%	0.1%	0.1%
Cement	12.0%	24.1%	17.2%
Mosaic/ Floor tiles	0.3%	0.4%	0.4%
Any other material	0%	0%	0%

Source: District Census Handbook, Census of India 2011

#### 4.6. Availability of Kitchen, Toilet, Bathroom

A good quality housing unit must be served by a cooking space, a toilet and a bathing area separate from the living/sleeping area. This ensure healthy, smokeless and clean cooking environment, with dignified, private and safe living conditions.

##### 4.6.1. Kitchen

The Census enumerates kitchens in the following manner, -

a) Cooking inside the House: (i) Having a kitchen: In a separate room

(ii) Not having a kitchen as a separate space in the house

b) Cooking outside the house: (i) Having a kitchen as a separate room outside the house

(ii) Not having a separate room, rather in an open space

The following table 19 depicts the availability of kitchen across households in the Barpathar Master Plan Area. Almost 93 per cent households in the Barpathar Master Plan Area have reported the availability of separate kitchen inside the house. Meanwhile, about 6 per cent households have reported cooking outside the house, in a separate kitchen. Households in the Barpathar master plan area have healthy cooking environment.

Table 20: Availability of household kitchen in Barpathar Master Plan Area

(% of HHs)

Kitchen Facility	BarpatharMunicipal Area	BarpatharMaster Plan Area excluding the Municipal Area	Total BarpatharMaster Plan Area
Cooking inside the house	96%	89%	93%
Cooking outside the house	4%	10%	6%
No cooking	0.14%	0.50%	0.29%

Source: District Census Handbook, Census of India 2011

#### 4.6.2. Availability of Toilet

Availability of proper latrine with piped sewer system or septic tank is a must for households to lead a dignified life. The lack of proper access to latrine leads to a plethora of problems. Open defecation and outdated latrines like Pit Latrine and Service Latrine creates an unhealthy environment by attracting flies and contaminating land and water sources. It is known to spread fatal vector-borne diseases especially among children. It also creates discomfort and raises security issues among adolescent girls and women.

The following table 20 depicts the percentage distribution of the availability of latrine facilities across households in Barpathar. The availability of toilet within the premises is reported by 75 per cent households within Barpathar, while 13 per cent have toilets, outside the house. However, the distressing practice of open defecation is reported by 11 per cent households in the Barpathar Master Plan area. The practice of open defecation is higher in the Barpathar Town area (17% HHs), as against the households in the Extended Master Plan area at 3 per cent.

Table 21: Availability of Toilet Facility in the Household, Barpathar Master Plan Area, 2011

(% of HHs)

<b>Latrine Facility</b>	<b>Barpathar Municipal Area</b>	<b>Barpathar Master Plan Area excluding the Municipal Area</b>	<b>Total Barpathar Master Plan Area</b>
Number of households having latrine facility within the premises	66%	89%	75%
Number of households not having latrine facility within the premises	17%	6%	13%
Public Latrine	0%	3%	1%
Open defecation	17%	3%	11%

Source: District Census Handbook, Census of India 2011

An in-depth analysis of the available toilet facilities also provides a distressing picture. The majority of households that is 46 per cent households in the total Master Plan area have reported the use of outdated Pit Latrine system without improved systems of ventilation or covered slabs. This share is higher within the Barpathar Town area, with 61 per cent households reporting the same, while in the extended master Plan area this share is 30 per cent of the households. Almost 32 per cent households (4%+14%+15%HHs) have flush or Pour flush latrine with the Municipal town, while the share is higher in the Extended Master Plan area at 50 per cent households (2%+33%+15%HHs). In total about 40 per cent households (3%+23%+15%HHs) have the more advanced flush/pour flush latrine in the total Master Plan area. Another distressing fact is the practice of disposing the night soil into open drains and pits, which has been reported by 1.38 per cent households in the planning area.

Table 22: Type of Latrines used in the Barpathar Master Plan Area, 2011

(% of HHs)

Latrine Facility		Barpathar Municipal Area	Barpathar Master Plan Area excluding the Municipal Area	Total Barpathar Master Plan Area
Flush/pour flush latrine	Piped sewer system	4%	2%	3%
	Septic tank	14%	33%	23%
	Other system	15%	15%	15%
Pit latrine	With slab/ventilated improved pit	7%	17%	12%
	Without slab/open slab	61%	30%	46%
Night soil disposed into open drain		0.05%	2.87%	1.38%
Service latrine	Night soil removed by human	0.00%	0.00%	0%
	Night soil serviced by animal	0.21%	0.10%	0%

Source: District Census Handbook, Census of India 2011

Although the 2011 Census data provides a concerning scenario of sanitation in the Barpathar Master Plan area, the launch of Swacch Bharat Mission on 2<sup>nd</sup> October 2014 have addressed the problem somewhat. Individual Household Latrines (IHHLs), as well as Community/Public toilets (CT/PT) have been constructed in the Barpathar Municipal Town. The scheme has provided toilets in 296 households, while also constructing 6 Community toilets in the municipal area. Infact, the Swacch Bharat Mission has with their efforts also declared Barpathar to be an Open Defecation Free city.

Table 23: Construction of Toilets under Swacch Bharat Mission at Barpathar Municipal Town

Toilet type	Target	Completed
Individual Household Latrines	296 seats	296 seats
Community/Public toilets	6 seats	6 seats

Source: Barpathar Municipal Board, 2022



### 4.6.3. Availability of Bathrooms

Table 24: Availability of Household Bathrooms in Barpathar Master Plan Area, 2011

(% of HHs)

Bathroom Facility		BarpatharMunicipal Area	Barpathar Master Plan Area excluding the Municipal Area	Total Barpathar Master Plan Area
Yes	Bathroom	26%	54%	38%
	Enclosure without roof	42%	31%	37%
No Bathroom		32%	16%	25%

Source: District Census Handbook, Census of India 2011

From the table above, it is clear that 25 per cent of the households under Barpathar Master Plan Area do not have access to bathrooms. Around 37 per cent have only enclosures without roof to be used for bathing. It is concerning that within the Municipal town area, 42 per cent households use an enclosure without roof as bathroom, while 32 per cent households do have any bathroom at all. This is a major barrier in the way of living a dignified life, and reflects how the master plan area is lagging behind.

### 4.7. Adequacy of housing for families: Looking into matters of congestion

Addressing the issue of congestion is very essential in understanding the adequacy of housing and estimating the shortage of housing in a planning area. It is desirable that a married couple should have one separate room to themselves and their small children.

The table 24 below shows that most of the households in Barpathar Master Plan area have one married couple. However, the area to be addressed is for the households with more than one married couple, who in the case of one Bedroom-Hall-Kitchen set up of urban areas shall require a separate house, either owned or rented. There are 523 households in Barpathar Master Plan Area with more than one married couple in the household.

Table 25: Percentage of Households with the number of Married Couples, Barpathar Master Plan Area, 2011  
(% of HHs)

No. of Married Couples in a Household	Barpathar Municipal Area	Master Plan Area (excluding MB area)	Total Master Plan Area	
			% of Households	No. of Households
None	15%	11%	13%	503
1	71%	76%	74%	2912
2	11%	11%	11%	415
3	2%	2%	2%	81
4	0.4%	0.4%	0.38%	15
5+	0.5%	0.1%	0.30%	12

Source: District Census Handbook, Census of India 2011

Again the table below shows that most of the households in Barpathar Master Plan area have two rooms per household. However, the area to be addressed is for the households with one room or no exclusive rooms. In Barpathar Master Plan Area 32 households have no exclusive rooms in the house. Such households are mostly likely to look for alternate housing as the family grows.

Table 26: Number of Rooms available in a House per Household, Barpathar Master Plan Area, 2011

No. of rooms	Barpathar Municipal Area(% of HHs)	Master Plan Area (excluding MB area)(% of HHs)	Total Master Plan Area	
			% of HHs	No. of Households
No exclusive room	0%	1%	1%	32
One room	19%	7%	12%	489
Two rooms	39%	44%	42%	1647
Three rooms	20%	26%	24%	925
Four rooms	12%	11%	12%	455
Five rooms	5%	6%	5%	212
Six rooms and above	4%	4%	4%	175
Total	100%	100%	100%	3935

Source: District Census Handbook, Census of India 2011

Again the table below shows that in the Barpathar Master Plan Area, there 1028 households which have 5 family members or more.

Table 27: Number of family members per Household, Barpathar Master Plan Area, 2011

No. of family members	Barpathar Municipal Area	Master Plan Area (excluding MB area)	(No. of HHs)
			Total Master Plan Area
1	88	54	141
2	138	137	276
3	324	374	698
4	385	607	992
5	309	443	751
6-8	346	527	873
9+	98	105	203
Total HHs	1687	2247	3934

Source: District Census Handbook, Census of India 2011

## 4.8. Housing Shortage in Barpathar Master Plan Area

### 4.8.1 Household size

The number of family members per household divided by the total population gives the household size of the planning area. In the case of Barpathar, the average family size is 4.5 persons. The following table shows the number of person per household in Barpathar Master Plan area.

Table 28: Household Size in Barpathar Master Plan Area, 2011

Year	Number of Households	Total Population (in numbers)	Number of Persons per Household
2011	3,935	17,942	4.55

Source: District Census Handbook, Census of India 2011

### 4.8.2. Housing Shortage

Urban housing shortage calculations were undertaken by the Technical Group on Urban Housing Shortage (TG-12) under the Ministry of Housing and Urban Poverty Alleviation, headed by Prof. Amitabh Kundu in 2011. The methodology for calculating the housing shortage as proposed by this technical group has been adapted for calculating the housing shortage for the Master Plan Area of Barpathar. The data required as per the technical group on Housing Shortage is as follows:

Sl no	Congestion Parameters as per Technical group on Urban Housing Shortage*	Data used for the purpose of this report
1	Households living in non-serviceable kutcha houses	- Houses with predominantly kutcha or semi pucca roof material /Wall material - Temporary housing, taking both Temporary houses and unclassifiable houses data
2	Households living in Obsolescent houses	- Dwelling units which are reported as 'dilapidated'
3	Households living in Congested houses, requiring new houses	- Substituted with data of HHs without exclusive room
4	Households in homeless conditions	- No Houseless population is reported in Barpathar Master Plan Area in Census 2011

\* Source: Report of the Technical Group on Urban Housing Shortage (TG-12), 2012, pg.4

As all the data as stipulated by the technical group is not available for the master plan area in the Census, relevant data is substituted to calculate the housing shortage.

Table 29: Factors for calculating Housing Shortage of Barpathar Master Plan Area, 2011

Sl.	Factors	Description	Remarks
1	Obsolescence factor	Dwelling units aged 80 years or more are treated as obsolete. Number of households living in the dwelling units having age 40-80 years and in bad condition and percentage of households living in all structures aged 80+ years, irrespective of condition of structure, taken together as obsolescence factor and considered as housing requirement.	<b>159 HHs</b> (Data of Dwelling units which are reported as 'dilapidated' has been considered for obsolescence factor)
2	Temporary housing	All temporary houses should be considered as housing requirements as per recommendations.  According to census data both Temporary houses and unclassifiable houses should be taken into consideration to arrive at the total number of temporary housing	<b>623 HHs</b>
3	Houses with predominantly kutcha or semi pucca roof material /Wall material	Houses with Kutcha roof / wall, i.e., using grass/thatch/mud/bamboo/wood or Plastic/polythene/hand-made tiles for roof and these same material for walls are considered as Kutcha house	<b>325 HHs</b> (Houses with kutcha roof require regular maintenance, unlike a house with kutcha wall but pucca roof; so Houses with kutcha roof are taken for purpose of this calculation)
4	Congestion factor	Congestion factor is defined as the percentage of households in which each married couple does not have a separate room to live. As this data is not available in the Census or the National Sample Survey Round information for Barpathar town, so data of HHs without exclusive town is used as the substitute)	<b>32HHs</b> (As 32 HHs have reported having no exclusive room, for the purpose of calculation, they are considered for the Congestion factor)

Source: Data from District Census Handbook, Census of India 2011 Analysis by the Deputy Director, T&CP, Golaghat

From the above considerations, the total housing shortage for Barpathar Town is calculated as follows:

Table 30: Computation of current housing shortage, 2011

<b>Parameter</b>	<b>Number of Housing Units</b>
1. Obsolescence factor	159
2. Temporary housing	623
3. Houses with predominantly katcha material	325
4. Congestion factor Housing Deficiency or Congestion Factor for Married Couples ( <i>Substituted by HHs with no exclusive rooms</i> )	32
<b>Total Housing Shortage</b>	<b>1423</b>
<b>Total HHs in Barpathar MP area ( as per 2011 census)</b>	<b>3935</b>
<b>Housing Shortage in percent (Housing Shortage / No. of Urban HHs)</b>	<b>36.16%</b>

*Source: Calculated Values*

## Chapter 5: Transportation

### 5.1. Network of roads

Barpathar falls in the southern end of Golaghat, away from major roads and National Highway. The National Highway 39 is passing at a distance of 9 kms from Barpathar town. There are no state highways passing through Barpathar. However, Barpathar is well connected with Golaghat Town and other important urban areas vide a network of district roads.

The Census 2011 reports 7 kms of pucca, all-weather roads, and 13.7 kms of gravel-laid kutcha roads within the Barpathar Municipal area.

### 5.2 District roads

The Public Works Department has completed around 29 kms of district roads connecting Barpathar to its surrounding areas. Most of the PWD roads are average width of 3 kms to 5 kms.

Sl. No.	PWD Road	Length
1	Barpathar to Sarupathar	12 .00 kms
2	GhyanashamBaruah Path	3.50 kms
3	Rengma Road (Forest Tinali to Uriamghat)	2.50 kms
4	Na Singimari Road	3.50 kms
5	Digholipathar road ( Hospital Road)	2.50 kms
6	Duborani to Tengani	1.00kms
7	Koilyanipara Road	2.50 kms
8	Singimari Road	2.00kms

*Source: Barpathar Municipal Board*

### 5.3. Municipal Roads

Within Barpathar, the municipality has constructed a few roads within its administrative jurisdiction. The municipal roads are of average 5 meters width.

Sl. No.	Municipal Road	Length
1	Kalikumar road	2 kms
2	Borpavojan road	2.50 kms
3	Borpavojan Border road	1.50 kms

*Source:Barpathar Municipal Board*

## 5.4. Parking

Considering the fact that Barpathar is a small municipality, parking has mostly developed organically around commercial and institutional areas, as well as bus stoppages. There is one designated bus stop at Ward No.8 on the Barpathar Feeder road, opposite the Punjab National Bank. Intra-state travelers have to take buses towards Golaghat, which is 45 kms away, from this bus-stop for linkages to other districts. Likewise, a small-passenger vehicle stoppage (Wingers, Autos, Magic, etc.) has come up near the Barpathar Hindi School for catering to movement within the town and towards Sarupathar town and surrounding areas. Another area near Aalu Godown has developed as on-street parking for such small passenger vehicles.

In the absence of major warehouses and godowns, there is a lack of designated truck terminals. Most of the mini trucks plying with goods rely on on-street parking and direct loading/unloading at the retailer shops.

## 5.5. Street lighting

There are a total of 93 street-light posts in the town, covering the entire PWD and municipal road network. However, for the newly included master plan area, another 100 street light posts are desirable.

## 5.6. Signage

As the town is very small, not much thought has been provided towards development of the road signage. Less than 10 per cent of the roads are covered under street signage.

## 5.7. Proposals to improve transportation and circulation

### 5.7.1. Beautification of traffic rotary



Figure 2: Barpathar HS Tiniali Point



Figure 3: Barpathar PWD IB Tiniali



Figure 4: Barpathar Kalibari Tiniali Point



**5.7.1. Development of formal Bus-Stoppage and Parking zones**



Figure 4: Development of formal Bus stoppage at B.F Road (Near PNB, Barpathar)



Figure 5: Development of formal Car parking area at B.F road

# Chapter 6: Infrastructure, Public Utilities, Services

## 6.1. Physical Infrastructure

To ensure that urbanization happens sustainably, a well-executed delivery of urban services is a must. A sound infrastructure of urban services is necessary for combating diseases and poverty and improving the quality of life. Accordingly, the urban service profile refers to the current state of infrastructure and utility systems in the city. It indicates the adequacy or inadequacy of infrastructure services in terms of coverage, quantity, and quality, and attempts to identify the factors responsible for inadequate development of infrastructure services. It measures the gap between demand and supply of different infrastructure services, and examines the factors that explain the gap.

## 6.2. Water Supply

Water supply source within the premises for cooking, cleaning and bathing is considered as a major indicator of good housing.

Table 31: Location of water source, Barpathar Master Plan Area, 2011

(% of HHs)

Location of source	Barpathar Municipal Area	Master Plan Area (excluding MB area)	Total Master Plan Area
Within premises	89%	67%	76%
Near premises	8%	21%	15%
Away	4%	11%	8%

Source: District Census Handbook, Census of India 2011

Provision of treated water, available 24X7 all year round is a major function of municipalities. It is also a source of revenue for them. However, the Barpathar Municipality has no water supply project. In Barpathar Master Plan Area, the need for water is primarily met through private means like hand-pumps and bore well. The following table gives the percentage distribution of the sources of drinking water in Barpatharas per the Census, 2011:

Table 32: Main Source of Drinking Water in Barpathar Master Plan area, 2011

(% of HHs)

Sources	Barpathar Municipal Area	Master Plan Area (excluding MB area)	Total Master Plan Area
Tap-water from treated source	1.60%	0.89%	1.20%
Tap-water from un-treated source	0.20%	0.09%	0.14%
Covered well	0.10%	0.35%	0.24%
Un-covered well	0.30%	1.15%	0.79%
Hand-pump	83.92%	73.04%	77.71%
Tube-well/Bore-hole	13.49%	23.24%	19.05%
Spring	0.00%	0%	0.00%
River/Canal	0.00%	0.21%	0.12%
Tank/Pond/Lake	0.00%	0%	0%
Other Sources	0.40%	1.02%	0.75%

Source: District Census Handbook, Census of India 2011

In the Barpathar Master Plan Area, majority of the households that is 77.71 per cent households, source their water from hand-pumps. Within the Barpathar municipal town, 83.92 per cent households and outside the municipality, 73.04 per cent households in the Master Plan area depend on hand-pumps. Other significant source is the tube-well/bore-well for accessing water. Very few households have access to treated water and people have invested their own funds to access water within their premises.

### 6.3. Access to Drainage

For disposal of waste water and other liquid waste from the house, access to household drainage is required. It can be either closed or open. If a house has water outlet to carry away the waste water to an underground network, it is termed as closed drainage. If the water outlet is connected to open drains, it is called open drainage. If open drainage is used to carry sanitary wastes, it can be very unhygienic and pose health risks. Proper drainage system is crucial to prevent water logging and property damage.

Barpathar town has just begun constructing road-side drains both by the Municipal Board and Assam PWD and no network currently exists. As per Census report 2011, 69.24 per cent households do not have any access to drainage. Of the households accessing drains, 29.04 per cent access open drains, while only 1.72 per cent households have reported access to closed drains, within the Barpathar Master Plan Area. The access to available open drains is higher in the

Barpathar Municipal area (40% HHs), as compared to the Extended Master Plan area (20.82 %HHs). They are mostly kutchra unlined roadside drains carrying storm waste to nearby low lying areas. Largely due to insensitivity of the public, garbage is often thrown in these open drains, causing water logging problems during rainy days.

Table 33: Availability of household level drainage, Barpathar Master Plan Area, 2011

(% of HHs)

Waste water outlet	Barpathar Municipal Area	Master Plan Area (excluding MB area)	Total Master Plan Area
Closed drainage	3.10%	0.69%	1.72%
Open drainage	40.00%	20.82%	29.04%
No drainage	56.90%	78.49%	69.24%

Source: District Census Handbook, Census of India 2011

A lack of proper drainage system raises serious health and sanitation issues and causes public discomfort. Modernizing the drainage system is of utmost urgency in to carry Barpathar in the path of development. A scientific drainage system goes a long way in preventing vector borne diseases and making a healthy city.

#### 6.4. Solid Waste Management

Solid Waste Management refers to the practice of collecting, treating and disposing municipal wastes originating from materials which have lost its purpose and are of no value, in accordance with the principles of public health, engineering, economics, aesthetics, etc. The sources of municipal solid wastes are- (i) residential wastes (ii) commercial wastes (iii) wastes from rituals (iv) desilting wastes and (v) treated bio-medical wastes. According to the Solid Waste Management Rules, 2016, all the ULBs are responsible for Solid Waste Management activities within their respective jurisdiction.

In Barpathar, the waste collection has been taken up under the Swacch Bharat Mission scheme. The details of municipal waste collection in Barpathar Municipal Area are as follows, -

Table 34: Solid Waste Management scenario in Barpathar Municipal Town, 2011

Total households covered	2184
Total No of wards in Barpathar Municipal Town	4
Wards covered under door to door collection	4
Wards covered under Segregation of waste	2
Total waste generation	1.1 ton/day (TPD)
Total waste collection	1 TPD
Total waste processing	0.6 TPD

Source: Swacch Bharat Mission-Urban, Barpathar Municipal Board

Under the SBM-U, a Material Recovery Facility is under construction at Barpathar for segregation and processing the waste materials for recycling. Currently, the solid waste and other garbage are disposed at an un-scientific open dumping ground of about 1 bigha land.



Figure 6: Garbage dumping site at Barpathar



## 6.5. Social Infrastructure

The Sustainable Development Goals 2030 aims at ensuring peace and prosperity for people globally. It recognizes that ending poverty and other deprivations must go hand in hand with strategies that improve health and education, to begin with. Access to social infrastructure such as schools and institutions of higher and vocational education, as well as health care ensures a well-developed and progressive community.

### 6.5.1. Educational facilities

Barpathar being a small municipality is lacking in higher education facilities. There are 58 educational institutions of which 26 are primary schools, while only one college for Arts serving the entire population. While the school education is relatively taken care of, for all higher education opportunities, students have to travel to Sarupathar which is 10 kms away or to Golaghat or Jorhat, nearly 95 kms away.

Table 35: Availability of educational institutions (Govt. and Private) in Barpathar Master Plan Area, 2011

(No. of institutions)

Facility	Barpathar Municipal Area	Master Plan Area (excluding MB area)	Total Master Plan Area
Primary School	9	17	26
Middle School	4	5	9
Secondary School	2	6	8
Senior Secondary	0	3	3
College	0	1	1
Any other higher educational institution	0	0	0
Vocational learning (Short-hand, Type-writing, MS Office, etc)	0	8	8
Others	0	3	3

Source: District Census Handbook, Census 2011

### 6.5.2 Health-care facilities

An adequate and well-distributed health infrastructure is crucial for efficient and timely response to health crisis. A quality health infrastructure plays a vital role in controlling various health related parameters like life expectancy, mortality rate, etc. to respectable level, and is also found to have a positive impact on speedy recovery from diseases. A sound health system is accessible and delivers high quality care at reasonable price.

The following table shows the number of healthcare institutions in the Barpathar Master Plan Area as per the Census 2011 data.

#### Availability of health institutions in Barpathar Master Plan Area, 2011

Health Institutions	Number	Availability of Doctors and Medical Staff	
		Doctors	Staff
Primary health sub-centre	1	2	3
Dispensary	0	0	0
Veterinary Hospital	0	0	0
Mobile Health Clinic	0	0	0
Allopathic hospital	1 (10 beds)	3	9
Maternity home	1 (7 beds)	5	10
TB Hospital	1	2	4

Source: District Census Handbook, Census 2011

In the Barpathar Master Plan Area, there are 12 doctors and 26 paramedical staffs working in these institutions. There is no private hospital or nursing home, dispensary, veterinary hospital available in the area as per the Census 2011 data in the master plan area.

### 6.6. Recreational Facilities

With the Barpathar Municipal Town, there are two playgrounds, one park and two community halls provided by the Barpathar Municipal Board.

### 6.7. Banks

There are 9 banking service facilities available in the Barpathar Municipal area, but all of them are present within the municipal town. These include, the following,

Table 36: Banking facilities in the Barpathar Master Plan Area, 2011

Facility	Number
Nationalised Bank	2
Private Commercial Bank	1
Co-operative Bank	1
Agricultural Credit Society	2
Non-Agricultural Credit Society	3

Source: District Census Handbook, Census 2011

### 6.8. Daily markets, weekly haats, etc

The Barpathar town has many commercial areas serving the residents of the Barpathar town, as well as the surrounding areas. These include the following daily markets, -



Figure 8: Barpathar Chowk Bazar



Figure 7: Barpathar Fish and Meat Market



Figure 6: Barpathar Daily Vegetable Market



# Chapter 7: Land Use Planned Proposals

## 7.1. Delineation of Barpathar Master Plan Area

An area of 20.81 sq.km is delineated under the proposed Master Plan of Barpathar for the horizon year of 2041. Along with the existing Barpathar Municipal town area of about 3.15 sq.kms, an additional 16.66 sq.kms area is added from ten surrounding villages as listed below,-

Table 37: List of Villages and Wards forming the Barpathar Master Plan Area for 2041

Name of villages	Area as per Census 2011 (in ha)	Name of Wards	Area as per Barpathar Municipal Board (in sq.kms)
BarpatharGaon	192.99	Ward 1	0.34
Borpavojan	274.34	Ward 2	0.34
DeghaliPatharMatikhola	243.13	Ward 3	0.32
No.1 Duborani	267.2	Ward 4	0.3
Kordoiguri	265.87	Ward 5	0.24
PavojanBagan	203.03	Ward 6	0.37
SimoluChapori	55.85	Ward 7	0.30
Singimari	487.4	Ward 8	0.30
Singimari No.2	68	Ward 9	0.22
Singimari No.1	30.4	Ward 10	0.33
Total Area (in Ha)	2088.21 hectares	-	-
<b>Area (in Sq.kms)</b>	<b>20.88</b>	<b>Total Area</b>	<b>3.15</b>
<b>Total Area (in sq.kms)</b>		<b>(20.88+3.15)</b>	<b>23.15</b>
<b>Total area considered for Barpathar Master Plan</b> (considering marginal discrepancies in revenue maps, BMB records and software-based mapping)			<b>20.81sq.kms</b>

Source: District Census Handbook, Census 2011

## 7.2. Existing Land use pattern

The area delineated for the Barpathar master plan covering 20.81 sq. kms can be broadly divided into developed land and non-developed land. Being a largely agricultural area, much of the newly included village areas are covered with bamboo groves covering an area of 12.84 sq.kms or more than 60 per cent of total master plan has not been touched by any development activity. The Borpukhuri pond, which covers an area of 0.46 sq.kms forms the remaining part of the non-developed share, totaling to 13.30 sq.kms. The remaining 7.51 sq. kms has seen some land use as briefed out in the table below for 'existing land use'.

Table 38: Existing Land Use Area of Barpathar Master Plan 2041

Sl. No.	Land Use		Area (Sq. Km.)	Percentage to	
	Category			Developed land	Total Area
1	Residential Use		5.47	72.84	26.28
2	Commercial Use		0.05	0.70	0.25
3	Industrial Use		0.09	1.23	0.45
4	Public & Semi-Public Use		0.06	0.84	0.30
5	Recreational Use		0.96	12.85	4.64
6	Transport & Communication		0.87	11.53	4.16
	Railways	0.81			
	Roads	0.06			
	<b>Total Developed Land</b>				
7	Agriculture & Bamboo Plants		12.84		61.73
8	Water Bodies		0.46		2.19
	<b>TOTAL AREA</b>		<b>20.81</b>		<b>100</b>

The residential use covers 26.28 per cent or 5.47 sq.kms of the master plan area. Other significant land uses are for Transport and Circulation which utilizes 0.87 sq.kms, while recreational spaces covers 0.96 sq.kms. of the delineated area. Commercial land use is only 0.05sq.kms and industrial use is 0.09 sq.kms.

### 7.3. Proposed Land use

Following the URDPFI Guidelines by the Ministry of Urban Affairs in 2015, the land use share is revised to adjust the projected population increase and resultant urban developments.

Table 39: Proposed Barpathar Master Plan Area for 2041

Sl No	Land use Category		Area (Sq. Km.)	Percentage to Developed Land	Percentage to Total Area
1	Residential Use		6.54	74.08	31.42
	High Density	0.664			
	Medium Density	2.34			
	Low Density	3.53			
2	Commercial Use		0.31	3.55	1.51
	Retail	0.214			
	CBD	0.1			
3	Industrial Use		0.09	1.05	0.45
	Other Industries	0.09			
4	Public & Semi Public		0.06	0.74	0.31
5	Recreational Use		0.95	10.77	4.57
6	Transport & Communication		0.87	9.81	4.16

	Railways	0.81		
	Roads	0.06		
	<b>Total Developed Land</b>		<b>8.82</b>	<b>100.00</b>
7	Agriculture		11.53	55.40
8	Green Belt		0.46	2.19
	<b>TOTAL AREA</b>		<b>20.808</b>	<b>100.00</b>

Residential use is increased to 31.42 per cent of total Master plan area covering 6.54 sq.kms., while commercial land use share is also increased to 0.31 sq.kms to focus on a Central Business District of 0.1 sq.km and other retail land uses covering 0.21 sq.kms.

Table 40: Comparison between proposed and existing land use in Barpathar Master Plan Area

Land use	Proposed Land-use Area (in sq.kms)	Existing Land use Area (in sq.kms)
Residential Use	6.54	5.47
Commercial Use	0.31	0.05
Industrial Use	0.09	0.09
Public & Semi Public	0.06	0.06
Recreational Use	0.95	0.96
Transport & Communication	0.87	0.87
Agriculture	11.53	12.84
Green Belt & Water bodies	0.46	0.46

## 7.4. Project Proposals

### 7.4.1 Multi-storied shopping complex with parking facilities

In Ward 5, behind the existing Fish and Vegetable market, a plot of 5.3 bigha is available with the Municipality to take up necessary construction of a market complex and community spaces, along with designated parking. Currently, this space is lying vacant and is becoming an open dumping site.

A multi-storied shopping complex shall provide the Barpathar town with a more comprehensive and well-maintained commercial public space. It shall also provide the Barpathar Municipal Board with much needed own-revenue source.

### 7.4.2. Improvement and beautification of Barpukhuri Pond

At Ward 10, near the Inspection Bungalow Tini Ali, a plot of 1 bigha 13 lessa is available with the Municipality, right along the Barpathar Feeder Road (B.F Road). A water park and walking zone maybe developed here. The provision of using the water from the park for fire emergencies is also viable.

### 7.4.3. Solid Waste Management

A plot of land measuring 4 bighas at Da-Singimari village at a distance of 2 kms from the Barpathar town is available for scientific dumping of non-recyclable waste.

# Chapter 8: Disaster Management Plan

## 8.1. Need for Disaster Management-

Barpathar falls under Seismic zone v data on disaster occurrence, its effect upon people and its cost to counties, are primary inputs to analyze the temporal and geographical trends in the disaster impact. Disaster losses, provide the basis for identifying where, and to what extent the potentially negative outcomes embedded in the concept of risk is released. They help to understand where, and to whom, disaster risk becomes impact. They also provide the basis for risk assessment processes, a departing point for the application of disaster reducing measures.

Development cannot be suitable unless disaster mitigation is built into development process. Investment in the mitigation are more cost effective than expenditure on relief and rehabilitation, prevention and mitigation contribute to lasting improvement in safety and are essential to integrated disaster management. Disaster response alone is not sufficient as it yields only temporary results at very high cost. So emphasis must be on disaster prevention, mitigation and preparedness, which help in achieving objectives of vulnerability reduction. As per section 40 of Disaster Management Act-2005 that every department of the State Government shall prepare Disaster Management plan.

## 8.2. Plan objectives

The objectives of the district disaster management plan are-

- ❖ Disaster Management in the routine affairs of the department.
- ❖ To provide technical and humanitarian assistance during disaster.
- ❖ Promote and effective disaster of departmental responsibilities during disaster situations.
- ❖ Ensuring safety of departmental infrastructure, human resource and other assets.
- ❖ Ensuring safety of the beneficiaries and others.
- ❖ Speedy restoration after disaster impact.
- ❖ To conduct training and Capacity building for effective prevention, mitigation and respond for disaster.

## 8.3. Objectives of Departmental Disaster Management Plan:

The objectives behind the preparation of the Departmental Disaster management plan by the Town & Country Planning, District Office, Golaghat:

- To mitigate impact of natural and manmade disasters through preparedness at the District/town level.
- To provide effective support and resources to all the concerned individuals, groups and departments in disasters.

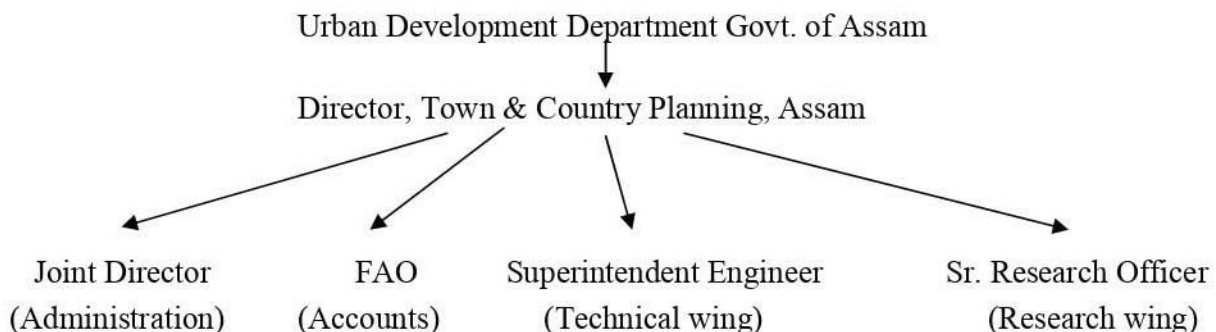
- To disseminate factual information in a timely, accurate and tactful manner while maintaining necessary confidentiality.
- To develop immediate and long-term support plans for vulnerable areas during disasters.
- To have response system in place to face any eventuality related to disruption of urban infrastructure.
- To ensure active participation with the Government administration, communities, GOs and volunteers at the time of disasters.
- To equip the staff with the knowledge and skills for assessing delineating, strategies and delivering their roles in relation to risk mitigation, prevention and implementation of effective response to the extreme events.
- To enable understanding on the integration of Climatic Change Adaptation (CCA), Disaster Risk Reduction (DRR) and sustainable developments and their associated impacts and challenges in providing infrastructural support to the rescue and rehabilitation team.

To ensure that, standard code of practices such as National Building Code (NBC), Bureau of Indian Standard (BIS) code, Seismic codes etc. are followed by the department for design and construction of infrastructure to minimizing the effects for disasters.

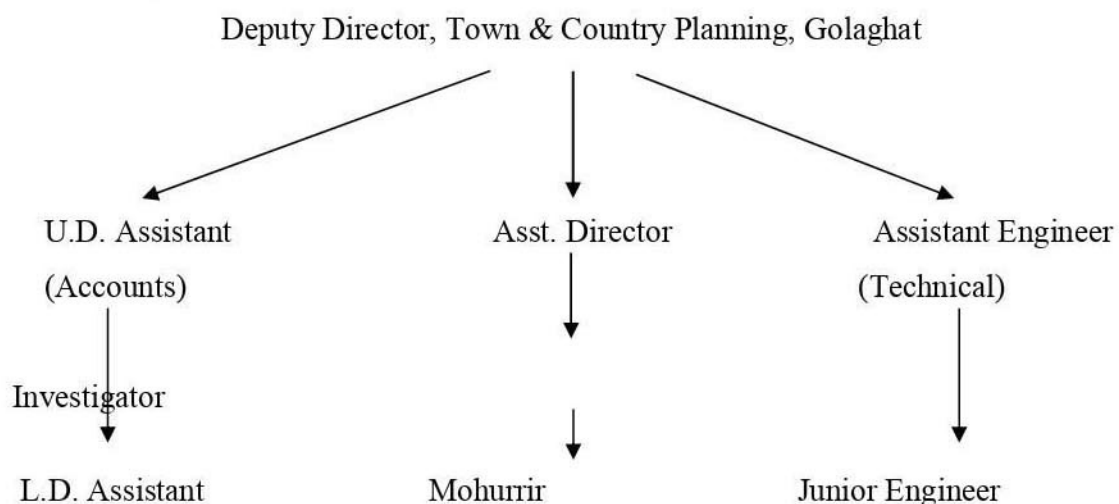
#### **8.4. Profile of the Department:**

##### **8.4.1. Functional Organization structure at State, District and Local Levels:**

###### **At State Level :**



###### **District Level :**



**At Local Level :** T&CP, Assam does not have any local office

### **8.5. Inventory of Departmental Resources:**

- a) Resource :- Department provide technical support.
- b) Capacity :- Officials to be trained for Earthquake engineering & Rapid Visual Screening etc.
- c) Resources at office level.

Sl. No.	Resources	Quantity	Location
1	Tools & Plants	NIL	At Office
2	Computer Set	NIL	At Office
3	Safety Locker	NIL	At Office
4	Xerox Machine	NIL	At Office

### **8.6. Disaster Management Cycle:**

In multi-hazard response plan, the disaster management cycle has a significant role to play. The four stages of disaster cycle have their own importance in terms of their implementation during, after and before the occurrence of any disaster.

#### **Pre disaster activities:**

1. Policy development and national, State, District, local level disaster organization formation.
2. Vulnerability and capacity assessment.
3. Prevention and mitigation.
4. Preparedness, planning and training.

#### **Emergency activities:**

1. Warning (beginning before the actual event)
2. Evacuation, search and rescue.
3. Emergency assistance (relief) – food, water, shelter, medical aid.

#### **Post disaster activities:**

1. Repair and restoration of life lines (power, telecommunications, water supply, transportation)
2. Reconstruction and rehabilitation.

### **8.7. Main tasks of the department and possibilities of integration of related disaster management aspects**

### **8.7.1. Main tasks of the Department:**

The primary responsibilities/activities of Town & Country Planning, District Office, Golaghat is to prepare Master Plan for the urban areas of the district. While preparing the Master Plan a few sub-urban areas are also included in the Master Plan to cope up with the increased population load. Very recently it has been decided to incorporate the physical maps like Land use Plan, Zoning Plan, Transportation Plan, etc. In GIS platform. It has also been decided to make the Master Plan more comprehensive and useful in the field of drainage too and accordingly decided to club Physical Master Plan and Drainage Master Plan together.

Some of the important tasks under this department are as follows:

#### **i) Implementation of Master Plan :**

It is the responsibility of this Office to guide the growth of the urban areas of the District so that un-haphazard growth may not create chaos in future and the growth restricted within the Master Plan boundary. It provides technical guidance to the Implementing Agency in every aspect related with Implementation of Master Plan.

#### **ii) Enforcement of Zoning Regulations :**

It is the task of this office to enforce Zoning Regulations within the Master Plan Boundary and the town boundary as the case may be, by scrutinizing land sale and building permission applications on the basis of Proposed Zoning Plan. The cooperation from the implementing agencies like Golaghat Development Authority, Dergaon Development Authority, Golaghat, Dergaon, Bokakhat, Sarupathar & Barpathar Municipal Board in the district are highly essential in exercising this role. Presently though scrutiny of land transferred and building permission applications are to be done by the district office T&CP, in the Golaghat district the application are not enrooted through T&CP office and till date no action has been taken by the ULBs to implement the zoning regulation and Assam Notified Urban Areas (other than Guwahati) Building Rules, 2014. Due to non implementation of the Assam Notified Urban Areas (other than Guwahati) Building Rules, 2014 by the ULBs the vary purpose of safety against manmade disaster could not be obtained.

### **8.7.2. Possibilities of integration of related disaster management aspects :**

It is difficult to predict the accurate time, location, magnitude of any disasters. So, the departmental construction works should always be concerned with the disasters whether known or

unknown or unforeseen. Hence, the construction of a infrastructure should be plan/designed and construct it in conformity with the standard code of practices utilizing sound materials and workmanship. To maintain the quality of the construction works, the laboratory tests plays a vital role. The weak structures are to be identified and should be strengthened by retrofitting through qualified and expert engineers up to the extent possible. More dilapidated structure are to be evacuated and dismantled as per standard guidelines.

- Disaster Vulnerability Maps to be collected from the District Disaster Management Cell and to be incorporated in the Revised Master Plan.
- Strict enforcement of Zoning Regulations will provide safer structure to live in and will also provide ample space for movement of personnel during disaster.
- A systematic and comprehensive Solid Waste Management strategy will reduce the chances of spreading of epidemic as a consequence of disaster to a great extent.
- Preparation of Drainage Master Plan and its implementation is a most to reduce the chance of occurrence of flood.
- All requisite road Cautionary, Mandatory, Informatory signs as per IRC guidelines have to be erected in proper places and a systematic traffic control system is to be provided to minimize occurrence of road accidents.
- Marking of roads will help in effective utilization of road networks during rescue and rehabilitation process.

A District Map is to be displayed in proper place locating all important infrastructures and life line building including a road direction map. Important contact numbers is to be displayed in public place so that the same can be utilized at the time of need.

### 8.8. Office Building:

This Office is running from the Urban Training Centre, Golaghat under Municipal Administration at Second Floor Golaghat Municipal Market Building.

### 8.9. Status of Employees:

Sl. No.	Staff & Pattern	Strength	Total	Male	Female
1	Deputy Director		1	1	Nil
2	Asstt. Director		1 Vacant	-	-
3	Asstt. Engineer		1 Vacant	-	-



4	UDA	1 Vacant	-	-
5	LDA	2	2	Nil
6	Junior Engineer	2 vacant	-	-
7	Draftsman	1	1	Nil
8	Investigator	1	1	Nil
9	Mohurrir	1	1	Nil
10	Duftry	1	1	Nil
11	Peon (Grade IV)	2	2	Nil
12	Chowkider (Grade IV)	1	1	Nil
<b>TOTAL :-</b>		<b>15 (5 Vacant)</b>	<b>10</b>	<b>Nil</b>

### 8.10. Manpower Office Profile:

At present there are 10 no. of employees engaged with the District Office in different sectors, cadre and capacity. The details manpower of the office is as below:

Sl. No.	Name of Incumbent	Contact No.	Designation	Role & Responsibility	Responsible Deptt./Cell	Remarks
1	Sri Bipul Saikia	9435129692	Deputy Director	Overall office management works as DDO	Overall management	
2	Sri Prakash Sonowal	9101384250	Draft Man Gr – I	All Mapping works related with preparation of Master Plan. Monthly Progress Report.	Technical Branch	
3	Sri Prayas Boruah	9401911280	L.D.A.	Pay Bill & Expenditure statements etc. and to assist UDA.	Establishment Branch	
4	Sri Partha Pratim Dutta	9854129596	L.D.A.	Pay Bill & Expenditure statements etc. and to assist UDA.	Establishment Branch	
5	Sri Koushik Kumar Thakur	8752901362	Investigator	Survey, Field works	Research Branch	

6	Sri Rongki Doley	8822292844	Mohurrir	Survey, Field works	Research Branch	
7	Sri Biman Kachari	7086739413	Duftry	Service in Establishment Branch	Establishment Branch	
8	Sri Papu Rajkhowa	9678715537	Peon	Dak, Treasury, Bank, Accounts Branch, Service in Establishment Branch	Establishment Branch	
9	Sri Rajib Hazarika	8752955294	Peon	Dak, Treasury, Bank, Accounts Branch, Service in Establishment Branch	Establishment Branch	
10	Sri Lakhyajit Phukan	9401203292	Chowkider	To be in office 24 hrs. And responsibility beyond office hours.	Establishment Branch	

### 8.9. Preparedness & Response System

Department	Response System			
	Preparedness	Pre (after Waning)	During Disaster	Post Disaster
Town & Country Planning	<p>□ □ Capacity building (training) &amp; sensitization among departmental official &amp; staff</p> <ul style="list-style-type: none"> <li>Assessment of existing department building &amp; other hazard's.</li> <li>Identification of vulnerable building (Safety Audit) in towns and necessary direction to Urban local Body's for necessary action.</li> <li>Evacuation Plan in high rise and life line building.</li> </ul>	<p>Pre preparedness in case of a disaster like flood, earthquake etc. Collection of some construction materials like bamboo, rope, wire, wood, sand, cement bags, first aid kit etc. Will be kept ready.</p> <p>Coordination with District Disaster Management Authority</p> <p>Dissemination of information for early warning to general public with the agencies as DDMA.</p>	<p>During disaster this department will provide technical manpower support to restore essential services and coordinate with DDMA.</p>	<p>After the disaster this department will make assessment of destruction and report to District Admin.</p> <p>Identification of rehabilitation site</p> <p>Modification of Master Plan</p> <p>Preparation of any new Master Plan for affected areas.</p>

### 8.10. Prevention and Mitigation Plan for Multi-Hazards:

Disaster may occur in the forms of flood, urban flooding, cloud bursting, earthquake, cyclone, storms, fire, land slide etc. an effective prevention and mitigation plan will minimize the loss of life and property and accordingly, the following aspects have been laid down in this regards.

- All RCC structures have to be designed considering seismic parameter as per BIS code of practice.
- Repair of already damaged structures.
- Construction of causeways in locations those are more vulnerable during breaching of river guide bunds to pass out huge quantity of flood water safely without damaging the communication network.
- Cleaning of drainage structures to regulate the water flow.
- Pre-monsoon desalting of all major drains will be completed by March 31 each year.
- Besides the pre-monsoon desalting of drains, the periodicity of cleaning drains should be worked out, based on the local conditions. The roster of cleaning of such drains should be worked out and strictly followed.
- Inlets to drain the water from the roads into the road side drains will be provided where nonexistent and properly aligned.
- All waste removed both from the major and the minor drains should not be allowed to remain outside the drain for drying, the wet silt should be deposited in to a seamless container and transported as soon as it is taken out from the drain. In exceptional cases, the silt may be allowed to dry for about 4 to 24 hours outside the drain before transporting the semi solid silt for disposal.
- Completion of work will be certified by representatives of local Residents/Municipal ward Commissioner.
- The manual on solid waste brought out by the CPHEEO, MoUD (2000) will be followed in cleaning shallow surface drains.
- De silting of minor drains will be carried out as part of a regular preventive maintenance schedule.
- Cleaning of minor drains will be taken up from the out late to upstream side.
- Ageing systems will be replaced on an urgent basis.
- Every building shall have Rain Water Harvesting as an integral component of the building utility.
- Encroachment on drains and in flood plains will be removed.
- Adequate budget will be provided to take care of the men, materials, equipment and machinery. Special funds will be provided for safety equipment of the personnel carrying out maintenance of man-entry drains, culverts.
- Repairs of existing damaged cross drainage and construction of new one as per requirement.
- Adopt, accept and implement latest technical knowhow and skill in Construction Industry for more acceptability.
- Introduce various codes of practices and recommendations as received from the various competent organizations.

- Arrange for mitigation fund within the department through budgetary provisions.
- A key road map of the district which will guide the supply of materials and equipments to the concerned points from the storage place of various departments.
- Regularly capacity building training for staff to be undertaken for vulnerability assessment of critical lifelines and developed mitigation option at the review meeting with the Urban Local Bodies and Development Authority.

Massive Public Awareness Programmes covering solid waste disposal, problems of encroachment involving elected Public Representative in awareness generations.

### **8.11 Standard Operating Procedure:**

An efficient, well-coordinated and rapid action response mount in the consequence of disaster not only minimizes loss of life and property but also facilitates early recovery of normalcy.

The important ingredients of an effective response system are:

- Integrated institutional arrangements,
- Forecasting and early warning systems;
- Well organised and foolproof communication system;
- Quick deployment of specialized response forces

All the officers and staff must clearly understand their roles and responsibilities and the specific actions they have to take for responding to disaster or threatening disastrous situations.

This SOP lays down, in a comprehensive manner outlining the role, with direction for the specific actions required to be taken by all concerned in the department.

### **8.12. The objectives of the SOP:**

1. To provide, in a concise and convenient form, a list of major executive actions involved in responding to natural disasters and necessary measures for preparedness, response and relief required to be taken.
2. To ensure that all concerned know the precise measures required of them at each stage.

SOP encompasses the following phases of disaster management for effective and efficient response to natural disasters: -

### **8.13. Preparedness:**

#### **Emergency Operations Centres (EOCs):**

Control rooms will be set up at the District level.

The objectives of the control rooms shall be to:

1. Receive and process of disaster alerts and warnings from both the towns of the district and other sources and communicate the same to all designated authorities.
2. Monitor emergency operations in and the town areas.
3. Facilitate Coordination with various Organizations, Departments & Agencies during emergencies.
4. Issuing disaster/incident specific information and instructions specific to all concerned.
5. Consolidation, analysis and dissemination of damage, losses and needs assessment data.
6. Forwarding of consolidated reports to all designated authorities.

**Location of control room:**

The Control room will be set up in a suitable location preferably in a multi-hazard resistant building at the District level. Control Rooms will be connected with the respective District Control Room of DDMA, State Control Room at the Directorate of Town & Country Planning, Assam. Well trained personal will be engaged in the operation of Control Rooms.

**Incident Response System (IRS):**

As per the Government of India policy on disaster management, IRS will be integrated into the existing system and Incident Response Teams (IRTs) shall be put in place in the District level by imparting training in different facets of incident management. The emphasis will be on the use of technologies and contemporary systems of planning and execution with connectivity to the joint operations room at all levels.

The members of the IRTs will be imparted specialized training in collaboration with the DDMA, Golaghat.

**Pre-contract for Essential Materials/Machineries:**

This Department is not having any equipments/machinery needed for establishing rescue and rehabilitation process and hence the department will enter into pre-contract with the suppliers/contractors for supply of such machineries and when required. A designated officer will be nominated for this purpose.

**Vulnerability assessment:**

The department will make vulnerability assessment and identify potential hazards in and around the towns and will be informed to the local community about their vulnerability to potential hazard through urban local bodies.

**Contract details:**

A comprehensive list of officers involved in disaster management at various levels will be prepared in the district level giving their names, address, telephone numbers, mobile numbers, e-mail address, fax number. The list will be circulated among all concerned.

**Review:**

Annual review of the preparedness measures will be done by the Deputy Director, Town & Country Planning, District Office, Golaghat. Annual review will ensure that all loose ends are tied up so that response during disaster is efficient, effective and time bound.

**Mock Drill :**

Mock exercises will be carried out for testing the effectiveness of all the preparedness measures including man power, equipments etc.

**8.14. Awareness generation:**

The department will carry out Awareness campaign by various means.

**Early warning :**

There are various Nodal agencies for early warning

Cyclone/Storm	Indian Meteorological Department
Heat and Cold Waves	Indian Meteorological Department
Floods	Central water Commission, State Emergency Operation Centre, North Eastern Space Application centre, Dist. Emergency operation Centre.
Forest Fires	Department of Forest

The Control Room Personnel will keep close coordination with these agencies/departments for receiving early warning. They will also regularly check the website of the above organizations. On receipt of early warning, the personnel will inform to all concerned.

**8.15. Emergency Support Function (ESF) :**

- Name of Head: BIPUL SAIKIA  
DEPUTY DIRECTOR, T&CP, GOLAGHAT (EXECUTION OF SOP)  
MOBILE NO :- 9435129692  
NODAL OFFICER

2. PRAKASH SONOWAL, D/M-I,  
T&CP, Golaghat EXECUTION OF SOP  
MOBILE NO :-9101384250 & SUPERVISION OF ESF 1&2

### 8.16. Damage Assessment

The team consist of technical person of Building Permit Section of Barpathar Municipal Board as mentioned in ESF 1 will do the rapid damage assessment in post disaster as per Annexure – II.

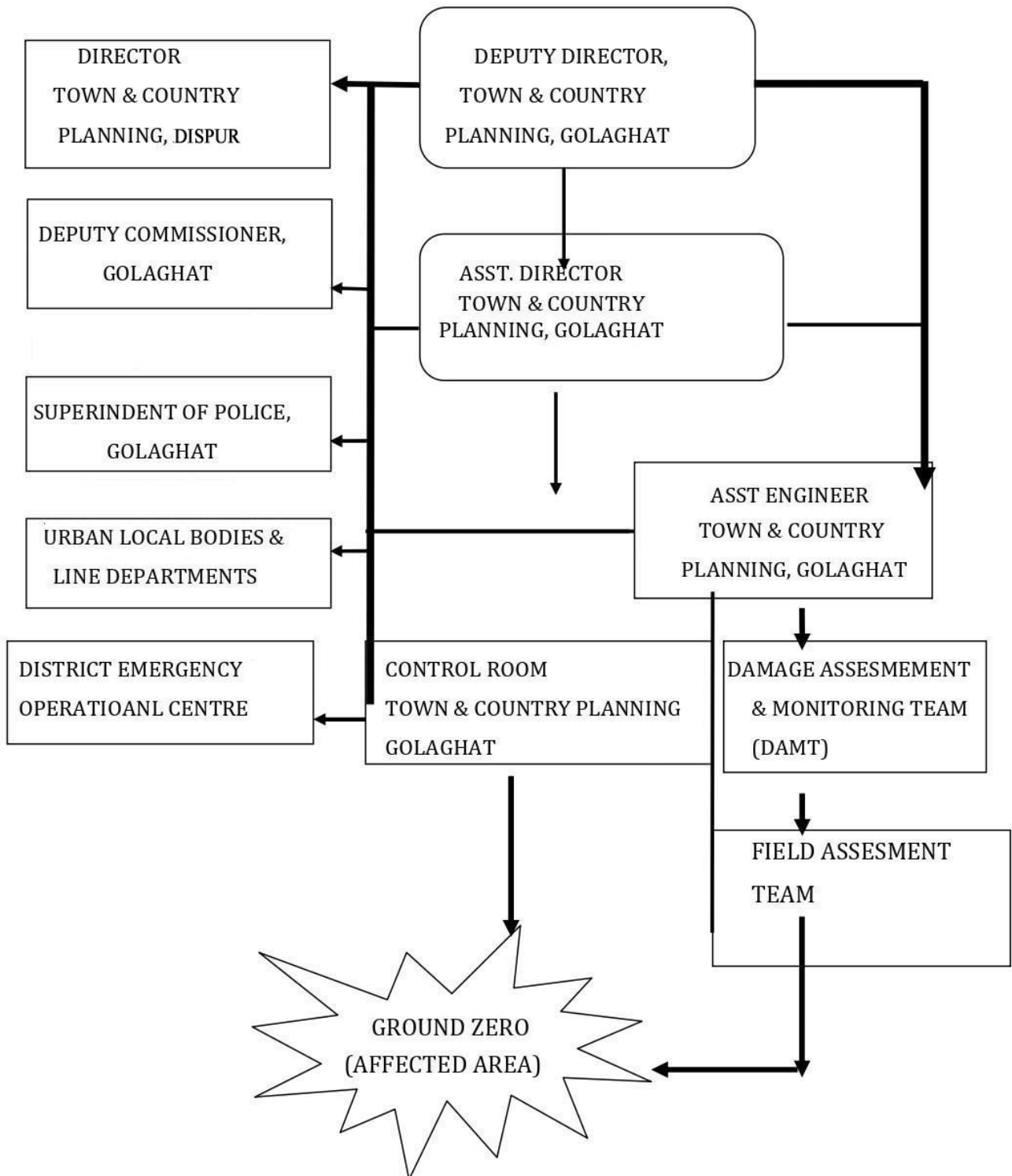
### 8.17. Rapid Assessment Team (RAT)

Sl. No.	Particulars	Contact No.	Area	Remarks
1	Sri Prakash Sonowal	9101384250	Technical supervisor will give necessary direction for field visit.	The officials will assess the ground situation and assist/report to concern DAMT officials and report to control room.
2	Sri Koushik kr. Thakur	8752901362		
3	Sri Rongki Doley	8822292844		
4	Sri Biman Kochari	7086739413		

### 8.18. ESF 3 Control Room setup & Logistic:

Sri Prayas Boruah (CONTROL ROOM INCHARGE) Mobile No.- 9401911280	Sri Partha Pratim Dutta Sri Rajib Hazarika-Gr-IV
Sri Prakash Sonowal (DATA COMPILATION & DAILY SITREP TO HEAD & CONCERNED OFFICES) Mobile No.- 9101384250	Sri Koushik Kr. Thakur Sri Biman Kochari
Sri Rongki Doley (LOGISTIC & SAFETY/SECURITY OF OFFICIALS) Mobile No.- 8822292844	Sri Koushik Kr. Thakur Sri Papu Rajkhowa-Gr-IV Sri Rajib Hazarika-Gr-IV

**8.19. Command and Control (CC)**



**8.20. Details of budget provision :-** Budget provision is a must for successful implementation of SOP. Necessary direction to be received from Head office regarding such provision related to Disaster.



