



THE ASSAM GAZETTE

অসাধাৰণ

EXTRAORDINARY

প্ৰাপ্ত কৰ্তৃত্ব দ্বাৰা প্ৰকাশিত

PUBLISHED BY THE AUTHORITY

নং 353 দিশপুৰ, শুক্ৰবাৰ, 23 মে', 2025, 2 জেঠ, 1947 (শক)

No. 353 Dispur, Friday, 23rd May, 2025, 2nd Jaistha, 1947 (S. E.)

GOVERNMENT OF ASSAM

ORDERS BY THE GOVERNOR

DEPARTMENT OF HOUSING AND URBAN AFFAIRS

NOTIFICATION

The 27th November, 2024

DoHUA EcF No. 393727/165.- In exercise of the powers conferred by the Sub-Section (2) and (3) of Section 10 of the Assam Town & Country Planning Act, 1959 (as Amended) read with Rule 6 of the Assam Town and Country Planning (Publication of Master Plan and Zoning Regulation) Rules 1962, the Governor of Assam is pleased to publish the following notice regarding the publication of the Final Master Plan for Hojai.

NOTICE FOR THE PUBLICATION OF THE FINAL MASTER PLAN FOR HOJAI

1. It is notified that the Final Master Plan for Hojai is prepared by the Directorate of Town and Country Planning, Government of Assam and adopted by the State Government under Sub Section (2) and (3) of Section 10 of the Assam Town & Country Planning Act, 1959 (as amended) read with Section 6 of the Assam Town & Country Planning (Amendment) Rule, 1962 for the area described in the schedule below, is hereby published.
2. The Final Master Plan for Hojai with all relevant papers and maps may be inspected free of Cost during the office hours at the office of the Director, Town & Country Planning, Dispur, Guwahati-6, the Deputy Director, Town & Country Planning, District Office- Nagaon, the Circle Office, Hojai & Lanka Revenue, office of the Chairman, Hojai Municipal Board, Hojai, Copies of the Final Master Plan for Hojai are available at the office of the Deputy Director, Town & Country Planning, District Office-Nagaon for sale on payment.

SCHEDULE**A. Situation and area:**

District	: Hojai
Subdivision	: Hojai.
State	: Assam.
Master Plan Area	: 75.66 Sq. Km.
Municipal Board Area	: 4.66 Sq.Km.

Apart from the Hojai Municipal Board Area, Hojai Master Plan area covers 28 (Twenty eight) nos. of nearby villages. The villages included in the Final Master Plan for Hojai with Mouza/ Revenue Circle etc. are as follows: -

Sl. No.	Villages	Revenue Circle	Mouza	Panchayat	C. D. Block
1	Amtola	Hojai	Hojai	Milik Basti	Dhal Pukhuri
2	Milik Basti	Hojai	Hojai	Milik Basti	Dhal Pukhuri
3	Hira Basti	Hojai	Hojai	Dimarupar	Jugijaam
4	Bhokhao Basti	Hojai	Hojai	Dimarupar	Jugijaan
5	Dakshin Bidyanagr	Hojai	Hojai	Singibasti	Dhal Pukhuri
6	Dangki Gaon	Hojai	Hojai	Gopal Nagar	Jugijaan
7	Dhanuhar Basti	Hojai	Hojai	Pub Dhaniram Pathar	Jugijaan
8	Dimarupar	Hojai	Hojai	Dimarupar	Jugijaan
9	Fakira Basti	Hojai	Hojai	Pub-Dhaniram Pathar	Jugijaan
10	Golaghatiya Basti	Hojai	Hojai	Golaghatiya Basti	Jugijaan
11	Islam Pur	Hojai	Hojai	Islam Nagar	Jugijaan
12	Teli Basti	Hojai	Hojai	Pub-Dhainiram Pathar	Jugijaan
13	Pub Nandalalpur	Hojai	Hojai	Dimarupar	Jugijaan
14	Pachim Nandalalpur	Hojai	Hojai	Dimarupar	Jugijaan
15	Pub Nadapur	Hojai	Hojai	Nandapur	Dhal pukhuri
16	Pachim Nandapur	Hojai	Hojai	Nandapur	Dhal pukhuri
17	Rampur	Hojai	Hojai	Milik Basti	Dhal Pukhuri
18	Pub Dhaniram Pathar	Hojai	Hojai	Pub-Dhaniram	Jugijaan
19	Sankar dev Nagar	Lanka	Lanka	Bhalukmari	Dhal Pukhuri
20	Jurapukhuri	Lanka	Lanka	Bhalukmari	Dhal Pukhuri
21	Borbaha	Lanka	Kaki	Kendura Buragaon	Udali
22	Kapohbari	Lanka	Kapahbari	Kapasbari	Binnakandi
23	Raja Pukhuri	Hojai	Hojai	Bor pukhuri	Jugijaan
24	Uttar Bidyanagar	Hojai	Hojai	Radha Nagar	Jugijaan
25	Gopal Nagar	Hojai	Hojai	Gopal Nagr	Jugijaan
26	Silguri	Hojai	Jogijaan	Radha Nagar	Jugijaan
27	Barpukhuri	Hojai	Hojai	Barpukhuri	Jugijaan
28	Pamgaon	Hojai	Lanka	Bhalukmari	Dhal-pukhuri

B. Description of Boundaries:

NORTH	: Nam Doboka Pathar
SOUTH	: Daria Basti and Nandapur Tongia
EAST	: Padumpukhuri and kandura
WEST	: Uttar Matikhola

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

Chapter: 1

INTRODUCTION TO THE MASTER PLAN AREA

Hojai was a part of the Dimasa Kachari Kingdom in medieval times. The Dimasa Kacharies living in Hojai is known as "Hojai-Kacharies" to others. "Hojai" is one of the clans (Sengphongs) of the Dimasa tribe, probably the city "Hojai" got its name from this clan. It was made a sub-division on 15 August 1983 under Nagaon District.

Administrative duties are carried on from Sankardev Nagar in NH-27, where the DC Office, Judicial Courts as well District SP Offices are located. The DC Office campus also houses the Government Circuit House within it. Hojai Judicial Courts are situated at Sankardev Nagar approximately 8 km away from Hojai Town near NH-27. Advocates of the Hojai Judicial Courts have their own Association known as "Hojai Bar Association", established in 1982.

Hojai Municipal Board has an Area of 4.66 Sq.km with a population of 36,638 of which 18,762 are males while 17,876 are females as per report released by Census India 2011.

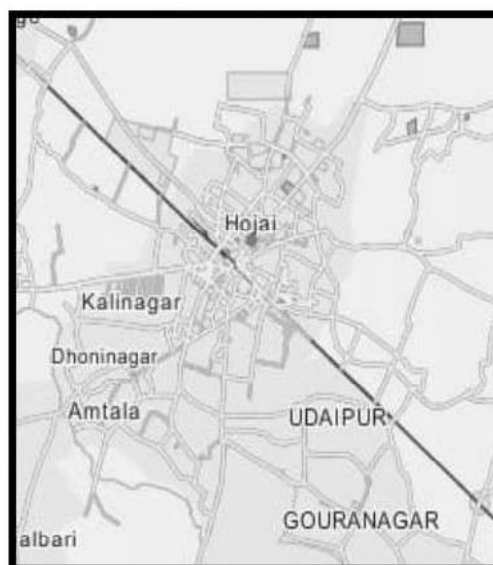
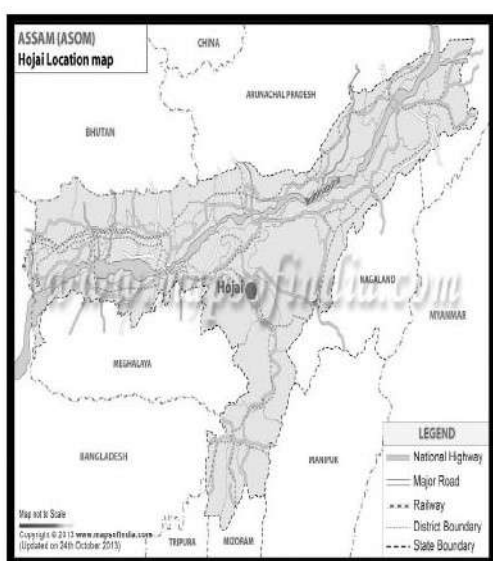
Before finalization of the planning area, discussion were held with district level officers dealing with developmental works headed by Deputy Commissioner, Hojai and the elected representative of Hojai Municipal Board as well as Hon'ble MLA Hojai Constituency.

It was observed that Hojai town area has been growing haphazardly and this has created enormous problems to the habitant of the town. In this context, "Draft Master Plan Hojai, 2045 is prepared to guide the physical development of the town with some surrounding villages in future. This plan is prepared, basically a land use plan considering all the urban development aspects, with forecasting all the service up to 2045. By and large, this Master plan has been prepared as per the provision of URBAN DEVELOPMENT PLANS, FORMULATION AND IMPLEMENTATION, GUIDELINES, 1996 prepared by the INSTITUTE OF TOWN PLANNERS, INDIA NEW DELHI under the assistance of the Ministry of Urban Affairs and Employment, Govt. of India, New Delhi and Circular issued by U.D.D (T &CP Wing), Govt. of Assam time to time. Uniform Zoning Regulations are considered as it is already approved for all the towns of Assam including Hojai Town by the Govt. of Assam.

1.1 LOCATION:

Hojai the District head quarter of Hojai District of Assam. Hojai is located at 26.0°N 92.87°E. It has an average elevation of 59 metres (193 feet). Hojai town is surrounded by Uttar Bidyanagar and Doboka Town in the North, Golaghatiya Basti in the South, Pub Kundura and Dimorujan in the East and Dakshin Bidyanagar and Komarkata in the West.

Hojai Town is situated at a distance of 55 kms towards South from the Nagaon City and 170 kms East of the State Capital Dispur, Assam.



1.2 CLIMATE:

The climate of the Hojai District as well as Hojai town is characterized by a highly humid atmosphere all through the year. Summer heat is relieved to a great extent by the cool breeze of the river Jamuna and Kopili. The monsoon starts from the month of May and continues up to August. The winter is cool and starts from November and continues up to February. Generally weather is dry. The maximum and minimum temperature varies from 34.0 Degree C (Max.) 12.0 Degree C (Min). The maximum rain occurs between June to September and average annual rainfall of Hojai is 81.2 MM.

Table 1: Climatic condition of Hojai

SL.No.	Parameter	Description
1.	Temperature	34.00 Degree C (Max.) 12.00 Degree C (Min)
2.	Extreme months	August in Summer and January in Winter
3.	Coldest month of the Year	January
4.	Humidity	90% (Max)
5.	Rainfall	81.20 MM (Annually)
6.	Monsoon Period	53 rainy Days
7.	Winter Season	November to February

1.3 BRIEF HISTORICAL DEVELOPMENT OF HOJAI:

Hojai is a newly formed district which is carved out from Nagaon district in Assam state of India. It is one of the 5 new districts of Assam which was declared on 15th August, 2016 by the then Assam's Chief Minister. The headquarters of the district is situated at Sankardev Nagar, which is about 8 km away from Hojai town. Hojai District was formed from three tehsils of Nagaon District, namely Hojai, Hojai and Hojai. Hojai was a part of undivided Nowgong District (now Nagaon) of then Assam Province.

Hojai is the head quarter town of Hojai District of Assam, situated near the National Highway 27. Hojai was a part of Dimasa Kachari Kingdom in medieval times. According to Ahom Buranjee, Dimasa Kachari Kingdom stretches from Dikhu river to Kallong River. The Dimasa Kacharies living in Hojai are known as "Hojai- Kacharies" to others. "Hojai" is one of the clans (Sengphongs) of Dimasa tribe, probably the city "Hojai" got its name from this clan. the southern parts are habited by the Manipuri, the north west by the Muslim, South west by the Bangali.

1.4 TOPOGRAPHY:

Hojai town is situated on the flat alluvial plain which slopes towards North- West and South-West where the old beds of the Kapili River are still in existence. The geographical area presently under Hojai district and its surrounding area was renowned as "Kapili Valley Kingdom" in ancient times. Many beels, ponds and marches surrounded the town as well as the Master Plan Area.

The land is alluvial and loamy and consists of clay and sand. The cultivable land is scattered either sides of the beels as well as the surrounding villages nearest to the town. In considering the high land as well as the physical features of the surrounding areas the Town is growing mainly towards north-east towards the National Highway-36 and some developments have also taken place along other major roads connecting in some trading centres in the district.

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

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

The main economy of the Hojai rural-urban fringe is agriculture base. The surrounding small villages were also influencing the main urban Centre. The trading of agricultural finished goods produce in the rural-urban fringe area was taking place with the main urban Centre.

Agriculture is the main source of livelihood of the major population of Hojai. There is an abundance of forest-based small-scale industries like Agar Wood Distillation units, Saw Mills and Bamboo & Cane furniture's manufacturing units. The ethnic groups of this region depend on their traditional activities like weaving, animal rearing, etc. Hojai is also noted for its numerous ancient archaeological sites.

Once famed as the "Rice Bowl" of Assam, Hojai is pre-eminently an agriculture belt and in recent times it has attracted attention owing to its fabulous Agarwood processing and agar-product export to the outside world, especially the gulf countries.

While considering the agro-based economy of the rural-urban fringe, secondary and other allied services have to be initiated to boost up the economic growth of the main urban center as well as the whole Hojai

planning area. The main reason of low-profile economy of the town is that a smaller number of people are engaged in secondary, quaternary and other allied services.

Activities related to trade and commerce and transportation alone comprise only 62% of the total employment of the town. It is expected that employment related to transportation and trade & Commerce is going to increase further after the road linkage is established with the town and surrounding villages.

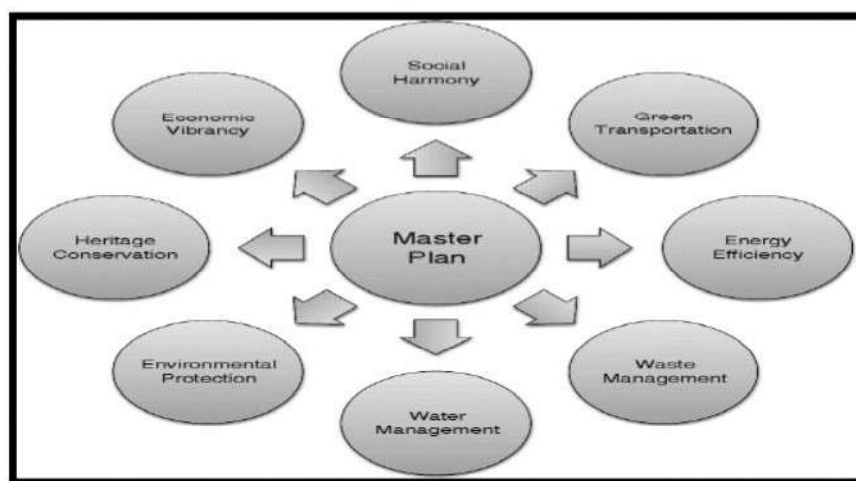
Lack of infrastructure is also responsible in a substantial manner for economic and industrial development of the Hojai town. If adequate urban infrastructure such as efficient transportation network, well planned market etc. is provided then only the town can only upgrade its economic base but also act as a centre for industrial activities of the whole Hojai planning region.

Therefore, the prime objective of the development strategy of Hojai town will be to bring positive development in the town by improving existing physical infrastructure of the town, so as to encourage more and more people to participation in the secondary and tertiary sector or employment. This will generate more employment in the town, strengthen the local bodies as well as improve the socio-economic condition of the people.

It is observed that different type of developmental works already come up in nearby villages and potential for future development of the region. Presently, the town is growing mainly towards Sankardev Nagar towards the National Highway -27. Some developments have also taken place along the major roads towards the Railway Station.

1.6 CONCEPT OF MASTER PLAN:

A Master Plan is a dynamic long-term planning document that provides a conceptual layout to guide future growth and development. Master planning is about making the connection between buildings, social settings, and their surrounding environments. A master plan includes analysis, recommendations, and proposals for a site's population, economy, housing, transportation, community facilities, and land use. It is based on public input, surveys, planning initiatives, existing development, physical characteristics, and social and economic conditions.



1.6.1 MASTER PLANNING CAN ASSUME SOME OR ALL OF THESE ROLES:

Develop a phasing and implementation schedule and identify priorities for action:

- Act as a framework for regeneration and attract private sector investment.
- Conceptualize and shape the three-dimensional urban environment.
- Define public, semiprivate, and private spaces and public amenities.
- Determine the mix of uses and their physical relationship.
- Engage the local community and act as builder of consensus.

As city regeneration initiatives are generally long-term propositions, it is important to consider the master plan as a dynamic document that can be altered based on changing project conditions over time

Master plans can have an important role in determining the shape of the urban environment. If not well conceived, they can lead to problems in the future. All of these issues could have been addressed well in advance as part of the master plan.

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

1.6.2 AIMS AND OBJECTIVES OF THE PLAN:

The main aims and objectives for preparation of Hojai Master Plan are as follows;

- (a) To improve the existing conditions of all facilities services of Hojai Master Plan Area and to develop all the urban infrastructures for an estimated population of 175167 by 2045.
- (b) To integrate the development of various activities of Hojai town with the adjoining areas.
- (c) To functional distribute of the work centers and residential areas so as to minimize the travel distances and increase efficient functioning of various activities.
- (d) To design a safe, easy and speedy circulation system so as to achieve an efficient transportation network for movement of goods and passengers.
- (e) To accelerate the economic growth by increasing economic activities like industries, services and trade and commerce etc.
- (f) Harmonious judicious utilization of land to ensure compact urban development.
- (g) Ensure urban environment by improvement of infrastructure facilities.

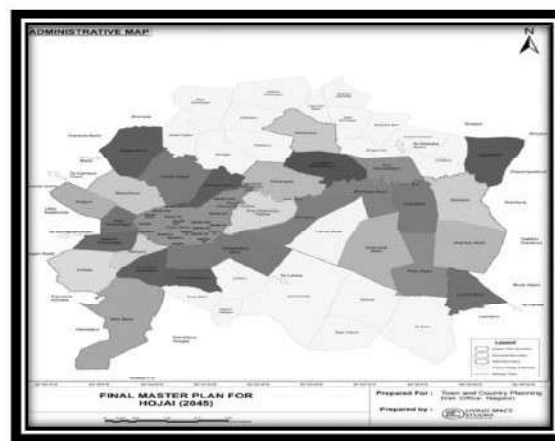
1.7 NEED OF A MASTER PLAN FOR HOJAI TOWN:

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

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

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

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



Hojai Master Plan Administrative Map

1.8 HOJAI AS A URBAN LOCAL BODY:

Hojai Municipal Board: Hojai Town Committee was formed in the year 1958 and the Town Committee was established first by election on 25/06/1958 under the Chairmanship of Jugal Kishore Kedia of Hojai Town Committee. The Town Committee was upgraded to Hojai Municipal Board vide Govt. Notification No. LML.240/63/12, Dated Shillong the 6th November, 1963 and awarded to Hojai Town by the Government of Assam to establish a Municipal Board for providing the basic infrastructure facilities to the inhabitants of the town. The Municipal Board was established and run-in accordance with the provisions laid down in the Assam Municipal Act of 1956. Hojai town comes under the Administration of Hojai Municipal Board with 19 Nos. of wards in the town and as on 2021 there are 19 Nos. of Municipal wards in the town.

Total area of Hojai Municipal Board is 4.66 sq. km with total road length of 86 Km. Hojai Municipal Board consists of the Chairman, Vice-Chairman and wards commissioners who are elected

representatives of the wards. The Chairman is the head of the Administration and presides over the meetings of the board. The Executive Officer oversees and administers the plan and execution of the day - to-day activities of the board. Hojai Municipal Board is basically entrusted with the maintenance of roads and drainage system, streets lights, public health facilities and medical, water supply to the inhabitants in the Municipal boundaries in collaboration with PHE Department.

Hojai Municipal Board also maintains recreational parks, libraries, community halls and municipal markets. Hojai Municipality Boards has various sources of revenue collection and also receive annual grants from the Government. It levies taxes on holdings, rickshaws, carts, cycles, stalls, open spaces, markets and receives taxes on houses, land, water and sanitation.



Office of the Hojai Municipal Board

Chapter: 2 DEMOGRAPHY

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

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

2.1 GROWTH OF POPULATION:

To better understand the trend of growth of population within Hojai Master Plan Area, population had been calculated from the year 1951 Census. The population of Hojai town as per 1951 is 6523 and it has increased to 35718 in 2001 and 37277 in 2011 as per census of India. The population of Hojai Master Plan area shows a steady growth. Following table shows the growth of population of Hojai Town as well as the rural area.

Table 2- : Trend of Population Growth in Hojai Master Plan Area:

Year	Hojai MB Population	Growth Rate	Hojai MP Population excluding Hojai MB Population	Growth Rate	Hojai MP Total Population	Growth Rate
1951	6523	---	12727	---	19250	---
1961	13400	105.43	19176	50.60	32567	69.18
1971	23431	74.86	24840	29.60	48271	48.22
1971	33174	41.58	55733	124.37	88907	84.18
1991	35718	7.76	62671	12.45	98389	10.67
2011	37277	4.36	82244	31.23	119521	21.48

20 Years growth rate

Source-Census of India

2.3 POPULATION CHARACTERISTICS:

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

Sl. No.	Master Plan Area 2045	Population (2011)	P.C (%)
1	Hojai Urban Area	37,277	31.18
2.	Revenue village	82,244	68.82
	Total Population	1,19,521	100 %

Source: Census of India

The total population of Hojai Master Plan area as per 2011 census is 1,19,521 out of which 37,277 i. e. 31.18 within municipality area covering 19 Nos. of wards and rural area population is 82,244 which is about 68% of the total planning area population

Table 4: Village Wise Population and occupied residential houses of Hojai M.P. Area as per Census, 2011

Sl. No.	Name of the Village/MB Area	Total Households	Total Population of Village	Total Male Population of Village	Total Female Population of Village	Total Scheduled Castes Population of Village	Total Scheduled Tribes Population of Village
1	Hojai (MB)	7049	36638	18762	17876	3158	197
2	Pachim Dhaniram Pathar	103	639	317	322	0	1
HOJAI URBAN		7152	37277	19079	18198	3158	198
1	Amtala	254	1289	640	649	29	0
2	Mikir Basti	510	3084	1623	1461	99	0
3	Hira Basti	458	2282	1228	1054	1100	1
4	Bhokhao Basti	383	1777	925	852	1337	13
5	Dakhin Bidyanagar	676	3250	1651	1599	331	215
6	Danki Gaon	519	3114	1568	1546	1	137
7	Dhanuhar Basti	792	4192	2184	2008	1867	12
8	Dimarupar	604	3355	1656	1699	509	2
9	Fakira Basti	308	1592	822	770	517	0
10	Golaghatiya Basti (CT)	1960	9809	5022	4787	1459	8
11	Islam Nagar	447	3079	1558	1521	78	459
12	Teli Basti	381	1970	1039	931	218	0
13	Pub Nandalalpur	271	1425	734	690	913	1
14	Pachim Nandalalpur	110	548	257	291	403	3
15	Pub Nandapur	110	627	314	313	0	0
16	Pachim Nandapur	232	1223	622	601	11	0
17	Rampur	949	4580	2356	2224	602	51
18	Pub Dhuniram Pathar	1183	6280	3281	2999	304	2
19	Sankar Dev Nagar	379	1826	919	907	421	4
20	Jurapukhuri	294	1581	840	741	1443	0
21	Borbhuwa	383	1777	925	852	1337	13
22	Kapahbari	597	3227	1610	1093	265	1
23	Raja Pukhuri	202	1237	629	609	20	0
24	Uttar Bidya Nagar	703	3439	1718	1721	676	70
25	Gopal Nagar	847	3510	2642	2669	0	0
26	Silguri	277	1445	775	670	715	3
27	Bor Pukhuri (CT)	1442	8318	4212	4106	275	0
28	Pam Gaon	466	2408	1272	1136	1969	4
HOJAI RURAL		15737	82244	43022	40499	16899	999
HOJAI URBAN + RURAL		22889	119521	62101	58697	20057	1197

Source-Census of India

Table 5: Ward wise population of Hojai M.B. Area as per 2011 census

Ward No.	Household	Population	Male	Female	SC	ST
1	492	2539	1310	1229	109	10
2	393	2111	1093	1018	215	50
3	278	1340	693	647	47	1
4	665	3257	1698	1559	491	56
5	327	1675	861	814	373	3
6	412	2021	1036	985	239	15
7	371	1859	930	929	25	0
8	333	1667	858	809	143	0
9	217	1130	574	556	86	2
10	372	1920	994	556	86	2
11	345	1586	793	793	152	7
12	199	1158	588	570	27	0
13	475	2549	1314	1235	218	21
14	519	2503	1314	1235	218	21
15	281	1540	790	750	0	1
16	281	1540	790	750	0	1
17	269	1528	777	751	30	0
18	510	2624	1304	1320	248	21
19	359	2278	1158	1120	0	0
Total	7049	36,638	18762	17876	3158	197

2.4 DENSITY OF POPULATION:

The number of population and the size of development of the town or city implies the density of population. Generally, the pressure of population from rural to urban area increases in search of better jobs, educational facilities, source of income, trade and commerce etc. The density of population of Hojai District as per 2001 was 512 persons per sq. km. and it has increased to 640 persons per sq. km in 2011 census. The density of population of Hojai Urban Area as per 2011 census was 7860 persons per sq.km and rural area density of population was 1158 persons per sq. km. Overall Hojai Master Plan area density is 1579 persons per sq.km.

2.5 SEX-RATIO:

The sex-ratio of Hojai town is around 953 compared to 958 which is average of Assam state. The population of children of age 0-6 years in Hojai Town Area is 3869 which is 10.56% of the total population of Hojai MB. There are 1960 male children and 1909 female children between the ages of 0-6 years. Thus as per the Child sex ratio of the town is 974 which is greater than the average sex ratio of 962 of Assam.

While Sex ratio of the Master Plan Area is 945 females per 1000 males and the village Area is 941 females per thousand male.

Table 6: Sex Ratio of Hojai Master Plan Area:

Sl. No.	Hojai Planning Area	Population			Sex Ratio
		Total	Male	Female	
1.	Hojai Urban Area	37277	19,079	18,198	953
2.	Village Area	82,244	43,022	40,499	941
	Hojai Master Plan Area	1,19,521	62,101	58697	945

Source: Hojai M.B and Census of India

2.6 THE LITERACY RATE:

Literacy rate of Hojai town is 90.66% out of which is higher than the State average of 72.19%. Out of which, 93.77% males are literate and 87.39% females are literate. There are 8.62% Scheduled Caste (SC) and 0.54% Scheduled Tribe (ST) of total population in Hojai town.

2.7 CASTE:

As per census of India, there are about 8.62% Scheduled Caste (SC) and 0.53% Scheduled Tribe (ST) of total population within Hojai Master Plan Area.

2.8 SIZE OF THE HOUSEHOLD:

The 2011 Census shown that more than half of the household in the region were medium sized with an average member of 5.2. According to census 2011 the medium sized households (4-5) is predominant because of the increasing trends towards nuclear households and rapid urbanization are at higher rate, there will be considerable pressure on housing in coming future. The overall household size of Hojai Master Plan Area is 5.2 while 5.1 in Hojai Urban Area.

2.9 POPULATION PROJECTION FOR THE YEAR 2045:

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

Population projection is a scientific/mathematical attempt to peep into the future population scenario, conditioned by making certain assumptions using data to the past available at the point of time. It is mandatory for Government policy makers and planners to determine the future demand for basic human needs such as food, water, education, health, energy, and other services and to forecast future demography characteristics.

The population projection of Hojai Master Plan area is done calculating 5 decades of population from 1951-2011, separately for Municipal area and rural area has been done by utilizing the maximum possible accuracy. Mainly Geometric progression method has been used to determine the future projected population of Hojai Master Plan Area.

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

Table 7- HOJAI MASTER PLAN POPULATION AS PER 2011 CENSUS

Sl. No.	Name of the Village/ MB Area	Total Households	Total Population of Village	Total Male Population of Village	Total Female Population of Village	Total Scheduled Castes Population of Village	Total Scheduled Tribes Population of Village
1	Hojai (MB)	7049	36,638	18762	17876	3158	197
2	Pachim Dhaniram Pathar	103	639	317	322	0	1
HOJAI URBAN		7152	37277	19079	18198	3158	198
1	Amtala	254	1289	640	649	29	0
2	Mikir Basti	510	3084	1623	1461	99	0
3	Hira Basti	458	2282	1228	1054	1100	1
4	Bhokhao Basti	383	1777	925	852	1337	13
5	Dakhin Bidyanagar	676	3250	1651	1599	331	215
6	Danki Gaon	519	3114	1568	1546	1	137
7	Dhanuhar Basti	792	4192	2184	2008	1867	12
8	Dimarupar	604	3355	1656	1699	509	2
9	Fakira Basti	308	1592	822	770	517	0
10	Golaghatiya Basti (CT)	1960	9809	5022	4787	1459	8
11	Islam Nagar	447	3079	1558	1521	78	459
12	Teli Basti	381	1970	1039	931	218	0
13	Pub Nandalalpur	271	1425	734	690	913	1
14	Pachim Nandalalpur	110	548	257	291	403	3
15	Pub Nandapur	110	627	314	313	0	0
16	Pachim Nandapur	232	1223	622	601	11	0
17	Rampur	949	4580	2356	2224	602	51
18	Pub Dhuniram Pathar	1183	6280	3281	2999	304	2
19	Sankar Dev Nagar	379	1826	919	907	421	4
20	Jurapukhuri	294	1581	840	741	1443	0
21	Borbhuwa	383	1777	925	852	1337	13
22	Kapahbari	597	3227	1610	1093	265	1
23	Raja Pukhuri	202	1237	629	609	20	0
24	Uttar Bidya Nagar	703	3439	1718	1721	676	70
25	Gopal Nagar	847	3510	2642	2669	0	0
26	Silguri	277	1445	775	670	715	3
27	Bor Pukhuri (CT)	1442	8318	4212	4106	275	0
28	Pam Gaon	466	2408	1272	1136	1969	4
HOJAI RURAL		15737	82244	43022	40499	16899	999
HOJAI URBAN + RURAL		22889	119521	62101	58697	20057	1197

Source-Census of India

Table 8- HOJAI MASTER PLAN POPULATION AS PER 2001 CENSUS

Sl. No.	Name of the Village/ MB Area	Total Households	Total Population of Village	Total Male Population of Village	Total Female Population of Village	Total Scheduled Castes Population of Village	Total Scheduled Tribes Population of Village
1	Hojai (MB)	6230	35718	18750	16968	1919	82
2	Pachim Dhaniram Pathar	0	0	0	0	0	0
HOJAI URBAN		6230	35718	18750	16968	1919	82
1	Amtala	195	1327	675	652	30	0
2	Mikir Basti	541	3967	2042	1925	65	0
3	Hira Basti	294	1767	948	819	913	0
4	Bhokhao Basti	203	1304	677	627	214	0
5	Dakhin Bidyanagar	422	2296	1181	1115	189	47
6	Danki Gaon	320	2290	1144	1146	0	0
7	Dhanuhar Basti	528	3334	1730	1604	1210	0
8	Dimarupar	367	2493	1260	1233	448	0
9	Fakira Basti	217	1403	748	655	314	0
10	Golaghatiya Basti	1281	7358	3789	3569	3789	2
11	IslamNagar (Islampur)	350	2590	1338	1252	0	0
12	Teli Basti	282	1712	885	827	122	0
13	Pub Nandalalpur	80	521	280	241	354	0
14	Pachim Nandalalpur	181	1133	569	564	565	0
15	Pub Nandapur	74	395	201	194	10	1
16	Pachim Nandapur	142	939	474	465	0	0
17	Rampur	538	2937	1511	1426	238	43
18	Pub Dhuniram Pathar	723	4378	2313	2065	258	2
19	Sankar Dev Nagar	291	1508	777	731	106	0
20	Jurapukhuri	225	1302	671	631	1153	0
21	Borbhuwa	104	690	333	357	0	0
22	Kupah Bari	277	1573	824	749	200	1
23	Raja Pukhuri	148	928	481	447	10	0
24	Uttar Bidya Nagar	412	2196	1123	1107	123	10
25	Gopal Nagar	577	3628	1847	1781	0	0
26	Silguri	222	1241	637	604	684	0
27	Bor Pukhuri	956	5693	2898	2795	336	4
28	Pam Gaon	288	1768	936	832	1242	1
HOJAI RURAL		10238	62671	32292	30413	12573	111
HOJAI URBAN + RURAL		16468	98389	51042	47381	14492	193

Source-Census of India

Table 9- HOJAI MASTER PLAN POPULATION AS PER 1991 CENSUS

Sl. No.	Name of the Village/ MB Area	Total Households	Total Population of Village	Total Male Population of Village	Total Female Population of Village	Total Scheduled Castes Population of Village	Total Scheduled Tribes Population of Village
1	Hojai MB	5248	31926	17100	14826	2358	113
2	Pachim Dhaniram Pathar	229	1248	699	549	123	75
HOJAI URBAN		5477	33174	17799	15375	2481	188
1	Amtala	195	1327	675	652	30	0
2	Mikir Basti	541	3967	2042	1925	65	0
3	Hira Basti	294	1767	948	819	913	0
4	Bhokhao Basti	203	1304	677	627	214	0
5	Dakhin Bidyanagar	422	2296	1181	1115	189	47
6	Danki Gaon	320	2290	1144	1146	0	13
7	Dhanuhar Basti	528	3334	1730	1604	1210	0
8	Dimarupar	367	2493	1260	1233	448	0
9	Fakira Basti	217	1403	748	655	314	0
10	Golaghatiya Basti	1281	7358	3789	3569	1096	2
11	Islam pur	350	2590	1338	1252	0	0
12	Teli Basti	282	1712	885	827	122	0
13	Pub Nandalalpur	80	521	280	241	345	0
14	Pachim Nandalalpur	181	1133	569	564	565	0
15	Pub Nandapur	74	395	201	194	10	1
16	Pachim Nandapur	142	939	474	465	0	0
17	Rampur	538	2937	1511	1426	238	42
18	Pub Dhuniram Pathar	367	2493	1260	1233	448	2
19	Sankar Basti	291	1508	777	731	106	0
20	Jurapukhuri	225	1302	671	631	1153	0
21	Borbhuwa	104	690	333	357	13	0
22	Kapahbari	277	1573	824	749	200	1
23	Raja Pukhuri	90	641	339	302	84	24
24	Uttar Bidya Nagar	222	1221	631	590	105	3
25	Gopal Nagar	425	2428	1239	1189	279	12
26	Siliguri	187	1043	517	526	117	277
27	Bor Pukhuri	554	3619	1891	1728	473	206
28	Pamgaon	209	1449	759	690	169	384
HOJAI RURAL		8966	55733	28693	27040	8906	1014
HOJAI URBAN + RURAL		14443	88907	46492	42415	11387	1202

Source-Census of India

Table 10- HOJAI MASTER PLAN POPULATION AS PER 1971 CENSUS

Sl. No.	Name of the Village/MB Area	Total Households	Total Population of Village	Total Male Population of Village	Total Female Population of Village	Total Scheduled Castes Population of Village	Total Scheduled Tribes Population of Village
1	Hojai (MB)	3808	22769	12954	9815	888	0
2	Pachim Dhaniram Pathar	112	662	327	335	43	0
HOJAI URBAN		3920	23431	13281	10150	931	0
1	Amtala	174	1219	662	557	10	0
2	Mikir Basti	279	1883	1016	867	42	132
3	Hira Basti	122	733	371	362	0	0
4	Bhokhao Basti	97	581	289	292	0	0
5	Dakhin Bidyanagar	72	428	223	205	0	0
6	Danki Gaon (Bardaukhigaon)	99	598	319	279	26	0
7	Dhanuhar Basti	208	1459	761	698	92	0
8	Dimarupar	168	1168	601	567	0	0
9	Fakira Basti	99	596	327	269	0	0
10	Golaghatiya Basti	487	3409	1758	1651	582	0
11	Islam Nagar	196	1372	800	572	0	0
12	Teli Basti	145	845	437	408	0	0
13	Pub Nandalalpur	104	627	330	297	0	0
14	Pachim Nandalalpur	37	222	117	105	0	0
15	Pub Nandapur	57	339	174	165	0	0
16	Pachim Nandapur	86	506	261	245	0	0
17	Rampur	81	487	265	222	0	0
18	PubDhuniram Pathar	167	1156	621	525	50	0
19	Sankar Dev Nagar	122	730	382	348	0	0
20	Jurapukhuri	121	729	367	362	0	0
21	Borbhuwa	822	147	1031	531	500	0
22	Kapahbari	150	900	487	12	6	0
23	Raja Pukhuri	57	346	185	161	12	0
24	Uttar Bidya Nagar	95	629	331	298	0	0
25	Gopal Nagar	178	1250	671	579	0	0
26	Silguri	126	757	387	370	380	0
27	Borpukhuri	114	682	372	310	0	0
28	Pamgaon	174	1042	520	522	280	0
HOJAI RURAL		4637	24840	14065	11779	1980	132
HOJAI URBAN + RURAL		8557	48271	27346	21929	2911	132

Source-Census of India

Table 11- HOJAI MASTER PLAN POPULATION AS PER 1961 CENSUS

Sl. No.	Name of the Village/MB Area	Total Households	Total Population of Village	Total Male Population of Village	Total Female Population of Village	Total Scheduled Castes Population of Village	Total Scheduled Tribes Population of Village
1	Hojai Town	2260	12857	7584	5273	789	12
2	Pachim Dhaniram Pathar	60	316	179	137	0	0
3	Hojai Railway	46	227	129	98	40	0
HOJAI URBAN		2366	13400	7892	5508	829	12
1	Amtala	249	1335	749	586	42	0
2	Mikir Basti	202	1132	609	523	0	0
3	Hira Basti	105	568	292	276	88	0
4	Bhokhao Basti	83	460	241	219	27	0
5	Dakhin Bidyanagar	60	328	174	154	0	0
6	Danki Gaon	43	261	142	119	0	0
7	Dhanuhar Basti	168	967	512	455	0	0
8	Dimarupar	147	841	455	386	148	0
9	Fakira Basti	62	435	243	192	0	4
10	Golaghatiya Basti	503	2502	1321	1181	0	0
11	Islam Nagar	146	861	448	413	0	0
12	Teli Basti	140	716	366	350	0	0
13	Pub Nandalalpur	113	501	266	235	0	317
14	Pachim Nandalalpur	36	165	86	79	113	0
15	Pub Nandapur	113	501	266	235	0	317
16	Pachim Nandapur	84	472	260	212	0	0
17	Rampur	84	432	240	192	0	7
18	Pub Dhuniram Pathar	144	848	459	389	0	0
19	Sankar Dev Nagar	126	627	340	287	0	0
20	Jurapukhuri	102	570	303	267	557	30
21	Borbhuwa	49	420	210	210	0	0
22	Kapahbari	136	650	368	282	0	0
23	Raja Pukhuri	48	262	134	128	14	0
24	Uttar Bidya Nagar	67	361	188	173	0	0
25	Gopal Nagar	145	915	508	407	0	0
26	Siliguri	118	590	330	260	37	0
27	Bor Pukhuri	138	698	361	337	371	0
28	Pamgaon	146	749	381	368	0	0
HOJAI RURAL		3557	19167	10252	8915	1397	675
HOJAI URBAN + RURAL		5923	32567	18144	14423	2226	687

Source-census of India

Table 12- HOJAI MASTER PLAN POPULATION AS PER 1951 CENSUS

Sl. No.	Name of the Village/MB Area	Total Households	Total Population of Village	Total Male Population of Village	Total Female Population of Village	Total Scheduled Castes Population of Village	Total Scheduled Tribes Population of Village
1	Hojai Station	1002	6455	3940	2515	--	--
2	Pachim Dhaniram Pathar (Pachim Dankiran Pathar)	42	68	43	25	--	--
TOTAL URBAN		1044	6523	3983	2540	--	--
1	Amtala	151	954	520	434	--	--
2	Mikir Basti	54	267	140	127	--	--
3	Hira Basti	92	446	237	209	--	--
4	Bhokhao Basti	58	349	184	165	--	--
5	Dakhin Bidyanagar	61	644	354	290	--	--
6	Danki Gaon	22	115	59	56	--	--
7	Dhanuhar Basti	117	632	328	304	--	--
8	Dimarupar	53	523	267	247	--	--
9	Fakira Basti	79	483	261	222	--	--
10	Golaghatiya Basti	200	1197	642	555	--	--
11	Islam Nagar	77	560	292	269	--	--
12	Teli Basti	86	469	231	238	--	--
13	Pub Nandalalpur	106	447	221	226	--	--
14	Pachim Nandalalpur	39	148	80	68	--	--
15	Pub Nandapur	47	238	116	122	--	--
16	Pachim Nandapur	78	496	285	211	--	--
17	Rampur	59	312	182	130	--	--
18	Pub Dhuniram Pathar	108	651	372	279	--	--
19	Sankar Dev Nagar	110	563	300	263	--	--
20	Jurapukhuri	57	440	236	204	--	--
21	Borbhuwa	46	298	161	137	--	--
22	Kaposbari (Brindabanpur)	75	398	218	180	--	--
23	Raja Pukhuri	37	197	116	81	--	--
24	Uttar Bidya Nagar	0	0	0	0	--	--
25	Gopal Nagar (Biding Basti)	18	99	58	41	--	--
26	Silguri	85	546	301	245	--	--
27	Borpukhuri	36	412	237	157	--	--
28	Pamgaon	85	843	434	409	--	--
HOJAI RURAL		2036	12727	6832	5869	--	--
HOJAI URBAN + RURAL		3080	19250	10815	8409	--	--

Source-census of India

Table 13 - STUDY OF DECADAL GROWTH RATE IN HOJAI MP AREA & ASSUMPTION OF ESTIMATED GROWTH RATE

STUDY OF GROWTH RATE	MB area	Village Area
	105.43	50.60
	74.86	29.60
	41.58	124.37
	7.67	12.45
	3.61	31.23
TOTAL SIX DECADES GROWTH RATE	233.90	248.25
AVERAGE GROWTH RATE	38.98	41.38
Say	5.00	35.00

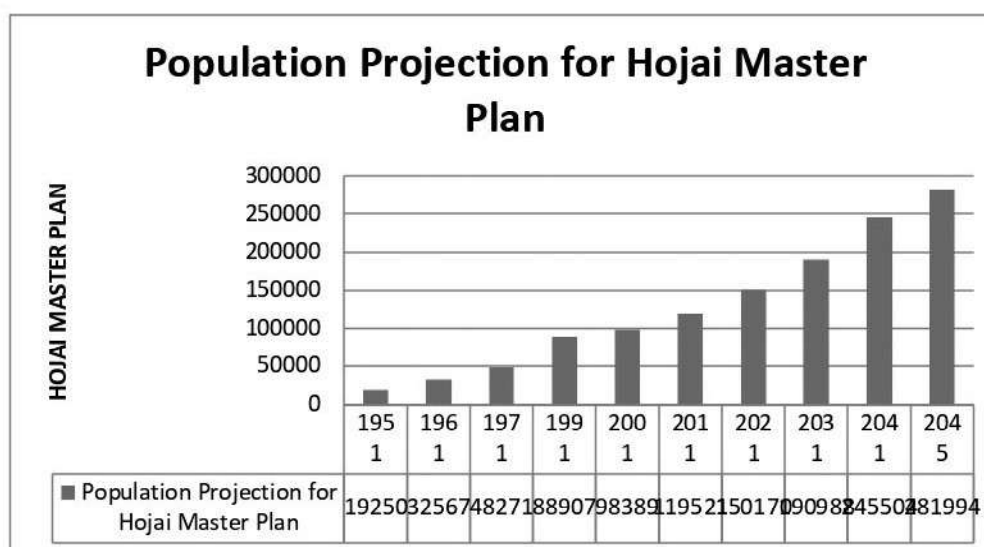
Table 14 - POPULATION PROJECTIONS by GEOMETRIC PROGRESSION METHOD

Year	Hojai MB Population	Growth Rate	Hojai MP Population excluding Hojai MB Population	Growth Rate	Hojai MP Total Population	Growth Rate	
1951	6523	---	12727	---	19250	---	
1961	13400	105.43	19167	50.60	32567	69.18	
1971	23431	74.86	24840	29.60	48271	48.22	
1991	33174	41.58	55733	124.37	88907	84.18	20 Years growth rate
2001	35718	7.67	62671	12.45	98389	10.67	
2011	37277	4.36	82244	31.23	119521	21.20	
2021	39121	5.00	111029	35.00	150170	25.93	
2031	41098	5.00	149890	35.00	190988	27.18	
2041	43153	5.00	202351	35.00	245504	28.54	
2045	44232	2.50	237763	17.50	281994	14.86	5 years growth rate

Table 15- Projected Population of Hojai Master Plan Area from 2001 to 2045

Method	2001	2011	2021	2031	2041	2045
Geometric Progression Method	98,389	119521	150170 (P)	190988(P)	245504 (P)	281994 (P)

Source-census of India

Population Projection of Hojai Master Plan in Bar-Diagram

Chapter: 3

ECONOMIC BASE AND EMPLOYMENT:

The economic base deals with how a community earns its living. It consists of that proportion of employment and income generated in a local community that determines the overall level of production. The growth, decline or stagnation of the local community rests upon the basic economic activity, which goes beyond local needs. There are several measures of economic activity, but employment and income are the most commonly used in actual case studies. Information about employment and income values are the easiest to find at the county level.

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

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

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

Agriculture:-The economy of Hojai district is fundamentally based on agriculture. Over 70 percent of the district's population relies on agriculture as farmers, agricultural labourers, or both for their livelihood. A majority of the district's population, almost 80 percent, live in rural areas where the mainstay of business is agriculture. Out of the total geographical area of 142200 ha, net sown area is 76261 ha and gross cropped area is 134982 hectares. The cropping intensity is 177 percent. Paddy, which is at present grown mainly during kharif and rabi seasons, dominates the agriculture scenario in the district. Out of 1,26,137 farm families, 92,227 are small and marginal farmers. Paddy, jute, sugarcane, rapeseed, mustard, fruits and vegetables are major crops of the district. Crop wise area and production for the year 2019-20 is as under:



Agarwood Industry: - Agarwood tree is one of the precious gifts of nature deeply associated with the cultural heritage of Assam since ancient time. During early period the specially treated bark of agar tree popularly called "Sanchipat" was used for writing religious scripts which are still boeing preserved in many places including different "Satra/Namghar" in Assam. Agarwood is an integral part of the religious and cultural fabrics of India, largely used as agarbathi. The essential oil from agarwood is valued in high class perfumes and is much priced by European perfumer for mixing their best grade

scents. Agarwood (Oudh) is a fragrant dark resinous wood used mainly for incense, perfumes and small carvings.

Hojai district is famous for its agarwood business tradition and culture. Hojai is literally the business hub for agarwood business. Agarwood products were seen a important strategy to earn a high income by virtue of expensive and therefore, most of the people in Hojai district including its villages were attracted to this livelihood activity. It was found that there was higher number of household getting cash from agarwood business other than any other agricultural business. The demand for this tree and its products are very high in Middle East and Asian countries such as Saudi Arabia, Qatar, Kuwait, Dubai, Oman, Bahrain, china, Korea, Malaysia ets. The Middle Eastern people mainly use it for incense and perfume while Buddhist uses agarwood for transmutation of ignorance. Tibetan monks utilize it to convey energy to wind down the mind and spirit. The tree becomes valuable only after getting infected by a particular fungus or group of fungi ceases to grow and become sick in the population stand. Hojai district in Assam is nerve centre of trade and commerce of agarwood including Naharani and Namti in Upper Assam. More than 70% of the total populations at Hojai are engaged in agarwood business in the means of livelihood. Due to the increase in the price of agarwood chip and oil the competition between the traders and entrepreneurs is highly affected. The first grade agarwood is one of the most expensive natural raw materials in the world. The price for 1 kg raw agar may be Rs 2000 or Rs 200000/-. The rapid increase in price level according to their quality led to take certain type of sustainable strategy adoption. The popularity of agarwood products in the international market offers the opportunity for high earning livelihood.



Market Profile of Hoja Town

MARKET PLACE	Hojai			
POSTAL ADDRESS:	Village - Hojai Mouza - Hojai Post office - Hojai Police Station - Hojai Development Block - Jugijan Development Block & Dholpukhuri Block Revenue Circle - Hojai Revenue Circle Sub-division- Hojai Sankar Devnagar District - Nagaon			
NATURE OF MARKET & MARKET DAYS	Daily and Weekly, Saturday			
TRADING HOUR	FROM	8:00 AM	TO	7:00 PM
DATE OF ESTABLISHMENT OF THE MARKET				
OWNED BY	Municipal Board Hojai			

NAME OF THE RMC UNDER WHOSE JURISDICTION THE MARKET IS LOCATED		Lanka regulated Market Committee	
OFFICERS RESPONSIBLE FOR PRICE & ARRIVAL REPORTING		Asstt. Marketing Inspector	
NEARBY POLICE STATION (with distance in K.M.)		Hojai	½ K.M.
NAME OF BANKS NEARBY THE MARKET (with distance in K.M.)		1. United Bank of India 0 KM 2. State Bank of India 0 KM 3. Apex Bank Hojai Branch 0 KM	
MARKET LINK COMMUNICATION			
NEAREST BUS STATION (with distance from the market place)			
NAME OF THE MARKET LINKING ROADs	Jugijan road, Kaparbari road, Nagaon road, Juraplakuri Road, Japring road		
NEAREST NATIONAL/STATE HIGHWAY (with distance from the market place)	36 N.H.	10 K.M.	
NEAREST RAILWAY STATION (with distance from the market place)	Hojai	0 K.M.	
MODE OF TRANSPORT ADOPTED FOR THE MARKET	Railway, Bus, Truck, Thella, Tanga		
PARKING FACILITY	YES NO		
MARKET PRACTICES			
DISPLAY OF THE PRODUCE	BULK	SAMPLE	
CLEANING OF THE PRODUCE	MECHANICAL	MANUAL	
METHOD OF SALE	AUCTION	MUTUAL NEGOTIATION	
WEIGHMENT	YES	NO	
FILLING	YES	NO	
DELIVERY	YES	NO	
PAYMENT	CASH	CHEQUE	OTHER

DISPLAY OF THE MARKET PRICE	YES	NO	
GRADING & STANDARDISATION	YES	NO	
MARKET PARTICULARS			
COMMODITIES SOLD IN WHOLESALE WITH ANNUAL AVERAGE ARRIVAL IN TONE OF EACH COMMODITY	1. Supari	1,500 M.T.	
	2. Till	5,200 M.T.	
	3. Dhania	3,500 M.T.	
	4. Mustard seed	3,700 M.T.	
	5. Rice	75,000 M.T.	
NAME OF THE FEEDER MARKETS WITH DISTANCE	1. Natun Bazar 2. Jugijan Market 3. Dholpukhuri	1 K.M. 9 K.M. 9 K.M.	
NAME OF THE MARKETS TO WHICH THE PRODUCE IS SENT	Moinapur, Bhimor Ali, Kumrakata, Amtola, Monipuribosti, Telebosti, Ramnagar, Dhonulonbosti etc.		
AVERAGE DISPATCHES TO OUTSIDE MARKETS DURING THE SEASON (commodity-wise)	1. Till 2. Dhania 3. Supari 4. Rice 5. Mustard Seed	5200 M.T. 4800 M.T. 1500 M.T. 75,000 M.T. 3700 M.T.	
NO. OF PROCESSING UNITS INCLUDING JUTE BAILING PRESS IN THE AREA (Commodity-wise)	1. Rice Mill 2. Chira Mill 3. Grinder and Space	6 Nos. 2 Nos. 6 Nos.	
MARKET INFRASTRUCTURE			
AUCTION PLATFORM	YES NO	DRYING YARD	YES NO
RETAILER'S SHOP	YES NO	GODOWN	YES NO
BOUNDARY WALL	YES NO	INTERNAL ROADS	YES NO
DRINKING WATER	YES NO	ELECTRICITY	YES NO
MARKET CHARGES/INCIDENTAL CHARGES			
HANDLING CHARGES	YES	@	NO
WEIGHMENT CHARGES	YES	@	NO

BROKERAGE	YES	@	NO
COMMISSION	YES	@	NO
UNAUTHORISED TRADE ALLOWANCE IF ANY	YES	@	NO
TRANSPORT CHARGES	YES	@	NO
PACKING CHARGES	YES	@	NO
OTHER CHARGES IF ANY	YES	@	NO
MARKET FEE / MARKET TOLL	YES	@	NO
MARKET FUNCTIONARIES			
NO. OF TRADERS (Commodity-wise)	1. Potato 2. Vegetable 3. Rice		10 Nos. 20 Nos. 25 Nos.
NO. OF COMMISSION AGENT (Commodity- wise)	Nil.		
NO. OF BROKER	Nil.		
NO. OF TRANSPORTER	Nil.		
NO. OF FARIA	26 Nos.		
NO. OF RETAILER	50 Nos.		
NO. OF WEIGHMENT	Nil.		
NO. OF HAMAL (COOLIE)			
NAME OF CO- OPERATIVE SOCIETIES	1. Hojai Co-Operative Society 2. Jugijan Co-Operative 3. Whole sale consumer marketing Co-Operative Society		
LAND POSITION			
AREA OF LAND OWNED BY THE MARKET			
ADDITIONAL GOVT. LAND AVAILABLE NEARBY THE MARKET	No		

3.1 FORMAL SECTOR EMPLOYMENT:

Formal sectors represent all jobs with specific working hours and regular wages and the worker's job is assured. The workers are employed by the government, state or private sector enterprises. It is a licensed organization and is liable to pay taxes. It includes large-scale operations such as banks and other corporations.

From the raw data and T&CP, Nagaon survey team report it is found that out of the total working population in Hojai town area only about 40 % populations are engaged in the formal sector of employment.

3.2 INFORMAL SECTOR EMPLOYMENT:

Employees are considered to have informal jobs if their employment relationship is, in law or in practice, not subject to national labour legislation, income taxation, social protection or entitlement to certain employment benefits (advance notice of dismissal, severance pay, paid annual or sick leave, etc.). The underpinning reasons may be the non-declaration of the jobs or the employees; casual jobs or jobs of a short duration; jobs with hours of work or wages below a specified threshold (e.g. for social security contributions); or lack of application of law and regulation in practice. In the case of own-account workers and employers, the informal employment status of the job is determined by the informal sector nature of the enterprise. Employers (with hired workers) and own-account worker (without hired workers) are considered to be informal when their economic units belong to the informal sector. All contributing family workers are classified as having informal employment, irrespective of whether they work in formal or informal sector enterprises.

It is observed that some encroachments on the both side of the footpath by the illegal vendors, which acutely rise the traffic congestion at Hojai main road.

Learn and Earn is a scheme implemented by the Government of India since 2013-14 for skill development of minorities. The scheme aims at upgrading the skills of minority youth, especially women in various modern/traditional skills depending upon their qualification, present economic trends and market potential, which can earn them suitable employment or make them suitably skilled to go for self-employment. This project was implemented by AJMAL FOUNDATION for two years. For example, training of tailoring was conducted for helpless women who included widows and college dropouts. Apart from tailoring, training on other trades like retail, hospitality, bedside assistant, security guard and retail were also provided. There were 200 (70 females) beneficiaries in 2014-15 with a placement percentage of 86%. In the year 2016-17 (89 females), 250 beneficiaries were there and the project is still ongoing with more beneficiaries being added.

Nai Manzil aims to engage constructively with poor Minority youth and help them obtain sustainable and gainful employment opportunities that can facilitate them to be integrated with mainstream economic activities. It aims at mobilising youth from minority communities who are school drop-outs and provide them with formal education and certification up to level 8th or 10th through National Institute of Open Schooling (NIOS) or other State open schooling systems.

As a part of the programme, it provides integrated Skill Training to the youth in market driven skills and provide placements to at least 70% of the trained youth in jobs which would earn them basic minimum wages and provide them with other social protection entitlements like Provident Funds, Employee State Insurance (ESI) etc. This project was implemented by AJMAL FOUNDATION since 2017 and around 1940 candidates have benefitted from the program, out of which 754 were females.

DDU-GKY is a part of the National Rural Livelihood Mission (NRLM), tasked with the dual objectives of adding diversity to the incomes of rural poor families and cater to the career aspirations of rural youth. It is uniquely focused on rural youth between the ages of 15 and 35 years from poor families. It plays an instrumental role in supporting the social and economic programs of the government like the Make in India, Digital India, Smart Cities and Start-Up India, Stand-Up India campaigns. Over 180 million or 69% of the country's youth population between the ages of 18 and 34 years, live in its rural areas. Out of these, the youth from poor families with no or marginal employment is about 55 million.

In order to energize and build mass support as well as create awareness amongst the rural youth, The DDU-GKY projects are market linked and implemented in PPP mode. Industry interactions have emphasized the need for training in soft skills, team working etc., as more important than domain skills, which they learn on the job. To ensure that candidates can perform in their work areas as well as assimilate into the organization and society, DDU-GKY has mandated a minimum of 160 hours of training in soft skills, function English and computer literacy.

The DDU-GKY program is being implemented under AJMAL FOUNDATION since 2017 and so far 302 candidates (115 females) have been enrolled in different trades like Food and Beverages, Bedside Assistant, Sales Person-Retail, Accounting, BPO Voice and so on. So far, 63% of them have been placed.



Self-Employment program in Hojai under DDU-GKY & Ajmal Foundation

Table 16: Formal and Informal sector employment in Hojai M.B. Area as per 2011 census

Sl. No.	Categories	Nos	P.C
1	Working population	14958	35 %
2	Non-working population	27960	65 %
3	Formal sector employment	5862	39.1 %
4	Informal sector employment	9123	60.9 %

Source-Census of India

From the table, it is seen that out of the total working population of 12680, about 40 % populations in Hojai town area are engaged in formal and 60 % populations are engaged in informal sector of employment.

3.3 OCCUPATIONAL PATTERN:

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

Occupation pattern is different of the peoples of Hojai Master Plan Area. The rural peoples are mainly based upon the primary sector activities like agricultural and allied activities such as Horticulture, Forestry, Fishery, Animal Husbandry (dairy, poultry, and goat), and Floriculture etc.

On the other hand urban livelihoods are based upon secondary and tertiary activities like manufacturing and services etc.

Total working population of Hojai MB Area is 14,958 which are either main or marginal workers out of which 12752 are male and 2224 are female. Total main workers are 12929 out of which male main workers are 11379 and female main workers are 1550. Total marginal workers of Hojai Urban area are 2029.

Table-17 Occupational Pattern of Hojai Urban Area working population as per 2011

	Total	Male	Female
Total Workers	14958	12752	2224
Main Workers	12929	11379	1550
Main Workers Cultivators	227	106	5
Agriculture Labourer	140	126	14
Household Industries	243	163	80
Other Workers	12063	10707	1356
Marginal Workers	2029	1355	674
Non-Working Persons	27960	9309	18651

Source-Census of India

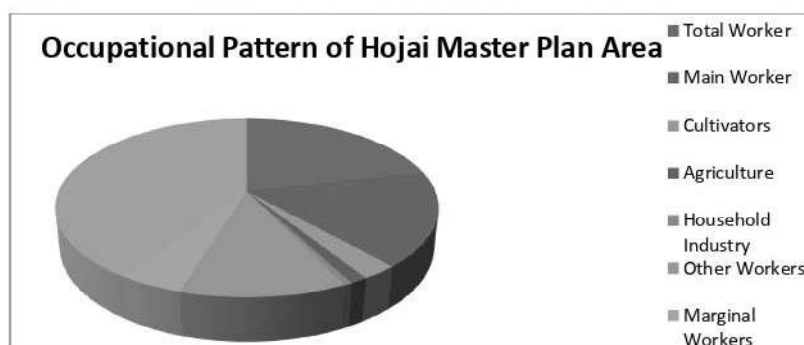
Table-18 Occupational Pattern of Village Area Working Population

	Total	Male	Female
Total Workers	26408	21022	5386
Main Workers	19297	16595	2702
Main Workers Cultivators	4826	4509	317
Agriculture Labourer	2258	1797	461
Household Industries	800	651	149
Other Workers	10681	9244	1437
Marginal Workers	6808	4174	2634
Non-Working Persons	49909	17858	32051

Source-Census of India

Table-19 Occupational Pattern of Hojai Master Plan Area Working Population as per 2011 census

	Total	Male	Female
Total Workers	41366	33774	7502
Main Workers	32226	27974	4252
Main Workers Cultivators	5053	4615	438
Agriculture Labourer	2398	1923	475
Household Industries	1043	814	229
Other Workers	22744	19951	2793
Marginal Workers	8837	5529	3308
Non-Working Persons	77869	27167	50702

Source-Census of India

3.4 WORKFORCE DISTRIBUTION

Workforce population distribution according to sectors is as mentioned below:-

Workforce distribution by type of workers:-

Table:-20

Name of Area	Population, 2011	Total worker	Main worker	%	Marginal Worker	%	Non-Worker	%
Hojai Urban Area	37,277	14,958	12,929	34.68	2029	5.44	27960	75.00
Village Area	82,244	26408	19,297	23.46	6808	8.27	49909	60.68
Total	1,19,521	41366	32,226	26.96	8837	7.39	77869	65.15

(Source-Census of India)

The details of the share of main, marginal, and non-working population of the Hojai master Plan area is furnished above. This table reveals that less than one third 26.96 % of the total population is main workers, very merge 7.39 % falls under marginal workers and nearly 65.15 % of population is non-workers in Hojai Master Plan Area.

The Higher share of non-working population indicates that lack of employment opportunities/infrastructure is prevailing in the system. The Highest percentage of main workers to the

total population is in Hojai Municipal Area while the lowest is in rural area. These phenomenon highlights that there is a shift from rural to urban migration i.e. urban migration were observed in the system during the year 2011.

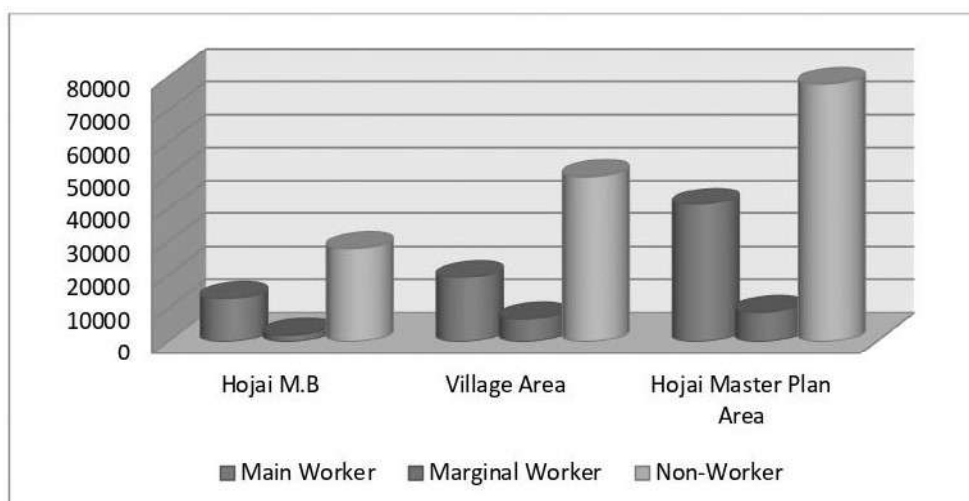
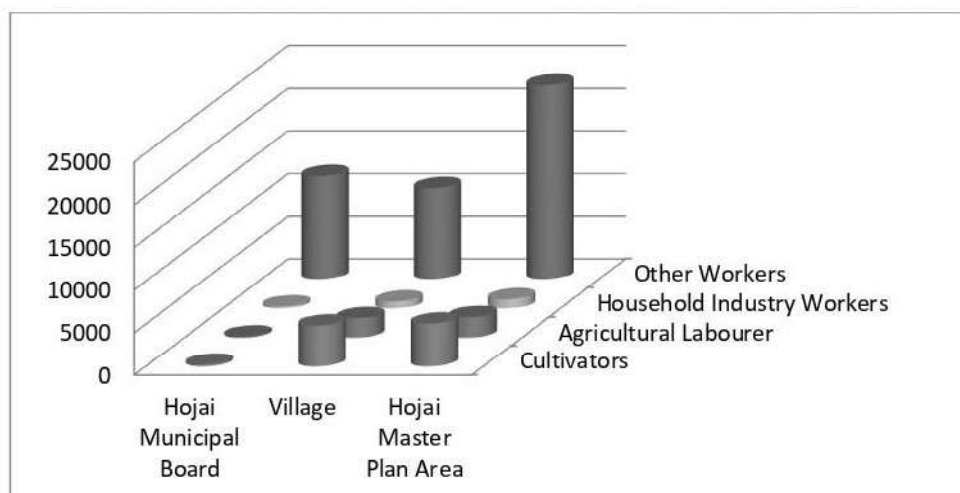


Table 21- Workforce distribution by sectors of economy:-

Particulars	Main Workers	Primary Sector		Secondary sector	Tertiary Sector	%		
		Cultivators	Agricultural Labourer	Household Industry Workers	Others workers	Primary Sector	Secondary Sector	Tertiary Sector
Hojai Urban Area	12,929	227	140	243	12063	2.83	1.87	93.30
Village Area	19,297	4826	2258	800	10681	36.71	4.14	55.35
Hojai Master Plan Area	32227	5053	2398	1043	22744	24.65	3.45	75.24

(Source-Census of India)



(Distribution of workers by sectors in different region)

The details of workforce distribution by sectors of economy are described in the above table reveals that out of the total working population of Hojai Planning Area, only 24.65 % work in the primary sector, 3.45 in the secondary sector and almost 75.24 in tertiary sector. This composition clearly indicates that there is a higher dependency of working population on tertiary sector, followed by primary sector. However, in rural areas, dependency on primary sector is slightly high than the planning area. Hojai Municipal area is mainly dependent on tertiary sector as major commercial and activities are concentrated in and around the all wards. As there is very less processing industrial establishments such as those that take the raw materials produced by the primary sector and process them into manufactured goods and products, the dependency on secondary sector is very less.

Table:-22 Workforce Participation Rate of Hojai Master Plan Area, 2045

Year	Hojai Urban Area			Hojai Master Plan Area excluding the Municipal Area			Total Master Plan Area		
	Total Population	Total Workers	Work Participation Rate	Total Population	Total Workers	Work Participation Rate	Total Population	Total Workers	Work Participation Rate
1991	33174	8,434	25.42	55733	12301	22.07	88907	20,735	23.32
2001	35718	11,181	31.30	62671	18318	29.22	98389	29,499	29.98
2011	37277	14,958	40.12	82244	26408	32.04	119521	41366	34.60

Source-Census of India & T&C. P, Nagaon, Compilation

In 2011, the work-participation rate is 34.60 % in Hojai Master Plan Area compared to 29.98 % in 2001. More job opportunities to be created by improving of the overall economy and the consequent emergence of more and newer demands for goods and services.

Chapter: 4

HOUSING AND SHELTER

Housing is one of the most important life components giving shelter, safety and warmth, as well as providing a place to rest. Housing or quality of life is more dependent on some elements of housing areas such as disposition of various working areas, layouts development of land, provision of roads, water supply system, sewerage, drainage and provision of basic amenities like shops, schools, parks and play grounds etc. The urban form and character emerges from the quality of housing areas and inter relationship of housing areas with work centre and other non- residential areas.

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

The urban housing is mainly restricted to within the Municipal boundaries. The residential areas outside the municipal areas are rural housing. Normally the rate of housing spread of town should range between 6-7 hectare per 1000 persons and the rate of housing spread within the Master Plan Area is around 22 Hectare per 1000 persons.

Table 23-: Ward wise population distribution and Nos. of households of Hojai Municipal Area

Ward No	Area in Sq. Km	Household	Population	Housing Size
1	0.25	492	2539	5.16
2	0.18	393	2111	5.37
3	0.18	278	1340	4.82
4	0.4	665	3257	4.89
5	0.13	327	1675	5.12
6	0.17	412	2021	4.90
7	0.14	371	1859	5.01
8	0.15	333	1667	5.00
9	0.08	217	1130	5.20
10	0.18	372	1920	5.16
11	0.18	345	1586	4.59
12	0.49	199	1158	5.81
13	0.28	475	2549	5.36
14	0.26	519	2503	4.82
15	0.18	281	1540	5.48
16	0.15	232	1353	5.83
17	0.12	369	1528	4.14
18	0.9	510	2624	5.14
19	0.24	359	2278	6.34
	4.66	7152	36,638	5.12

Source:-Census of India

Table 24: Village Wise Population and occupied residential houses of Village Area as per Census, 2011

SL.No	Name of the Village	Area in Sq. Km	Total Households	Total Population	Male	Female	Housing Size
1	Amtala	2.79	254	1289	640	649	5.07
2	Milik Basti	5.58	510	3084	1623	1461	6.04
3	Hira Basti	2.57	458	2282	1228	1054	4.98
4	Bhokhao Basti	1.90	383	1777	925	852	4.6
5	Dakhin Bidyanagar	1.21	676	3250	1651	1599	4.8
6	Danki Gaon	1.37	519	3114	1568	1546	6.0
7	Dhanuhar Basti	4.35	792	4192	2184	2008	5.2
8	Dimarupar	2.65	604	3355	1656	1699	5.5
9	Fakira Basti	3.27	308	1592	822	770	5.1
10	Golaghatiya Basti (CT)	3.94	1960	9809	5022	4787	5.0
11	Islam Nagar	2.43	447	3079	1558	1521	6.8
12	Teli Basti	2.75	381	1970	1039	931	5.1
13	Pub Nandalalpur	1.80	271	1425	734	690	5.2
14	Pachim Nandalalpur	2.42	110	548	257	291	4.9
15	Pub Nandapur	1.23	110	627	314	313	5.7
16	Pachim Nandapur	1.41	232	1223	622	601	5.2
17	Rampur	1.02	949	4580	2356	2224	4.8
18	Pub Dhuniram Pathar	2.49	1183	6280	3281	2999	5.3
19	Sankar Dev Nagar	3.73	379	1826	919	907	4.8
20	Jurapukhuri	2.05	294	1581	840	741	5.3
21	Borbaha	3.23	383	1777	925	852	4.6
22	Kapahbari	2.66	597	3227	1610	1093	5.4
23	Raja Pukhuri	2.88	202	1237	629	609	6.1
24	Uttar Bidya Nagar	1.01	703	3439	1718	1721	4.8
25	Gopal Nagar	3.06	847	3510	2642	2669	4.1
26	Silguri	1.59	277	1445	775	670	5.2
27	Bor Pukhuri (CT)	2.43	1442	8318	4212	4106	5.7
28	Pam Gaon	3.06	466	2408	1272	1136	5.1
HOJAI RURAL		70.88	15737	82244	43022	40499	5.2

*Source: -Census of India***4.1 HOUSING CONDITION:**

Housing is a major element of people's material living standards. It is essential to meet basic needs, such as for shelter from weather conditions, and to offer a sense of personal security, privacy and

personal space. Good housing conditions are also essential for people's health and affect childhood development.

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

Table No 25: Housing condition

Residence (%)				
Area	Total	Good	Livable	Dilapidated
Assam	62,72,152	33%	56%	11%
Hojai District	1,30,577	34.8%	57.4%	7.9%
Hojai M.B	7049	56.6%	33.5%	6.1%

Source:-Census of India

4.2 CONSTRUCTION MATERIAL OF HOUSE:

The survey carried out by Town and Country Planning, Nagaon in 2020-21 and as per Census of India, 2011, it is found that the overall housing condition in the Hojai Master Plan area is quite satisfactory but the distance between nearest settlement neighbourhood is very less. The settlement pattern is very compact. Though the percentage of Good Housing Condition is high (58%) but the livable condition household is needed to be upgrade in the Hojai Municipal Area. The percentage of R.C.C structure is only confined in the Town area, specially the Market stores, Banks, Hotels along the major roads of the town and also some residential Buildings in the town area. Housing condition in the village areas were basically Livable and semi pucca type.

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

Table 26: Materials used for roof

Area Name	Total Number of HHs	Grass/ Thatch/ Wood/	Plastic Poly there	Handmade Tiles	Machine made Tiles	Burnt Brick	Stone/ State	G.I/ Metal/ Asbestos/ sheets	Concrete	Any other Material
State	62,72,151	18.60%	2.10%	0.70%	0.3%	0.1%	0.80%	74.20%	2.90%	0.20%
Hojai District	1,30,577	24.1 %	0.2 %	0.3%	0.1%	0.1%	1.6%	70.4%	3%	0.2%
HMB	7049	2.1%	0.2%	0.1%	0.1%	0.1%	5.5%	79.6%	12.2%	0.1%

Source: Census of India, 2011

Table 27: Materials used for walls

Area Name	Grass/ Thatch/ Bamboo etc.	Plastic/ Polythene	Mud/ Unburnt Brick	Wood	Stone not packed with mortar	Stone packed with mortar	G.I./Metal/ Asbestos sheets ³⁸	Burnt Brick	Con crete	Any other Material
State	66.40%	0.60%	3.60%	1.60%	0.70%	1.40%	1.10%	21.20%	2.90%	0.50%
Hojai District	65.8%	0.5%	5.1%	2.3%	1.5%	4%	0.2%	17.4%	2.7%	0.6%
HMB	41.9%	0.5%	2.1%	4.5%	2.8%	10.8%	0.8%	27.4%	7%	2.1%

*Source: Census of India, 2011***Table 28: Materials used for floor**

Area Name	Mud	Wood/ Bamboo	Burnt Brick	Stone	Cement	Mosaic/ Floor Tiles	Any other material
State	78.60%	2.10	1.20	0.40	16.60	1.00	0.10
Hojai District	83%	0%	1%	0%	15%	0%	0%
HMB	43%	0.7%	2.8%	2.2%	48.2%	3.1%	0%

Source: Census of India, 2011

4.3 AVAILABILITY OF BATHROOM AND LATRINE

As per 2011 Census about 97.1% of households have sanitary latrine and Bathroom and 72.5% of the households have other type of latrine in the Hojai Master Plan Area.

4.4 HOUSING STOCK AND FUTURE REQUIREMENT:

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

4.5 HOUSING REQUIREMENT FOR FUTURE POPULATION OF HOJAI MASTER PLAN AREA TILL 2045:**Housing Requirement for future Population of Hojai Urban Area till 2045:**

$$44232-37277 = 6955$$

Assuming family size of 5 persons, new houses will be required $6955/5 =$
1391 Nos.

Housing Requirement for future Population of Rural Area till 2045

$$237763-82244=155519$$

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

$$155519/5 = \mathbf{31,104 \text{ Nos.}}$$

Housing Requirement for future Population of Hojai Master Plan Area till 2045

$$281994-119521=162473$$

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

$$162473/5 = \mathbf{32495 \text{ Nos.}}$$

Table 29-: Total housing stock and future requirement of houses:

Sl. No.	Area	Total no. of housing stock as per 2011	Housing requirement up to 2045
1	Hojai Urban Area	7152	1391
2	Village Area	15737	31,104
	Total	22889	32495

Source:-Census of India & T&C.P compilation

Chapter:5

TRANSPORTATION

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

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

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

5.1 TRANSPORTATION NETWORK:

5.1.1 Regional Connectivity of Hojai:

The town of Hojai is connected well to the other places of Assam by roadways. Regular buses services are available from Hojai to other parts of Assam, towns like Guwahati, Nagaon, Diphu, Hamren, Karbi anglong, Lanka, Lumding through PWD roads to State highways via National highways which further connects to rest part of Assam in particular and India as a whole. In Hojai buses and auto rickshaws are the local means of transport.

5.2 NETWORK OF ROAD:

Roads are part of urban and rural infrastructure. These roads are required for both intra-city and intercity movement and render much higher level of service compared to Regional Roads, State Highways and National Highways. Quality of life is depends on efficient and effective road system, of course, with the support of other infrastructural services such as water supply, sewerage, drainage, electricity, telephones etc. in order to perform social, economic & cultural activities.'

Urban transportation network is required to facilitate movement of people and goods and therefore efficient network is necessary for their efficient movement.

Importance of Urban roads is increasing on account of the fact that urban areas are increasing in their size and number.

5.3 INTERCITY CONNECTIVITY (From Hojai):

Hojai has the intercity connectivity by Rail as well as by Road. The table below shows to various modes of transportation and its connectivity with the nearest towns/cities like Nagaon, Tezpur, Lanka, Lumding, Diphu, Dimapur, Guwahati, Jagoirad, Silchar, Chaparmukh Jn. etc.

Table 30: Modes of transportation and its connectivity with the nearest cities/ towns

Urban centres from Hojai	Distance (KM)	Time (hrs.)	Distance(KM)	Time (hrs.)
		By Road	Rail	By Rail
Jamunamukh	32.4	45 min	16	16 min
ChaparmukhJn	74.5	1 h 23min	45	40 min
Lanka	13	13 min	14	14 min
Nagaon	54.9	1 h 5 min	52	1 h 2min
Lumding	58.4	1 h 8 min	44	1h
Diphu	91.6	1 h 44min	77	2 h 17 min
Tezpur	103.4	2h 22min	-	-
Guwahati	170.6	3h 27 min	112	2h 35 min
Dimapur	142.9	3h 12 min	115	2h 17min
Jagiroad	115	2 h 9 min	78.2	1h 13min
Silchar	260	5 h 9 min	244	9 h 8 min

Table 31: Road Length (in Km) of Hojai M. B. Area

Total Length	Surfaced				Unsurfaced		
	WBM/ WMM	BT/CC	Paver Block	Total	Motorable	Non motorable	Total
38.90 Km.	7.00 Km.	8.50 Km	9.50Km	25.00 Km	9.80	5.00	13.90

*Source:-Hojai Municipal Board***Table 32: Road connectivity and Distance:**

Sl. No.	Road type	Connectivity	Distance
1	National Highway-36	Hojai to Nagaon	54.9 KM
2	PWD	Hojai to Nilbagan	9.4 km
3	National Highway-36	Hojai to LankaTown	13 km
4	National Highway-36	Hojai to LumdingTown	58.4 km
5	National Highway-36 and 37	Hojai to Guwahati	170.6 km

5.4 OVERVIEW OF CRITICAL ROADS:

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

The study of critical roads mainly depends upon several factors like traffic conditions, road geometry characteristics, environmental factors etc. Field traffic surveys were carried out to capture the classified

volume count for major arterial, sub-arterial and collector roads spread across Hojai Town. Based on the field survey data and traffic volume survey conducted by the T&CP, Nagaon at some major points were ascertained during peak hours. The critical roads in Hojai town as mentioned below:-

Table 33: Critical Roads of Hojai Municipal Board

Sl. No	Critical Roads	Length	Overview
1	Hojai Mazjid Road	0.9 Km (approx.)	Connects Jugijan interjection and Mazjid Road It is a Very Narrow Road Passes through Heart of the Town and always Busy.
2.	Purana Bazar Road	1.11 Km (approx.)	Connects Nilbagn To NH-36 Road, One of the busiest Raod of Hojai Town.
3.	Netaji Road	0.99 Km (41 approx..)	One of the important Raod on connects to Hojai Head quarter Sankardev Nagar main Road.
4.	FCI Road	0.95 Km (41a approx.)	Always Busy starts from FCI Godowns.
5.	R.N.T. Road	0.85 Km	Connects Netaji road

Source:-Hojai M.B

5.5 ANALYSIS OF TRAFFIC NODES:

Table 34-The major traffic nodes in Hojai town are identified which are detailed as table below:-

Area	Location of point	Description
Hojai Urban Area	(i) Natun Bazar Pas Ali	This is a commercial place consist of some shops, entry to Hojai FRU, Hojai Municipal Board, Post Office, Police Station etc also.
	(ii) Purana Bazar	It is also a business center consist of variety of major shops, Pubic gathering Place entry to Hojai Town.
	(iii) Nctaji Road	It is a Semi commercial Road. This Road connects Hojai District Head quarter Sankar Nagar via Jurapukhuri.
	(iv) Masjid Road	It is an important traffic intersection and consists of commercial and business activities. It is a place of traffic congestion with Puran Bazar Road and entry to Jugijan.
	(v) Hojai College Road Chariali Point	It is a commercial place comprising with some shops, and entry to Hojai College, some residential area also connect Nataji road.

Source: - Hojai M.B

5.5.1 BUS TERMINUS:

Public and Private Bus stands are most temporarily located at some busy road sides of Hojai town which causes the traffic congestion and traffic hindrance. There is no any permanent bus stand at Hojai Town, however there are some stoppages where people catch vehicle for their destination. Waiting shed and toilet facilities are nil.

5.5.2 RAILWAY:

Hojai Railway station is in Hojai district making it an important railway station in the Assam. Hojai Railway Station falls under Northeast Frontier Railway zone. The Hojai railway station lies on the Guwahati–Lumding section line of the Lumding railway division. The station provides railway connectivity to different cities of India through many long-distance trains. Almost all of the major trains have a stoppage including the Rajdhani Express which connects the national capital. The station code name of Hojai is 'HJI'. As part of one of the busiest and populated Indian states, Assam, the Hojai railway station is known amongst the top hundred train ticket booking and train traveling stations of the Indian Railway. The total 83 number of trains that pass through Hojai (HJI).

Several trains are operated between Hojai and Guwahati, only to ensure that people willing to visit Guwahati can travel without any hassle, but there is no direct train in between HJI – GHY. The fastest train on Hojai to Guwahati route is Jorhat Town - Guwahati Jan Shatabdi Express which covers the distance between the two places in 2 hours 15 minutes only. Running between Hojai and Guwahati, Lumding - Guwahati Passenger is the slowest train. It takes around 6 hours and 15 minutes to reach the destination of Guwahati. DBRG MS Express, ANVT Sundari Express, KYQ LTT Special, DBRG RNY Express are some of the major trains running between Hojai and Guwahati and creating an easy connectivity. Hojai railway station is an important train stoppage for Kannchanjangha Exp, Kamrup Express, Bibak Express and many more weekly and biweekly express. For a hassle free experience, book your Hojai to Guwahati train tickets from EaseMyTrip.com and get all the updated information regarding Hojai to Guwahati train fare, train time-table, types of trains, availability of seat in Hojai to Guwahati trains, etc. One can also check the train PNR status of their Hojai to Guwahati ticket online at Ease My Trip.



Hojai Railway Station

5.5.3 AIRPORT

The nearest International Airport is LGB International Airport in Guwahati, about 190 km away. The nearest Domestic airport is Dimapur, about 119 km away. Nearest Local airport is Tezpur Airport, about 120 km away.

5.6 TRAFFIC VOLUME SURVEY

The traffic volume survey in around the particular town or the city is urgently required to find out the possible solutions and improvement suggestions for the problem identified. The objectives covered in it include identifying hourly distribution of vehicles and peak hour identification of the level of service and compare model composition on different hierarchy of roads etc.

The traffic volume survey conducted by the T&CP, Nagaon only at some main points and it is restricted only to peak hour survey from 9-00 AM to 11.00 AM to identify better and efficient traffic operation plan. The following table shows the traffic volume of the 4 (four) main points within Hojai Master Plan Area.

Table 35: Traffic Volume Survey within Hojai Master Plan Area

Name of the survey point	Time: 9:00 A.M to 11:00 A.M							
	In coming				Out going			
	Fast moving		Slow moving		Fast moving		Slow moving	
	Vehicle	Number	Vehicle	Number	Vehicle	Number	Vehicle	Number
1 Hojai Natun Bazar chariali Point	Bus/M. bus	20	Bi-cycle-	101	Bus/M bus	11	Bi-Cycle	75
	Trucks-	11	E. Rickshaw	47	Trucks	08	E. Rickshaw	33
	Scotr/ Mcycle-	78	Thela	15	Scoter/Cycle	89	Thela	09
	Car	80			Car	75		
	Tata Sumu / Majic-	23			Tata Sumu / Magic	18		
	Tempo/Auto-	18			Tempo/Auto	15		
	Total	230	Total	163	Total	216	Total	117
2	Time: 9:00 A.M to 11:00 A.M							
	In coming				Out going			
	Fast moving		Slow moving		Fast moving		Slow moving	
	Vehicle	Number	Vehicle	Number	Vehicle	Number	Vehicle	Number
	Bus/M. bus-	08	Bi-cycle-	89	Bus/M bus-	10	Bi-Cycle-	96

Hojai Masjid Road Chariali Point	Trucks	17	Rickshaw	42	Trucks	15	Rickshaw	32
	Scoter/Cycle-	98	Thela	08	Scoter/Cycle-	109	Thela	11
	Car-	63			Car	73		
	Tata Sumu/Majik	18			Tata Sumu/Majik	26		
	Tempo/Auto	61			Tempo/Auto	58		
	Total	265	Total	139	Total	291	Total	139

3	Hojai Pass Ali Majid Point	Time: 9:00 A.M to 11:00 A.M							
		In coming				Out going			
		Fast moving		Slow moving		Fast moving		Slow moving	
		Vehicle	Number	Vehicle	Number	Vehicle	Number	Vehicle	Number
		Winger/M. bus	13	Bi-cycle-	92	Winger/M bus	08	Bi-Cycle-	65
		Trucks-	07	E. Rickshaw	87	Trucks	08	E. Rickshaw aw	85
		Scotr/ M cycle	99	Thela -	09	Scoter/M. cycle	117	Thela	06
		Car	64			Car	67		
		Tata Sumu/Majik-	54			T. Sumu / Majik	28		
		Tempo/Auto-	47			Tempo/Auto	41		
4	Hojai College Road Chariali Point	Time: 9:00 A.M to 11:00 A.M							
		In coming				Out going			
		Fast moving		Slow moving		Fast moving		Slow moving	
		Vehicle	Number	Vehicle	Number	Vehicle	Number	Vehicle	Number
		Winger/M. bus	23	Bi-cycle-	97	Winger/M bus-	20	Bi-Cycle-	102

Trucks	12	E. Rickshaw	76	Trucks -	17	E. Rickshaw -	87
Scotr/Meycle-	123	Thela-	31	Sctr/M. cycle-	187	Thela -	23
Car-	127			Tata Sumu/Majic-	42		
Tata Sumu/Majic-	25			Tempo/Auto-	38		
Tempo/Auto-	47			Car	107		
Total	357	Total	204	Total	411	Total	212

Source: Survey Conducted by Town and Country Planning, Nagaon

5.7 PARKING:

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

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

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

On- Street parking is observed to be high on Purana Bazar Road, FCI Road, Jugijan Pas Ali Road. On Street parking at different places of Hojai town .



On street parking alongside Hojai-Nagaon Main Road

5.8 MAJOR ACCIDENT PRONE AREA:

As per records available from the Hojai Municipal Board and field verification it is found that there are frequent accidents are being happened in Hojai Town due to non-traffic signal points and uncontrolled speed of the vehicles. Major accident prone areas of Hojai town are mentioned as below:

1. Natun Bazar Pas Ali Point
2. Purana Bazar Point
3. Netaji Road (NSCB Road) Point
4. Masjid Road Point

5.9 TRANSPORTATION ISSUES AND REQUIREMENTS:

5.9.1 ILLEGAL VENDING ZONE:

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

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



Illegal Vending under Railway Bridge

5.9.2 TRAFFIC CONGESTION:

- Traffic congestion is quite common in Hojai Town and it takes a lot of time to commute for the commuters.
- At many places geometry of the town is very less as they have not followed any norms and standards for the road pattern as well as for other related things like road cross sections and railway level crossing etc.

- The highlighted yellow square dots on map within town area show the frequent congested road patches.



1. Hojai College Chariali
2. Hojai Purana Bazar
3. Mazjid Raod
4. Hojai Natun Bazar



Hojai Mazjid Road

- Many factors can be listed out for such happenings, but few observations are mentioned below, which are

- Unauthorized parking of vehicle on pavement only.
- Many spots with exposed electric poles on pavement sides which leads to make space dead and potential for parking wheels.
- The town suffers from parking problems due to encroachment by vendors on road and off-street parking. As a result, the road width decreases and there is no space remaining to pass the vehicles or to give space to other vehicles.
- There is no designated space for parking in whole town,

- There are encroachment issues in areas namely both sides of Hojai Masjid Road to Hojai Natun Bazar Pas Ali.
- Due to lack of space, it is difficult for vehicles to pass on.
- Also, Proper facilities are needed for loading, uplifting, and downloading.
- Encroachment on both sides of the road decreases the effective width which may cause road accidents and disturbs the smooth flow of traffic.

5.11 TRAFFIC SIGNAL POINTS:

There are no organized traffic signal points in Hojai town. Various junctions without traffic signals are there in the town area like- Hojai Natun Bazar Pas Ali point, Hojai Purana Bazar point and College chariali point, resulting in unnecessary traffic jams and more requirement of traffic brigade occurs.

Chapter:6

INFRASTRUCTURE, PUBLIC UTILITIES & SERVICES

Infrastructure forms the backbone of a functioning society. From connectivity to migration to climate change, infrastructure touches every aspect of human life. It connects populations with education and job opportunities. It drives economic growth and job creation and it can help to reduce inequality and sustain peace. A country's economic and social development is directly dependent on a country's infrastructure. Many developed countries make a lot of progress because of the enormous growth of economic and social infrastructures. A good infrastructure makes the work process easier, resulting in a positive and high productivity. The development pressure on towns and cities of a developing country now a days is increasing with the rising urban population and growth of urban and semi-urban areas. The development of cities in itself is dependent upon the public infrastructure services. The creation of urban infrastructure is expensive and time consuming. Therefore it requires the Government to give thrust upon preparing appropriate plan and making lumpy investments.

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

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

6.1 SOCIAL INFRASTRUCTURE:

Social infrastructure plays a core role in both the economic development of a City and the development of society's quality of life. A sustainable development plan for social infrastructure shall aim at the creation of a liveable city through reducing the sense of alienation among the residents with less dependence on other settlements for basic infrastructure. Social infrastructure enhances social wellbeing and furthers economic growth by providing basic services and facilities which allow businesses to develop and flourish.

Education, health, and housing facilities are the core elements of social change which serve as a base for the process of social development of an economy. They provide indirect support by building the social sector of the economy. Social infrastructure refers to the main elements of social change which serve as a base for the process of social development of a city. Economic growth refers to an increase in the real income of a city. Enhanced productivity of human beings contributes to increasing labor productivity, encourages innovations, and creates the ability to take in new technologies. Higher income builds a high level of human capital which leads to the growth of income. India has recognized the importance of human capital in economic growth. Trained and educated on sound lines, a large population can itself become an asset for the growth of an economy.

Infrastructure can be classified as social infrastructure and economic infrastructure.

Social infrastructure refers to the main elements of social change which serve as a base for the process of social development of a city. It contributes to economic processes indirectly and from outside the system of production and distribution. Examples: Hospitals, educational institutions, sanitary conditions, and housing facilities.

Economic infrastructure refers to all such elements of economic change which serve as a foundation for the process of economic growth. Examples: Transport, communication, and energy. Thus, one infrastructure supports the other. Hence, they both are related to each other.

6.1.1 EDUCATION

Education is the process of facilitating learning or the acquisition of knowledge, skills, values, beliefs, habits and personal development. Education is an important factor influencing the quality of life of the people and future development of an area. It empowers them with skills and knowledge and helps them to better lead their life and access best of the employment opportunities available in the market. This in turn will impact the work force participation rate and economy of the area.

Role of Education in Economic Development

Education increases the accessibility of people to modern and scientific ideas.

It increases efficiency and the ability of people to absorb new technology.

It creates awareness of available opportunities and the mobility of labour.

It helps people to gain knowledge, skills and attitude which would enable them to understand changes in society and scientific advancements.

Investment in education is one of the main sources of human capital which facilitates inventions and innovations.

Available educated labour force facilitates the adaptation of advanced technology in a city.

EDUCATION INSTITUTION IN HOJAI

There are many government and private schools, colleges in Hojai town. Hojai College will be the first name in the education institute of Hojai District.

HOJAI COLLEGE

In 1964, The Hojai College became a boon for the people living in Hojai. But, the pioneers of the creation of Hojai College had to face insurmountable hurdles on several fronts. But, the relentless efforts of a select band of far-sighted citizens and patronization, the establishment of college became a reality. It started with only 124 students in P.U. (Arts) and soon became popular in the southern part of Nagaon District for its high-quality education. Since its inception, this college has been guided by the concepts of excellence in academic and co-curricular aspects of students' life under the able guidance of the host of dedicated teachers.

The regular courses in the college include:

H.S Arts, H.S Commerce and H.S Science (2 years Course as per AHSEC regulation - Annual Pattern)

B.A, B.Sc., B.Com. (3 years Degree Course - Semester System under Gauhati University)

M.A. in Assamese (2 years Course Semester System under Gauhati University)

The institute offers distance mode of education in postgraduate courses. They are mentioned below:

Institute of Distance & Open Learning (IDOL)

Krishna Kanta Handique State Open University (KKHSOU)

Indira Gandhi National Open University (IGNOU)

There are a total of eighteen (18) academic departments in the Hojai College across all streams i.e. Arts, Science, and Commerce. The departments include Assamese, Bengali, Economics, Education, English, Hindi, History, Manipuri, Commerce, Accountancy, Management, Political Science, Botany, Zoology, Chemistry, Mathematics, Physics, and Statistics. Each of the departments provides H.S as well as three years degree course (B.A, B.Sc., B.Com.)

The college has recently been upgraded to University under a bill passed by the Assam Assembly on 7 September 2017. The name of the college will be changed to Rabindranath Tagore University. It has also been accredited by NAAC with Grade B (2.71).



Hojai College

HOJAI GIRLS' COLLEGE

Hojai Girls' College, established in 1991, is a general degree women's college situated in Hojai, Assam. This college is affiliated with the Gauhati University. This college offers different bachelor's degree courses in arts.



Hojai Girls College

DON BOSCO HIGH SCHOOL (DBHS), HOJAI

Don Bosco High School, Hojai is an English Medium Co-Education High School established in 1971 and recognized by the government of Assam with SEBA curriculum. The course of instruction comprises the branches of education prescribed by the Government Code. The Institution is primarily meant for the Catholics, established by the Catholic Church and run on the Church's behalf by the Archdiocese of Guwahati, having its headquarters at Guwahati, but is open to all, irrespective of religion, caste or community, provided they pledge themselves to abide by the rules and regulations of the school. Founded by priests of then Tezpur Diocese, (Now administered by the Archdiocese of Guwahati) DBHS, Hojai carries almost 50 years of pedagogic history. Over the half century, this Institution has groomed pupils to become good citizens and valued members of society who will make a positive difference and have become healthy contributors of growth. The educational system of DBHS, Hojai rests on inculcating sound moral values in a liberal and pluralistic atmosphere.



Hojai Don Bosco-High school

MARKAZ ACADEMIES

Markazul Maarif is a voluntary social-welfare Non-Government Organisation with the sole motto of striving for the uplift of economically and educationally backward sections of society. Since its inception, Markaz has been uninterruptedly materializing various schemes and plans in different fields. Markaz has already carved a niche for itself in the hearts of the people with its wide network of activities throughout the country.

Markazul Ma'arif established English Medium Residential schools with the name 'Markaz Academy' both for Boys and Girls in separate campuses at Hojai in the year 1994 with only 82 students and 05 staff members. Starting just with one school at Hojai in the year 1994, now it has established 43+ schools under the name of 'Markaz Academy' which provide the students with value based quality education mostly in the rural and socially backward areas of Assam. The Markaz Academy Group of Schools has about 13,000+ students and 800+ staff across Assam in this academic year 2020. Following is some of Markazul Ma'arif education system subsidiaries situated at Hojai:

- (1) Markaz model girls' senior secondary school, Hojai
- (2) Markaz academy English senior secondary school, Hojai

Following are some other private run premier colleges and institutions in Hojai Master Plan Area:

- (1) Ajmal College Of Arts, Commerce And Science; Hojai
- (2) Maryam Ajmalwomens' College; Hojai
- (3) Mryamajmalwomens' College Of Science And Technology; Hojai
- (4) Maryam Ajmalwomens' College Of Arts; Hojai
- (5) Ajmal Law College; Hojai
- (6) Nazirajmal Memorial College Of Education; Hojai



Mariyam Azmal Women College



Nazir Azmal Memorial college of Education



Markaj Academy, Hojai



NRI-Public School Hojai

The existing scenario of Primary, Middle school and higher secondary school and Govt. and private Colleges in Hojai area is shown in the table given below:

Table 36: Educational Facilities available in Hojai Master Plan Area

Sl. No.	Category of Educational Institutions	Total Number of Institutions within Hojai Master Plan Area	Enrolment	Teachers
1	Lower Primary Schools	67	8622	246
2	Middle School	22	4175	150
3	High School	12	4613	134
4	Higher Secondary School	4	3420	108
	1) Hojai College	2	5310	139
	2) University	1	3620	103
	2) Junior Colleges	7	2200	135
	3) B.Ed College (Private)	1	245	17
	4) Commerce College	-		
	5) Law College (Private)	1	220	16
	6) Homeopathic	-		
	7) Polytechnic	-		
	8) I.T.I	-		
	9) Fishery college	-	--	--

Source: Inspector of Schools, Elementary and Higher education

6.1.2 HEALTH:

Health is an essential requirement for making an efficient and active workforce. It reduces the production loss caused by worker's illnesses. The definition of health is physical and mental wellness or a condition of well-being. An example of health is what is checked during a physical examination. Health was earlier said to be the ability of the body functioning well. However, as time evolved, the definition of health also evolved. It cannot be stressed enough that health is the primary thing after which everything else follows. When someone maintains good health, everything else falls into place.

Causes of Poor Health in city

- **High birth rate:** Because of the rapid growth of the population, providing a safe and sufficient drinking water supply and proper sanitation for the community becomes very difficult. This leads to many health risks in society.
- **Malnutrition:** Malnutrition results in innumerable health problems and serious health issues among children.
- **Insanitary conditions and housing facilities:** Poor households are surviving in crowded and unsanitary places. They face the problem of contaminated food and water and live in sub-standard dwellings lacking in space, air, and sunlight.

HEALTH SYSTEM IN HOJAI

The medical facilities in Hojai town are not adequate and up to the rising demand of the people of Hojai as Hojai is a highly populous district. The new building of Hojai District Civil Hospital with 200 bedded had completed its' Construction at Jorapukhuri, Sankardev Nagar Road and become functional since 1 year. Hojai FRU 200 bedded civil hospital including maternity section has been providing the medical facilities to the peoples of Hojai Municipal area. As there is not adequate healthcare facilities in Hojai, therefore Hojai FRU Hospital is always over crowded with patient and needs its immediate expansion. Hence more and more hospitals, nursing homes and dispensaries at either public or private sector if felt here in Hojai.

In addition, Three private Hospital namely- i) Gate- Deys Nursing home Netaji Road Ward No. 6ii) Star Nursing Home Ward No. 13. iii) HAMM Hospital Ward no. 18. provides Health facilities to the entire planning area. The HAMM hospital (and research centre, founded by Maulana Haji Ajmal Ali and inaugurated in 1995 by Mother Teresa, is a premier healthcare organization. It offers free treatment to the poor. Its charitable dispensary, established in 1986, treats over ten patients for free every day. Almost 100% of its high-tech care goes to the most deprived sections of society with marginal payments. So far nearly 1.5 million people, including pregnant women, old peasants and ill-nourished children have benefited from this charitable hospital.



Hojai FRU



Hojai District Hospital

Table 37: Medical facilities within Hojai Master Plan area

Sl. No.	Hojai Planning Area	Health Centres	No. of Beds
1.	Hojai M. B. Area	1. Hojai FRU	200
2.	Village Area	2. Hojai District Civil Hospital, Jorapukhuri	200
		3. Health Center, TeliBasti	1
		4. Health Centre , NamdabkaGaon	1
		5. Health Centre, Hirabasti	1
		6. Health Centre, PubNandalalpur	1
		7. Health Centre, Uttar Ashinagar	1
		8. Health Centre, Pub DhaniramPathar	1
		9. Health Center, MilikBasti	1
		10. Health Centre Islam Nagar	1

Source: - Hojai M.B. and T&CP survey

6.1.3 WATER SUPPLY:

Water supply system in Hojai town is conducted by PHE Department. Piped water is supplied to a section of the people of the town area and rest of the population depends upon individual source of water like ponds, ring wells and tube wells. The underground water reserve of the town is in a satisfactory condition hence it is felt that there will not be shortage of water for distribution if required in future in the town table below:

Table 38: - Ground water by it source in Hojai Urban Area

SL. No.	Tap Water from Traeated Source	Tap Water from Un-traeated Source	Covered Well	Un Covered well	Hand Pump	Tubewell-borch ole	River/canal	Tank/pond/lake	Others Sources
1	2054	245	24	26	5858	3356	15	39	137

*Source-Census of India***6.1.4 POLICE STATIONS:**

Hojai Master plan Area is controlled by Hojai police station which is located in the Natun Bazar Road In front of ASEB office Ward No- 4 and heart of the Hojai town.

**Hojai Police Station****6.2 TRADE AND COMMERCE:**

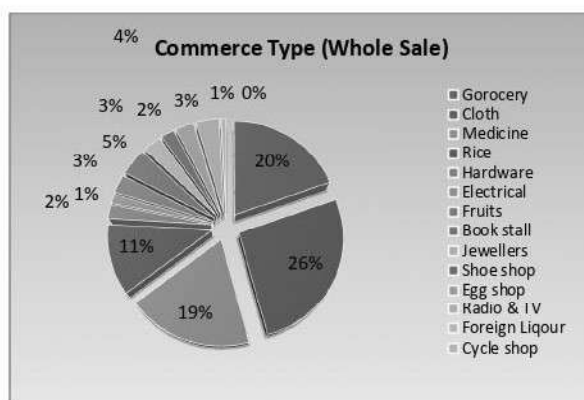
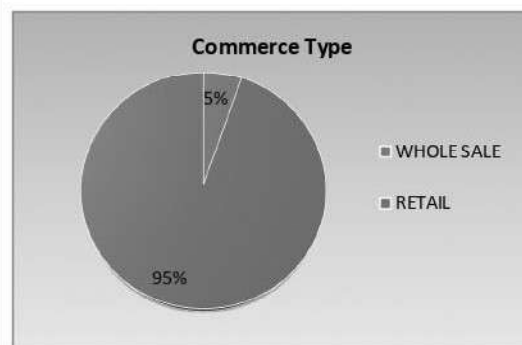
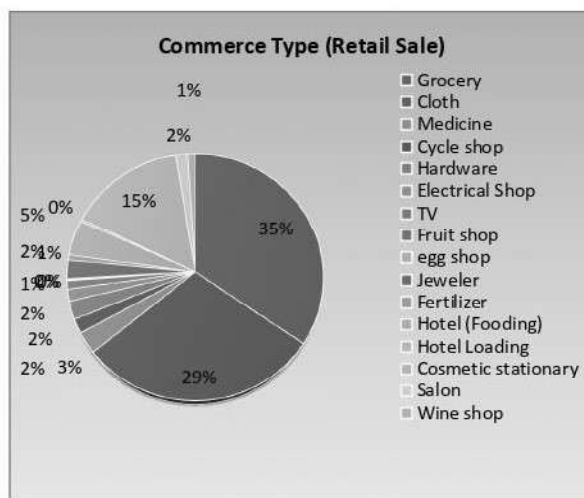
In case of commercial activities Hojai Town has been growing like other towns of Hojai District. As per data available from the Hojai Municipal Board the total No. of retail shops in the Town Area is 2411 units and 136 No. of wholesale units.

Table 39: Data regarding Trade and Commerce within Hojai Municipal Area:

Sl. No	Type of business Units	Nos. of business Units	
		Wholesale	Retail sale
1	Grocery	26	780
2	Cloth	35	665
3	Medicine	25	65
4	Cycle shop	3	43
5	Hardware(cement dealer)	3	1
6	Electrical shop	2	35

7	Radio & T.V	5	25
8	Fruit shops	4	3
9	Egg shop	4	2
10	Jeweller	4	55
11	Hardware	-	53
12	Rice	15	30
13	Motor tyre dealer	-	5
14	Fertilizer	--	15
15	Optical shop	--	5
16	Meat shop/ Chicken	-	20
17	Timbers	-	6
18	Radio & Sewing machine	-	2
19	Diary	-	-
20	Scooter & Motor cycle dealer	-	4
21	Book stall	6	20
22	Hotel (Lodgings)	-	7
23	Hotel (Fooding/ Restaurant/Tea/sweet)	-	105
24	Gas Agency	-	3
25	Petrol Pump	-	2
26	Shopping Complex	-	3
27	Wine shop	-	22
28	Wholesale Foreign Liquor	1	-
29	Shoe Shop	3	45
30	Saloon	-	35
31	Parlor	-	10
32	Cosmetic Stationary	-	345

Source- Hojai Municipal Board



There are 9 (Nine) daily markets within Hojai Planning Area and 1 (One) weekly markets.

Table 40- Following table depicts the markets within Hojai Master Plan Area.

Sl.No.	Markets within Hojai Mater Plan Area	Name of market
1	HojaiTown Area	1.HojaiNatun bazar daily marketward 2 & 3 2. Purana Bazar daily market Ward 14
2	Weekly market Hojai Town Area	1. Adarsha Bazar Weekly Market Ward No. 18
3	Village Area Daily Market	1. Dhanuhara Basti Daily Small Market 2.Teli Basti Daily Small Market 3. Hira Basti Daily Small Market 4. Pub Dhaniram Pathar daily Market 5.Islam Nagar Tiniali Dali Market 6. Uttar Bidyanagar Daily Market

Source: H.M.B T&CP, Nagaon Survey



Karbi Market



Meat Market Natun Bazr



Fish Market, Natun Bazar



Agar Market



Weekly Market



Vishal Mega Mart,Hojai

6.2.1 CREMATION /BURIAL GROUND:

In Hojai Master Plan Area total 14 Nos. of cremation grounds and only 13 (Thirteen) burial ground as shown in the **table below no 41:**

Sl. No.	Location	Number of Cremation Ground	Number of Burial Ground
1	Hojai Town Ward No 8	1	Nil
2	Hojai Town Ward No 18	1	Nil
3	Hojai Town Ward No 15	Nil	1
4	Dhanuhar Basti	3	1
5	Fakira Basti	2	1
6	Teli Basti	Nil	1
7	Hira Basti	1	1
8	Uttar Ashinagr	Nil	1
9	Milik Basti	2	2
10.	Uttar Bidyanagar	1	Nil
11.	Islam Nagar	Nil	2
12	Pub Dhaniram Pothar	1	1
13	Pacchim Dhaniram Pothar	Nil	1
14	Golaghatiya Basti	2	Nil

Source:-Hojai Municipal Board

The existing cremation and burial grounds should be developed with the basic facilities like roads, waiting shed, water supply, electricity and drainage etc.

6.2.3 POST OFFICE:

There are 2(two) post office within Hoja Master Plan area, one is opposite of Hojai Municipal office and the other is situated at Masjid Road which are not sufficient to meet the need of the demand of the peoples.



Hojai Post Office

6.2.4 FIRE STATION:

The entire Master Plan area of Hojai is covered by one Fire Station and it is situated in Sati Jaimoti Road Ward No 18.

6.2.5 BANKS/FINANCIAL INSTITUTIONS:

Hojai Planning area is served by 15 (Twelve) nos. of Banks and the banks located within the planning area are shown in the table below:

Table: 42 Banks in Hojai Municipal Area:

Sl. No.	Name of Banks	No. of banks
1	Punjab National Bank	3
2	State Bank of India	2
3	union bank	1
4	U.B.I	1
5	Assam Gramin Vikash Bank	1
6	UCO bank	1
7	Bandhan bank	1
8	IDBI	1
9	Axis bank	1
10	HDFC	1
11	ICICI	1
12	IIFL	1

*Source-Hojai Municipal Board***6.3 RECREATIONAL FACILITIES:**

Recreational facilities play an important role in providing venues for physical activity in urban areas. The facilities are incredibly important for a healthy, vibrant community, and for citizens reaping the benefits of having a health community. Following table depicts the available of recreational facilities in the Hojai Municipal Area as well as the Planning Area.

Table-43: Recreational facilities within Hojai Master Plan Area:

Sl. No.	Recreational facilities	Nos. along with Name and Location
1	Parks	One (Santiban)
2	Playground	One (Bihutoli Field)
3	Stadium	One (Main Road)
4	Library	Nil
5	Museum	Nil
6	Cremation Ground /Burial Ground	Cremation Ground -2 Burial Ground - 1
7	Cinema Hall	Nil
8	Public Auditorium	Nil
9	Swimming Pool	Nil

*Source: Hojai Municipal Board***6.3.1 DRAINAGE SYSTEM:**

The existing drainage facilities are not sufficient in Hojai town Area. Most of the new residential areas have grown without having drainage facilities. As per data received from the Hojai Municipal Board, the total drain length of Hojai M.B. Area is 72.00 Km. and out of the total length, 48.00 Km. is R.C.C and 24.00 Km. is Kacha drain. Storm water drain length of Hojai M.B Area 6.50 Km and out of the total length 3.50 Km, is R.C.C and 3.00 Km, is Kutcha drain.

Dimru River should be excavated as per design, so that excess run-off from the Hojai Town & master Plan Area can be flown away through the river. Jora-Pukhuri and Bor-pukhuri should be preserved only 'as is where is 'without any development/construction proposals

Table-44: Drain Length of Hojai Town Area (In Km)

	Total drain length	Length in Km.	
		R.C.C.	Kachha
Drain	72.00	48.00	24.00
Storm water Drain	6.50	3.50	3.00

(Source: Hojai M.B)

6.3.2 SEWERAGE SYSTEM:

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

As per the survey done, present wastewater generation by Hojai town is approximately 38069.19 MLD but there is no STP provision done for sewerage generated by town.

Table:-45

SL.No.	Area	Population	Water Consumption MLD	Sewerage Generation MLD	Nos. of STP proposed	Existing Treatment Capacity	Gaps in MLD
1	Hojai Master Plan Area	281994 (P)	38069.19	30455.35	01	Nil	30455.35

(Source-T&C.P & DMB compilation)

Estimation of Wastewater Generation

The total water requirement for Hojai Master Plan Area is 49.09 (by the year 2045). As per CHPEEO guideline, 80% of total water demand is considered as the sewerage flow; therefore, around 39.27 MLD water is expected to go in sewerage lines. As time passes, the area is expected to grow and along with high water demand, there will be larger wastewater discharge; hence, the project area required systematic sewerage system so the wastewater will not be discharged in the natural drains, which will help in reducing the flood problem.

There should be underground sewerage connection to each household and from where the discharged wastewater should go to sewerage treatment plant before discharging it into the natural drains. While planning for the proposed sewerage system, consideration should be given to the natural drainage pattern. The sewerage system should be planned in such a way that there will be minimum pumping involved in collection and conveyance of sewage. New Sewerage Treatment Plant (STP) sites should be identified depending on considerations such as the quantum of environmentally suitable land, and availability of government land, capital and O&M cost of different options. While the underground sewerage is being planned and implemented, the authority needs to make sure that each household in the region has a septic tank installed and is being managed and is fully functional. Water from commercial and industrial activities wastewater is being treated before discharging in the river.

Issues:

Absence of sewerage system: there is absolute absence of sewerage system in Hojai planning area resulting in discharge of un-treated waste water in drains and other low lying areas of the Town.

Mixing of storm water and sewage: In absence of sewerage and improper drainage system, in many parts of planning area, there is discharge of sewage into storm water drains and other water bodies.

Maintenance of Septic Tank: As per the present practice, the septic tanks are the only mode of disposal of sewage in Hojai planning area, which are not frequently cleaned by the Hojai Municipal Board.

In a modern society, proper management of wastewater is a necessity, not an option. A wide range of communicable diseases can be spread through elements of the environment by human and animal waste products, if not disposed properly. The development of effective water and wastewater treatment methods has virtually eliminated major water borne epidemics in developed countries. Developing countries like ours, where treated water is not available to a majority of the population, still experience epidemics like cholera and typhoid. It is also to be mentioned that as per the report of the Planning Commission for the Tenth Five Year Plan, which emphasizes that all cities, towns and industrial areas should compulsorily have sewage treatment plants and are to be implemented in a time bound manner. Advanced waste water treatment process is currently being so developed that it will produce palatable water from domestic wastewater.

Recommendations:

For treatment of waste water generated from the planning area, a decentralized wastewater treatment system would be more appropriate. The centralized sewage treatment system appears inappropriate as it may end up with very huge sizes of sewers and various issues of conveyance in handling this huge quantity of wastewater. The treatment plants and sewers are to be so aligned as to reduce the number of crossings with railway tracks and National Highways of the area. The proximities of natural drains for treated effluent disposal, minimum obstructions for laying sewers, and the possibilities of acquiring land for Sewage Treatment Plants (STPs) turns important in orienting and locating the plants. The possibilities of re-use of treated wastewater effluent for irrigation, gardening etc. should be looked into. The construction of treatment plants could be carried out in a phased manner on a modular/ zonal basis in the planning area consistent with the future development/demand

6.4 SOLID-WASTE MANAGEMENT:

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

The management of municipal solid waste is one of the main functions of all Urban Local Bodies (ULBs) in the country. All ULBs are required to meticulously plan, implement and monitor all systems of urban service delivery especially that of municipal solid waste. With limited financial resources,

technical capacities and land availability, urban local bodies are constantly striving to meet this challenge.

As per data received from Hojai Municipality Board total waste generated per day in Hojai town is approximately 5 metric tons and collect and processed about 2 tons per day from various sources like households, commercial establishments, hotel, marketplace, drain cleaning and street sweeping, construction waste etc. Presently, following table depicts the nos. of vehicles and other equipment's used for solid waste management system by the Hojai Municipality Board.

Table 46: Vehicles and other equipment are used for solid waste management system.

Sl. No.	ITEM	NUMBER
1	Roller	1
2	Excavator com Loader(3dx Super J.C.B)	1
3	Tractor	3
4	Mini Truck	1
5	Tata Mobile	2
6	Skid Loader	1
7	Level Machine	1
8	Fogging Machine	1
9	Tempo van	5
10	Rog Machine	Nil
11	Triper	1
12	Mini JCB	3
13	Drinking Water Supply tank	3
14	Hydraulic Dustbin	Nil
15	JCB (Big)	1
16	SafaiKormosari	62
17	Cesspool	1
18	Street loader	Nil

Source: Hojai M. B

QUANTITY OF WASTE GENERATED

The quantity of MSW generated depends on numerous factors such as population, food habits, standard of living, degree of commercial activities and seasons. The increasing urbanization and changing lifestyles have increased the waste generation rate of Indian cities.

Criteria for assessing waste generation

- Projected populations for the design period
- Existing per-capita waste
- Annual rate of increase of per capita waste generation

SOLID WASTE DEMAND PROJECTION

Based on the CPHEEO standards, following assumption were considered while estimating the volume of the solid waste and required area for the landfill site for the proposed urban population for the horizon year 2045:

- It is assumed, that MSW will be collected by responsible authorities at regular basis
- Characteristic of the collected MSW in the region will be the in consistent with the characteristics mentioned in CPHEEO manual.
- Per Capita Solid Waste Generation-270 Grams per Capita per Day

Table-47

Sl. No.	Particulars	Demand for 2045
1	Projected Population	281994 (P)
2	Solid waste Generation (in Urbanation area @ 270 gm./cap/day)	76.13 MT

ISSUES IN PRESENT SYSTEM**Lack of Disposal Site**

Presently, there is no engineered landfill, and Municipal Solid Waste is dumped in open area, which can lead to ground water and soil pollution, vector naissance etc.

Lack of Primary Collection System

Solid waste is discharged by establishment into open plots, open drains etc. these un-organized disposal methods have resulted in the accumulation of solid waste on roadsides, vacant plots, and storm water drains. This has resulted in a number of hygiene related problems such as breeding of flies/ mosquitoes and stray animals.

Un-hygenically Solid Waste Transportation

Municipal Solid Waste is transported primarily in open vehicles i.e. trucks, tippers and cycle rickshaw. It is also observed that these modes of transportations are overloaded with MSW, resulting in the littering of roads during transportation. The loading and unloading of waste are carried out manually, and Safai Karmacharis involved in these activities do not use any safety measures.

In-sufficient collection and disposal of construction waste

The construction and demolition waste generated by residents is transported in tractor trolleys and disposed at either secondary collection points or open/low-lying areas in the town vicinity.

Handling of MSW with Slaughter Waste

Waste from the slaughters houses is disposed in open dumping sites, although there are provisions for separately disposing slaughter house waste in Nagaon town / planning area.

Disposed of Bio-medical waste without any treatment

Presently, there is no treatment facility available for bio-medical waste in Hojai and Medical waste is disposed off along with general MSW

Lack of primary Collection points

Unattended waste lying in open areas is common phenomena in the entire town because of non-availability of required numbers of bins in the planning area

Multiple Handling of Wastes

The waste is handled multiple times leading to potential health hazards for the workers as all types of wastes contains hospital waste, human waste etc. are disposed in the same containers.

Lack of Awareness

There is absolute lack of awareness among people w.r.t. handling and management of waste.

PROPOSED STRATEGIES**Decentralized solid waste treatment system:**

The developmental pattern of all the areas, especially Hojai Planning Area, demands the implementation of an integrated solid waste treatment system. It is felt that only a decentralized MSW Management System could help solve the seemingly intricate problem of solid waste treatment in this area in an economically viable, socially desirable and environmentally sound manner.

Public Participation:

General environmental awareness and information on health risks due to improper solid waste management are important factors which need to be continuously communicated to all sectors of the population. Building awareness among public and community about the need for a better solid waste management system is as essential as management. Public awareness and attitudes to waste can affect the people's willingness to cooperate and participate in adequate waste management practices. If people keep on throwing waste on the streets indiscriminately, the local body alone cannot keep the city clean in spite of their best efforts. Thus, it is very important to make people understand that the treatment and management of solid waste is a collective responsibility of the local authority and the community. Municipalities or local governments through participatory programs should convey this message to the people.

Collection Enhancement facilities:

- Old dustbins are to be replaced with different types of covered dustbins, which reduces the time of pickup and improves the process of primary collection of wastes.
- Sweepers may be provided with handcarts and detachable containers and be allotted a fixed area or number of houses for door to door collection. They should also be provided with safety gears and proper uniforms.
- It can be made compulsory for the management of societies/complexes to keep covered bins in which waste is to be stored at acceptable locations, to be picked up by the municipal staff.
- The local body may collect waste from community bins by using container handcarts or tricycles whichever may be convenient, for transferring the wastes to the waste storage sites by employing municipality sweepers.
- The collection service can be provided on a full-cost recovery basis using contractor services on a day to-day basis from individual houses.
- The collection service can be provided on a full-cost recovery basis using contractor services on a day to-day basis from individual shops also. The service of rag pickers and part-time sweepers can also be used in agreement with the shop owners.

- Sweeping of all public roads, streets, and lanes, by-lanes where there is habitation or commercial activities on either side of the street should be done daily. A list of such streets and roads together with their length and width should be prepared. The local body, keeping in view the norms of work prescribed should work out a program for their daily cleaning. However, roads and streets where there is no habitation around and do not require daily cleaning may be put in a separate group.

Provision of Solid waste Storage:

One of the immediate measures to revamp the existing collection services structure would involve provision of covered community waste bins at proper distances for the people to deposit domestic waste. This is the first step that will ensure that people do not throw their garbage on the roads and hence do not create open dump sites. This will enable the sanitation workers to transfer waste to the transportation vehicle quickly and efficiently with minimum health risk which will also help to maintain the aesthetics of the surroundings.

The Municipal solid waste (Management and Handling) Rules 2000 of the Government of India have prescribed the compliance criteria for waste storage depots as under:

- Storage facilities shall be created and established by taking into account quantities of waste generation in a given area and the population densities. A storage facility shall be so placed that it is accessible to users.
- Storage facilities to be set up by municipal authorities or any other agencies shall be so designed that waste stored are not exposed to open atmosphere and shall be aesthetically acceptable and user friendly.

Storage facilities or “bins” shall have “easy to operate” design for handling, transfer and transportation of waste. Bins for storage of biodegradable waste shall be painted green, those of recyclable waste shall be painted white and those of other wastes shall be painted black.

- Manual handling of waste shall be prohibited. If unavoidable due to constraints, manual handling shall be carried out under proper precaution with due care for safety of workers. So, the storage and handling of SW are extremely important, and hence the steps to be taken by the Municipal authorities for storage of solid wastes are detailed in table below:-

Table:-48

SL. No	Generation Source	Action proposed
1	Residential	• Not to throw any waste in neighbourhoods, on streets, open space, and vacant lands, in drains or water bodies. • Keep food waste/biodegradable waste in a non-corrosive bin type-D1 • Keep hazardous waste separately • Keep dry/recycle waste in bin type-D2

2	Multi-storied Building, Commercial complexes, private societies	• 1 to 4 as above. • Provide separate bin type-B large enough to hold wastes generated both biodegradable and recycle. • Direct member of the association/society to deposits waste in bins provided. Sanitary inspectors should vigil the area and fine should be imposed for not following the actions.
3	Slums	• 1 to 4 as above • Use bin type-c
4	Shops, offices, institutions	• 1 to as above • Store the waste in bin type-D1, D2
5	Hotels and restaurant	• 1 to 4 as above • They should arrange their own bins and dispose waste in nearby municipal bins.
6	Vegetables, fruit markets, meat, fish markets, and street vendors	• Keep small baskets with them and transfer waste to large bin type-A • Shops keepers not to dispose of the waste in front of their waste or shops or open space. • Deposit waste as and when generated into bin type-a • Fines should be imposed for not following the action.
7	Marriage Halls, Community Halls	• 1 to 4 as above • Provide a large bin type-B
8	Garden Waste	• Compost the waste in garden itself, if possible. • Store wastes in large bags or bins and transfers it to community bins.

Segregation:

These compositional characteristics of the solid waste underline the need for proper segregation before treatment. Proper segregation of waste into different components and their separate collection can definitely lead to remarkable changes in the entire system.

The segregation of the waste would be a long drawn exercise as it involves attitudinal changes in people and will have to be done with careful planning, in a phased manner. The general public is to be first sensitized towards the whole concept and educated about the need and advantages of doing the segregation. Segregation of waste at the source itself is extremely important as municipal solid waste, which is otherwise environmentally benign on getting mixed with hazardous waste like paints, dyes, batteries, and human excreta turns hazardous. The recyclables like paper and plastic etc. become unsuitable for recycling as these get soiled by the organic matter.

Although, it would be more fruitful to sort and place different kinds of recyclables in separate receptacles, the waste could be segregated into at least two categories of biodegradable and non-biodegradable initially. The recyclables obtained through segregation could be straightway transported to recycling units which in turn would pay certain amount to the corporations, thereby adding to their income. This would help in formalizing the existing informal set up of recycling units, and this formalization in turn could lead to multi-advantages. The biodegradable matter could be disposed off either by aerobic composting, anaerobic digestion or sanitary land filling. Depending upon land availability and financial resources, either of these disposal methods could be adopted. Though simple land filling is the traditionally practiced system of solid waste management in the planning area, aerobic composting by wind-row method will be an appropriate option. All the non-biodegradable waste which is non-recyclable, non-reusable shall be dumped into sanitary land fill. Biodegradable waste shall be

subjected to composting. Area required for composting shall include the area for storage of unprocessed material, processing facilities for composting operation and storage for green compost.

The area required for windrow composting with 15 days composting period with moisture content between 55-60% for aerobic composting, the first turning shall be done at the 4th day and thereafter every third day shall be 1.5 acres to 2 acres per 50 MT per day waste.

Reuse and Recycling:

The concepts of reuse and recycling can well be applied in solid waste management as solid waste is basically a heterogeneous mixture. In typical Indian municipal solid wastes, there is a small percentage of recyclable material and more of compostable and inert materials like ash and road dust. There is a very large informal sector of rag pickers, who can collect recyclable wastes (paper, plastic, metal, glass, rubber, etc.) from the streets, bins and disposal sites for their livelihood. Thus, the rag pickers can be effectively used for the collection of reusable materials especially because the use of non-recyclable packaging materials like PET bottles for soft drinks, mineral wastes, and soft -foam products and metalized plastic film coated food packing materials are on the rise. During recycling, many of these release toxic gases and ozone depleting products.

So it is advisable to educate people to replace these items with eco-friendly packaging materials. The desirable home sorting mechanisms includes dry recyclable materials (e.g. glass, paper, plastic, cans etc.), kitchen and garden wastes, bulky wastes, hazardous wastes, construction and demolition wastes. Sorting can also be done just prior to waste processing or land filling.

Energy from Solid Waste:

Electricity can be produced by burning MSW as a fuel. MSW power plants, also called waste-to-energy (WTE) plants, are designed to dispose of MSW and to produce electricity as a by-product of the incinerator operation. Mass Burn is the most common waste-to-energy technology, in which MSW is combusted directly in much the same way as fossil fuels are used in other direct combustion technologies. Burning MSW converts water to steam to drive a turbine connected to an electricity generator. Burning MSW can generate energy while reducing the volume of waste by up to 90 percent, an environmental benefit. However, this burning MSW in WTE plants produces comparatively high carbon dioxide emissions, a contributor to global climate change.

The net climate change impact of these emissions is lessened because a major component of trash is wood, paper and food wastes that would decompose if not burned. If left to decompose in a solid waste landfill, the material produces methane, a potent greenhouse gas. The concept of producing energy from MSW derives significance as it is given high priority by the Ministry of Non-Conventional Energy Sources (MNES), Government of India.

Treatment options:

The biodegradable portion of the waste is considerably high. So, aerobic composting of SW after proper segregation will be more appropriate. In selected locations especially in rural areas, Vermi-Composting can also be recommended. The manure obtained by these methods can be sold to the local public as fertilizer. Though costly, sanitary land filling can also be practiced at selected urban locations where the recovery from the waste will be very high, serving minimum ecological damage. It appears

that the aerobic composting by Windrow method may be a desirable option for the management of the solid waste. The possibilities of generating energy from SW could be looked into on an experimental basis.

Biomedical wastes and its management:

Biomedical waste has been a growing concern because of the awareness in public regarding HIV, AIDS and Hepatitis B and exposure to discarded needles, syringes and other medical waste from municipal garbage bins and disposal sites.

The management of biomedical waste turns important as it has serious bearing on the quality of human life. This becomes more significant especially in the context of the recent trend of establishing multispecialty hospitals in urban centres. Biomedical waste can be regarded as any waste generated during the diagnosis, treatment or immunization of human beings or animals or produced due to activities of biological research, human anatomical waste, animal waste, microbiology and biotechnology waste, waste sharps, discarded medicines and cytotoxic drugs, solid wastes, liquid waste, incineration ash, chemical waste, etc. Medical wastes contain pathological waste (such as human tissues such as limbs, organs, foetuses, blood and other body fluids), infectious waste (soiled surgical dressing, swab material in contact with persons or animals suffering from infectious diseases, waste from isolation wards, cultures or stocks of infectious agents from laboratory, dialysis equipment, apparatus and disposable gowns, aprons, gloves, towels, etc.), sharps (any item that can cut or puncture such as needles, scalpels, blades, saws, nails, broken glass, etc.), pharmaceutical waste (drugs, vaccines, cytotoxic drugs and chemicals returned from wards, outdated drugs, etc.), chemical waste (any discarded solid, liquid or gaseous chemicals from laboratories, cleaning and disinfection) etc.

Implementation of Bio-medical Wastes (Management and Handling) Rules, 1998

The Ministry of Environment and Forests issued the Bio-medical Wastes (Management and Handling) Rules, 1998 which were amended subsequently. These rules provide for segregation, packaging, transportation, storage, treatment and disposal of wastes generated by hospitals, clinics and laboratories. Bio-medical wastes (BMW) have been classified into various categories and the treatment and disposal options for each of the categories are specified.

The treatment and disposal should be in compliance with the standards prescribed in Schedule V, which stipulates standards for incinerators (operating and emission standards), for waste autoclaving, for liquid waste, of microwaving and for deep burial. A schedule for implementation of BMW rules has been laid down in Schedule VI.

Imposing segregated practices within hospitals to separate biological and chemical hazardous wastes that will result in a clean solid waste stream, which can be recycled easily. An Advisory Committee is to advise the prescribed authority on the implementation of these Bio-

Processing and disposal of solid waste

medical wastes (Management and Handling) Rules.

The solid waste can be processed by composting, vermi-composting, anaerobic digestion, sanitary land filling, incineration or any other biological processing for stabilization of wastes. Since it contains a high amount of biodegradable portion, composting may be a cost-effective option for processing. The process of microbial composting or vermi-composting may be adopted with least mechanization to keep

the cost low, and to market the compost as fertilizers to adjoining villages. So the concerned municipalities are duty bound to earmark required acres of land to meet the requirement of solid waste treatment. The areas of existing dumping yards can also be developed. The rejects from these plants and domestic hazardous wastes may be carefully landfilled. The bio-medical wastes may be disposed off as per the Bio-Medical Waste Management and Handling Rules as described above.

A decentralized treatment system will be more feasible option for solid waste treatment. In combination with primary waste collection, composting improves the precarious waste situation in the communities, and residents become less dependent on the poor municipal waste collection service. Decentralized composting can be operated by an appropriate technology and implemented at reduced investment and operating costs. Manual composting in small, decentralized plants is more easily integrated in the prevailing level of development in India and the socio-economic background, as it requires labour-intensive processes. It will create employment opportunities and a source of income to the underprivileged people in the rural Hojai. Decentralized composting allows reuse of organic waste where it is generated, thereby reducing waste quantities to be transported as well as transport costs. This may drastically reduce the overall cost of.

Proposals for Solid Waste Treatment

Municipal solid waste treatment:

The solid waste generation expected in Hojai Planning Area by 2045 is very high, providing compost treatment facilities for this huge quantum of wastes, though essential, may not be practically possible in a single phase. So, it is necessary to propose economically feasible and, technically viable solutions which can be implemented in a phased manner. The densely populated urban areas of NMPA are to be given first priority in providing the composting facilities for solid waste treatment. The area required for solid waste.

Disposal of Hazardous Waste

Treatment and disposal facilities will be 8 hectares. The Notification from the Government of India, Ministry of Environment dated 20th July 1998, which deals with the collection of Bio-Medical Wastes entrusts the liability of its disposal with the waste producer itself. Thus the management of bio-medical waste is not the responsibility of Municipalities. But, however, they can assist in the management of biomedical wastes on a full cost recovery basis without sharing any legal responsibilities. It is advisable to have bio-medical facility for the entire Hojai Planning Area. The bio-medical wastes collected from spots can be stored in selective transfer stations and can be transported to this central treatment facility at Ward No-10, Niz-Hojai Kissed, Dag No-830 (new) Eastern side of planning area. If so desired, the authorities can formulate an action plan for implementing this plant through some competent agencies and can suitably charge for the treatment and disposal of bio-medical wastes. The solid waste dumping sites closest to industrial sites will be a more appropriate option.

Chapter 7: ENVIRONMENT AND CITY BEUTIFICATION PLAN

7.1 DESCRIPTION OF ECO-FRIENDLY AREAS LIKE WATER BODIES; BEELS; FORESTS; AND ALSO HERITAGE AREAS

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

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

Eco-friendly literally means earth-friendly or not harmful to the environment. This term most commonly refers to products that contribute to green living or practices that help conserve resources like water and energy. Eco-friendly products also prevent contributions to air, water and land pollution. Process for making a town eco-friendly were-

- =COMMUNITY GARDEN,
- = GREEN YOUR BUILDING,
- = SMART ENERGY POLICIES,
- =ENCOURAGE BICYCLING AMONG CITIZENS
- =REDUCE, REUSE AND RECYCLE,
- = URBAN FORESTRY, EFFICIENT PUBLIC TRANSPORT, QUALITY PUBLIC SPACES. Etc.

7.2 RIVERS OF HOJAI DISTRICT

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

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

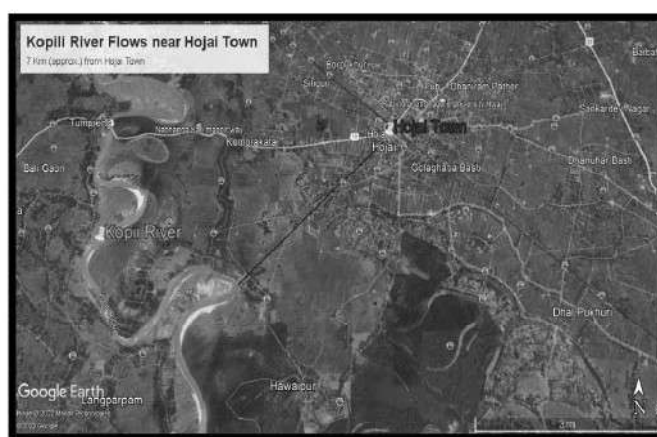


River Jamuna

7.2.2 KOPILI:-

The River Kopili is one of the important major tributaries of the Brahmaputra on its left bank. It originates from the Saipong Reserve Forest situated in south east of Meghalaya and passes through the borders of Meghalaya, North Cachar hills and karbi anglong and enters the plains in Hojai and Nagaon district of Assam and finally joins the Brahmaputra at Kopilimukh. Its total length is 256 km of which 78 km from the common border of Meghalaya and Assam and the remaining 178 km lie in Assam.

Kopili River is an interstate river in Northeast India that flows through the states of Meghalaya and Assam and is the largest south bank tributary of the Brahmaputra in Assam. The river Kopili rises in the North Cachar Hills District in Borail Range at an altitude of 1525 meter. Then it passes through Kopili Ghat, Penumbra, Kheroni, Rajagoan, Kampur, Amsoi, Kumoi, and Mayang.



River Kopili

7.2.3 DIMRU RIVER:-

Dimru River is another important river of Hojai District and flows through South-Westerly direction on the Northern side of the Hojai Town. Basically, Dimru River is a tributary of Jamuna River and its meets near Jugijaan. During summer time the River Dry up in some parts.

This river plays an important role for the entire Hojai region. This River has immense contribution to the agricultural sector as water of this beel is used in the irrigation for Agriculture. This river is perennial and depends on the water of the river, different types of Kharif and Rabi crops have been cultivated in different season.



River Dimaru

7.2.4 PUKHURI/TANKS OF HAJAI MASTER PLAN AREA

Jorapukhuri, Borpukhuri are large tanks in Hojai dug during British Rule. Jora pukhuri is located near Hojai District Civil Hospital and area is 1.5 Sq.k.m (approx.) while Borpukhuri is near Nazir Ajmal Memorial College of education which is 1.44 square km (approx.) in area. Both this two ponds has historical importance and significance and need to be preserve and conserve and proper management.



Jora Pukhuri



Bor Pukhuri

7.3 HISTORICAL SITES OR A PLACE:

A historic site or heritage site is an official location where pieces of political, military, cultural, or social history have been preserved due to their cultural heritage value. Historic sites are usually protected by

law, and many have been recognized with the official national historic site status. A historic site may be any building, landscape, site or structure that is of local, regional, or national significance. Usually this also means the site must be at least 50 years or older.

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

7.3.1 REGIONAL LEVEL HERITAGE:

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

(1) Akashiganga Archaeological site, Parokhowa, Hojai

Remains of about three temples exist at Akashiganga Archaeological Site. Akashiganga is a rocky spot on a stream surrounded by forests. The beauty of the site is enhanced by a waterfall locally called Akashiganga and this waterfall serves as a natural picturesque background for the temple ruins. A large section of the stone temple remains have been shifted to an archaeological park and a site gallery installed nearby. Besides numerous fragments, carved temple relics, other evidence of the site include stone pillar capitals, some with carvings, amalakas, door frame, doorsills and jambs, pedestals, horizontal lotus moulded architraves and angasekharas of temples. Figures of Ganas, dancing ganas and floral designs are also to be found here. It is 26.5 Km from Hojai Town. The ruins indicate the existence of a Siva temple in the site. Its unique natural beauty, hilly topography and forest attract people and the site remains a place for recreation over the ages.



Archaeological site of Akashiganga

(2) Na-Nath, Archaeological Site, Kenduguri, Near Hojai

This is situated at distance of 31 Km from Hojai Town, an old water channel to the west of the Rajbari and Sankhya Devi Archaeological Sites. The site has eight brick temples divided in symmetrical plan

facing each other in two lines. The temple structures have components of stone pillar posts, bases, door jambs, doorsills, Siva linga and Yonipith.

This group of brick-built temples is unique in Assam for these structures have been found embellished with terracotta plaques laid horizontally on the outer face of the walls. The variety of representation includes diverse aspects of nature, figures of gods and goddesses, human and animal figures, floral designs, scenes from public life, religious life and other aspects -all carved to decorate the brick temple walls. Such decorative arrangement in walls of temples as seen at Nath Archaeological Site recalls artistic development of temple architecture during the Gupta period. Judging by the style, these pieces of archaeological evidence at Na-Nath can be dated to c.800 CE. The eight brick built Siva temples with one at Kenduguri nearby make altogether nine temples for which the site is known as Na-Nath.



Na-Nath Archaeological site

(3) Rajabari Archeological site (9th-10th century)

Rajabari Archaeological Site has brick and stone architectural evidence of at least six temples laid in a planned manner. The temples are surrounded by a brick built boundary wall. These brick and stone architectural remains of the temples belong to 9th – 10th century A.D. Some selected stone temple relics of this site have been preserved and displayed for the visitors at the sculpture gallery of Rajabari Archaeological Site.



Rajabari Archeological site

(4) Sankhyadevi Archeological site:-

Shankhyadevi site has a group of temples, located on Jogijan, a small tributary of the Kapili River. The site has three mounds containing remains of three stone temples. Of these, one mound has been salvaged and stone relics of a temple dedicated to Devi Durga have been unearthed. The remains include fragments of a massive stone door jamb with carving of a figure of Durga in the upper central part of the door frame.

Doorjambs, carved stone, pranala from garbhagriha, doorsils, lintels, pillars and numerous other carved temple relics are found in this site. Numerous fragments of stone temples are scattered everywhere. The two other mounds are undisturbed. The site has a stone stairway leading to the river indicating earlier communication that was maintained through river to the temples of this site.



Shankyadevi Archeological site

7.3.2 LOCAL LEVEL PLACE OF INTEREST:-

True to its historical importance, Hojai is marked by the presence of several old religious temples, Than, Mandir, etc. which attracts religious pilgrimage in local level. Among them were, Hojai Sarbojonin Namghar, Hojai Radha Govinda Mandir, Hojai Bangali Baruwari Durgabari etc. is important.



Hojai Sarbojonin Namghar



Hojai Bangali Baruwari Durgabari



Hojai Radha Govinda Mandir

7.3.3 Issues:

(a) **Dilapidated condition of structure:** - Most of the Heritage Structure is in dilapidated condition due to the unavailability of conservation, restoration and preservation practices. These

structures need periodic preservatory treatments in order to enhance their cultural and Historical life for coming generations.

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

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

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

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

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

7.4 PROPOSED STRATEGIES:

7.4.1 HERITAGE MANAGEMENT AND ORGANIZATIONAL STRUCTURE:

There is a need to setup a Heritage Committee for Hojai Planning Area. The concerned Development authorities/municipalities as well as local stakeholders, NGO,s have significant role to play in successful implementation of strategies proposed for Hojai surrounding Areas. Formulations of special regulations to control or mediate development within the available heritage areas are a prerequisite for effective implementation of the proposed recommendations. Special regulations for all development within heritage areas, including new construction, demolition or modification to existing buildings around historic structures or within historic precincts must be formulated by the concerned authority with the advice of Heritage Committee. Detailed plans must be prepared by respective Municipalities.

It is necessary to prepare an inventory of build, cultural and natural heritage resources of the special areas. The inventory must include both protected and unprotected resources. The cost for most of the new developments in special heritage areas in already covered in budget allocation for "Tourism, Recreation and Culture" and hence not included in this table.

Estimates for projects those are specific for preservation of heritage resources are only included. River Front Development is treated as a separate item of budgetary allocation.

The relevant policy guidelines and management of culture and natural heritage can rejuvenate and revitalize the Hojai region and support the existing cultural identity. It can also promote tourism, boost

local economy and contribute a great sense of pride amongst the residents and became a touchstone for future development.

7.4.2 STRATEGIES FOR DEVELOPMENT OF RECREATIONAL AREAS:

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

Revitalization: Restoration and enhancement of mental and physical health.

Play:-relaxation and exercise

Adventure: - Excitement and challenge

Education: organized and incidental

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

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

7.4.3 PROPOSAL FOR AUGMENTATION AND DEVELOPMENT OF RECREATIONAL FACILITIES:

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

7.4.4 PROPOSED STRATEGIES TO BOOST TOURISM:

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

Tourism is vital for every place, due to the income generated by the consumption of goods and services by tourist, the taxes levied on business in the tourism industry, and the opportunity for employment and economic advancement by working in the industry. For these reasons government and private agencies sometimes promote a specific region as tourist destination, and support the development of advancement by working in the industry.

For these reasons government and some private agencies sometimes promote a specific region as tourist destination, and support the development of a tourism industry in that area. The contemporary phenomenon of mass tourism may result in overdevelopment; however alternative forms of tourism such as ecotourism seek to avoid such outcomes by pursuing tourism in a sustainable way.

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

(1) Historical Tourism with historically important structures at different archeological sites namely- Na-Nath, Akachi-Ganga Archeological, Rajabari, Sankhydevi sites having ancient rock cutting of Lord Shiva, Bishnu, Earth works, temples etc. These historical places should develop in infrastructure and services facilities for tourist attraction. Hojai Archeological Park, Hojai Aakhanda Mandali, Shantiban Parks etc. in Hojai Town also attracts tourist in local level.

(2) Nature based outdoor recreation and eco-tourism for forest, riverfront, hills, River Banks, picnic spots, sightseeing etc. Presence of this entire tourism products cal for the growth of Adventure Tourism. Akashiganga Waterfall Picnic spot (26.6 Km), and other local picnic spots on the River Banks can be developed for the attraction of tourist. Dimru river front development project can be taken up for tourist attraction.

7.5 CITY BEAUTIFICATION PLAN/PROPOSALS:

7.5.1 ROADSIDE PLANTATION:

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

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

Table 49:- below table shows the Proposal of Roadside tree Plantation alongside the major Road of Hojai Town Area.

SL.No.	Name of the Road	Length in Km	SL.No.	Name of the Road	Length in Km
1	J.K Kedia Road (Main Road)	2.841	21	Nabakalpa school Road	0.569
2	N.S.C.B Raod	1.546	22	S.N Debroy Road	0.488
3	College Road	1.056	23	Abdul Hamid Road	0.264
4	G.P Kedia Road	0.491	24	Abdul Hasib school Road	1.383
5	Bhimsaria Road	0.160	25	A.K Azad Road	0.851
6	R.N.T Road	0.115	26	R.A Kiduwai Road	0.825
7	J.L Bajaj Road	0.123	27	Gandhi Bidya Pith Road	0.806
8	Morning Glory school Road	0.329	28	FCI Road	0.708
9	Link Road of J.K Kedia Road & N.S.C.B Road	0.395	29	GNB Road	0.746
10	Morning Glory school road Bye lane	0.935	30	M.G Road	0.922
11	Ratan Deori Road	0.292	31	Jugjaan Road	1.163
12	Sudarshan Road	0.376	32	Station Road	0.504
13	J.U Ahmed Road	0.413	33	Sankar Deb Road	1.006
14	Sri Krishna Road	0.946	34	Kalibari Road	0.494
15	Rabindra Bidyalaya school Road	0.462	35	Rampur Road	0.606
16	Swarupananda Road	0.830	36	Madhab Dev Road	0.590

17	C.R. Das Road	1.017	37	Gadhadhar Singh Road	0.434
18	Sib-Bari Road	1.367	38	Bhugeswari Phukan Road	0.741
19	Swami Bibekananda Raod	0.665	39	Sati Jaimati Road	0.430
20	R.K Mission Road	0.831	40	Lachit Borphukan Road	0.366

Source:-Hojai Municipal Board

7.5.2 REQUIREMENTS AND STRATEGIES:

- (a) One Kind of Flowering Trees on Both Sides
- (b) Two Kinds of Flowering Trees Blooming at one Time on both Sides of Road
- (c) Two Kinds of Flowering Trees Blooming at Different Time on both Sides of the Roads
- (d) Shady Trees Only on both Sides of Roads.
- (e) The trees should be planted at least 12 m apart from the centre of the carriageway.
- (f) If the road is constructed on the embankment, the trees should be planted as possible as high on the sides of the embankment.

7.6 URBAN AGRICULTURE AND URBAN FORESTRY:

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

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

7.6.1 TYPES OF URBAN FARMING:

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

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

7.6.2 STRATEGIES:

- (a) Allotment gardens: An allotment garden is a plot or parcel of urban or suburban land made available for individual, non-commercial gardening or food growing and recreation.
- (b) Community gardens: Community gardens are an emerging form of urban farming.
- (c) **Inventory of your town land (and rooftops)**
- (d) **Partnerships and Cultivate market access**

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

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

7.6.3 Strategies

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

7.7 Public Rain Water Harvesting Scheme:

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

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

7.7.1 THERE ARE TWO MAJOR TECHNIQUES OF RAINWATER HARVESTING:

1. Surface runoff harvesting: In this method, rainwater flows away as surface runoff and can be stored for future use. Surface water can be stored by diverting the flow of small creeks and streams into reservoirs on the surface or underground. It can provide water for farming, for cattle and also for general domestic use. Surface runoff harvesting is most suitable in urban areas.

Rooftop rainwater/storm runoff can be harvested in urban areas through:

- Recharge Pit
- Recharge Trench
- Tube well
- Recharge Well

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

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

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

7.7.2 WATER HARVESTING SCHEMES IN INDIA:

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

1. Government of India launched Jal Shakti Abhiyan (JSA) in 2019, a time bound campaign with a mission mode approach intended to improve water availability including ground water conditions in the water stressed blocks in India. Ministry of Jal Shakti visited water stressed districts and to work in close collaboration with district level officials to undertake suitable interventions. In addition, 'Jal Shakti Abhiyan – Catch the Rain' campaign has been launched by Hon'ble Prime Minister of India on 22 March 2021.
2. National Water Policy (2012) has been formulated by Department of Water Resources, RD & GR, inter-alia advocates rainwater harvesting and conservation of water and highlights the need for augmenting the availability of water through direct use of rainfall. It also inter-alia, advocates conservation of river, river bodies and infrastructure should be undertaken in a scientifically planned manner through community participation. Further, encroachment and diversion of water bodies and drainage channels must not be allowed and wherever, it has taken place, it should be restored to the extent feasible and maintained properly.
3. In compliance to the decision taken by the Committee of Secretaries, an 'Inter Ministerial Committee' under the Chairmanship of Secretary (WR, RD & GR) has been constituted to take forward the subject of 'Push on Water Conservation Related Activities for Optimum Utilization of Monsoon Rainfall'.
4. Ministry has circulated a Model Bill to all the States/UTs to enable them to enact suitable ground water legislation for regulation of its development, which also includes provision of rain water harvesting.

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

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

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

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

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

10. The Ministry of Rural Development in consultation and agreement with the Department of Water Resources, RD & GR and the Ministry of Agriculture & Farmers' Welfare has developed an actionable framework for Natural Resources Management (NRM), titled 'Mission Water Conservation' to ensure gainful utilization of funds. The Framework strives to ensure synergies in Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS), Pradhan Mantri Krishi Sinchayee Yojana (PMKSY), erstwhile integrated Watershed Management Programme (IWMP) now PMKSY Watershed Development Component and Command Area Development & Water Management (CADWM), given their common objectives. Types of common works undertaken under these programmes schemes are water conservation and management, water harvesting, soil and moisture conservation, groundwater recharge, flood protection, land development, Command Area Development & Watershed Management.

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

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

7.7.3 STRATEGIES AT LOCAL LEVEL:

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

7.8 DEVELOPMENT OF PARKS AND RECREATIONAL SPACES WITH IDENTIFICATION AND DEMARCATION OF OPEN SPACE FOR SPORTS, CULTURAL FUNCTION, FAIRS ETC IN HOJAI PLANNING AREA:

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

Table 50- Proposal for Construction of Playground Infrastructure, Parks and other Recreational Facilities in Hojai Planning Area.

SL. No.	Name of the Open space	Proposal
1	Nehru Hall at Natun Bazar	Construction of Public Auditorium with all modern facilities
2	Mahatma Gandhi Children Park	Improvement of the Park with modern facilities
3	Shantiban Park	Need to be developed
4	Gandhi Children Park	Improvement of the Park with all modern facilities for children
5	Hojai Archeological Park	Proposal for construction of Museum cum Exhibition centre for the indigenous tribe.
6	Suitable Plot of Land within Hojai M.B Area	Proposal for construction of 2 Nos. Modern Parks for Children and 2 Nos. for senior citizen.
7	Suitable Plot of land in village Area	Proposal for construction of a Community Centre & Parks in each revenue village of the H.M. P .A
8	Dimru River	Proposal for River Front Development Project with Eco-Tourism Parks at suitable location on the Bank Dimru River within H.M.P.A
9	Suitable Plot of Land within Town Area	Proposal for construction of Tourist Guest House
10	Jora Pukhuri, Bor-Pukhuri	Proposal for construction of Eco-Tourism Park

The sports and youth welfare activities are one of the major sectors of Human Resource Development Programme. Hojai stadium is the main playground of Hojai Town which is controlled by Hojai Sports Association. The other playgrounds around Hojai Master Plan area should be upgraded providing with all modern facilities. Besides, there should be Modern Parks, Community centre in each Revenue Village of the Hojai Master Plan Area. Considering the growth of population in Hojai town and the planning area, new parks and play grounds like Mini stadium, Gymnasium Hall, Hockey Ground are to be created in future.

Chapter: 8 LAND USE PLAN

8.1 EXISTING LAND USE OF HOJAI MASTER PLAN AREA -2021:

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

The study of land use holds a very significant place where a particular settlement can be recognized as a town depends on its functional structure. The functional activity can be regarded as the main regions for the growth of urban centre. The main purpose of land use study is to provide framework for the development of a particular area. It gives us an idea about the proportion of various types of land.

The Existing Land Use pattern of Hojai Master Plan Area was updated based on ground reality on the scientific base map prepared with the help of Satellite Image and Revenue records like village level cadastral sheets, Field Measurement Book sheets and Town Survey Sheets. The Hojai Planning Area is administratively divided into two entities, Urban and Rural. Urban area comprises of Hojai Municipal Board area of **4.66 Sq.Km** and Rural area of **71.00 Sq.** including 28 Nos. of villages. This chapter presents the existing land use analysis, 2021 for the planning area.

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

Table 51: Existing Land use of Hojai Master Plan Area

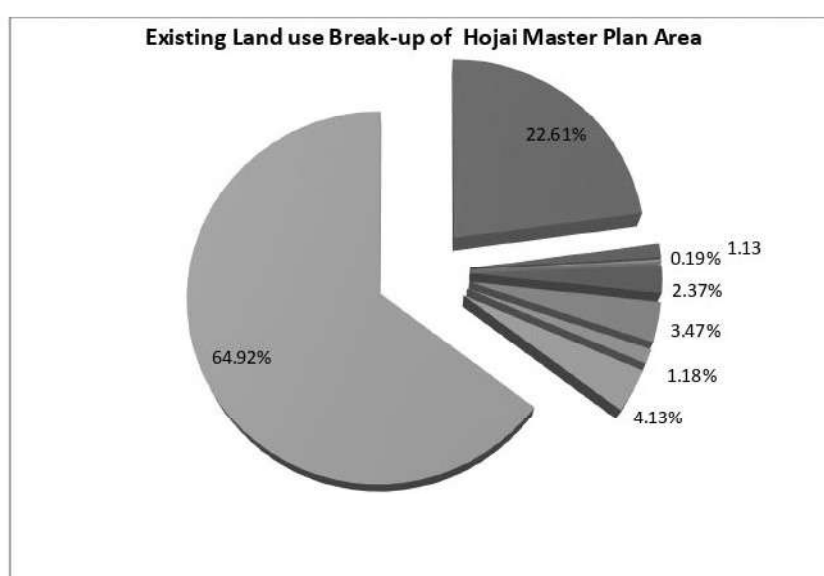
Sl. No.	Land Use	Area (Sq Km)	% of Total Developed Area	% of Total Area
1	Residential	17.29	72.53	22.85
2	Commercial	0.90	3.78	1.19
3	Public & Semi public	1.87	7.84	2.47
4	Industrial	0.15	0.63	0.20
5	Transportation	2.65	11.12	3.50
6	Parks & Playground / Recreation	0.98	4.11	1.30
	Total Developed Land	23.84	100.00	31.51
7	Agriculture	48.95		64.70
8	Water Bodies	2.87		3.79
	Total Master Plan Area	75.66		100.00

Source-Consultancy

The detailed land use analysis of the Hojai Master Plan Area-2021, gives the picture of the shape of the Urban and Rural land for various activities.

From the above table it is seen that out of the total developed land, Residential use occupied 17.29 sq.km (72.53%), 0.90 Sq.km (3.78 %) occupied commercial use, 0.15 Sq. Km (0.63 %) occupied by industrial use, 1.87 Sq. Km (7.84 %) occupied for public and semi-public use which includes various Physical and social infrastructure like Educational institutes, Government Offices, Hospitals, Govt. Residential Buildings etc., 2.65 sq. km (11.12 %) of land occupied by Transportation, and 0.98 sq.km. (4.11%) of land occupied by recreation facilities.

Out of the undeveloped land, Agriculture land use being the predominant land use which occupies 48.95 Sq. Km.(64.70 %) of the total planning area, about 2.87 km (3.79 %) occupies by water bodies.



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

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

Chapter: 9 PROPOSED LAND USE PLAN

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

The land requirement for various urban and rural activities has also been proposed on the basis of projected population of 281994 by 2045. The distribution of land into various broad categories of land use has been made keeping in view the minimum desirable standards of development and functional linkages between them. The following table shows the land proposed for various major uses.

Table 52: Proposed Land Use classifications for different uses of Hojai Master Plan, 2045

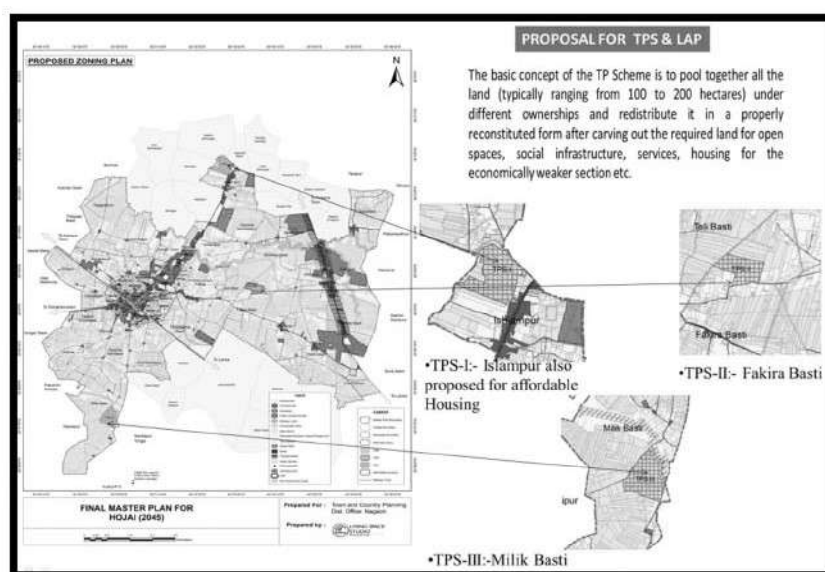
Sl. No.	Land Use	Area (Sq. Km)	% of Total Developed Area	% of Total Area
1	Residential	28.00	62.21	37.01
2	Commercial	2.19	4.87	2.89
3	Public & Semi public	3.01	6.69	3.98
4	Industrial	2.43	5.40	3.21
5	Composite Use	1.18	2.62	1.56
6	Transportation	3.12	6.93	4.12
7	Parks & Playground / Recreation	5.08	11.29	6.71
	Total Developed Land	45.01	100.00	59.49
8	Agriculture	27.78		36.72
9	Water Bodies	2.87		3.79
	Total Master Plan Area	75.66		100.00

Source-Consultancy

9.1 PROPOSED RESIDENTIAL USE:

To accommodate the projected population of about 281994 an area of about 28.00 sq. km. are earmarked for residential use in Hojai Master Plan Area. The residential areas are proposed to be developed as self-contained units with provisions of all community facilities and services. Accessibility of the property by road and connectivity with the important nodes of the master plan area is proposed.

The area under the Municipal Board considering ward no. 3 may be considered for Local Area Planning Projects (LAP) and Islampur, Fakira Basti and Milik Basti may be considered as Town Planning Schemes (TPS). Town Planning scheme at Islampur is also proposed for affordable Housing.



Town Planning Schemes (TPS):-

The basic concept of Town Planning Schemes is pooling together all the land under different ownerships and redistributing it in a properly reconstituted form after deducting the land required for open spaces, social infrastructures, services, housing for the economically weaker section, and road network. A town planning scheme of the local government made under the Town Planning and Development Act 1928.

Conceptually, town planning scheme is a joint land development project undertaken by the owners. Planning authority steps in as an agent on behalf of owners provides for smooth vesting of lands to planning authorities for public purposes.

The basic concept of the TP Scheme is to pool together all the land (typically ranging from 100 to 200 hectares) under different ownerships and redistribute it in a properly reconstituted form after carving out the required land for open spaces, social infrastructure, services, housing for the economically weaker section etc.

Principles of Town Planning Schemes:

The basic principles of Town Planning Schemes are summarized as mentioned below:

- Lands pooled and reconstituted according to some equitable formula.
- Loss of land because of reservation
- Dispossession kept at bare minimum
- Reconstituted plots: buildable
- Increments, incremental contribution – maximum 50%
- Cost of Scheme: minimum as far as possible
- Urban land should itself resource the cost of development
- Town planning scheme has been provided with an in-built mechanism for arbitration.
- Conceptually, town planning scheme is a joint land development project undertaken by the owners.
- Planning authority steps in as an agent on behalf of owners.

- Provides for smooth vesting of lands to planning authorities for public purposes.
- General opposition to acquisition from owners is not existent, therefore, rightly called as 'land acquisition without tears.'
- For implementation of D. P. proposals

Tentative time-frame for Town Planning Schemes (TPS):

- Making and publishing draft scheme from date of intention declaration 9 months
- Extension that may be granted 3 months Submission of scheme after publish 3 months
- Sanction of Draft Scheme by the State Government 3 months
- Appointment of T. P. O. ½ month Making of Preliminary & final scheme 12 months
- Extension that may be granted 6 months
- Sanction of Preliminary / Final scheme 2/3 months
- Scheme to come into force 1 month
- Approximate time for finalization of a TPS 50 months

Procedure to prepare a Town Planning Schemes (TPS):

- A TPS (u/s 40(2)) may be made on land which is, in the course of development likely to be used as residential, commercial or industrial or building already built upon.
- After identifying area for TPS, the authority through board resolution is required to take CTP's consultation u/s 41(1) and declare its intention to make a scheme within nine months, the authority is required to prepare and publish the scheme in official gazette.
- After considering the suggestion / objections received within a month of publication, draft scheme is sent to the Government for sanction u/s 48(1)
- Appropriate authority can make one or more TPS for the respective development area . TPS may be made in respect of any land which is in the course of development, likely to be used for building purposes and already built upon. The Public Planning Authorities/Development Agencies acquire large areas of land under the Land Acquisition Act of 1894 or by agreement. Then a Master Plan of the area is prepared, laying out the roads, plots for social amenities, and plots for sale. Roads and infrastructure are then built, using government funds or loans. Serviced plots are then sold for urban uses at market rates, which are most often much higher than the rate at which land is acquired. Under the provision of Town & Country Planning and Urban Development Act the Town Planning Schemes (TPS) has been proposed at 3 (three) locations in the Hojai Master Plan, 2045 in consultation with them Hojai M.B.

LOCAL AREA PLAN (LAP):

Local area planning is a process of planning that is concerned with resolving local level problems and issues. Its priorities include overall welfare of the people and development of the local area. Maintenance of social services and amenities, promotion in the quality and quantity of local products and services and keeping surroundings and local environment clean and green are some of its continuous concerns.

In terms of size, it is the smallest planning unit with reference to people and places. A planning which is carried out through people's participation turns out to be a dream of real situation reflecting

continuous growth and development in the local area. The function of a local area plan is to take a detailed look at a specific area, particularly areas which require urban renewal or where large scale development is expected, identifying and analyzing the various issues of relevance, before establishing and setting out principles for the future development of the area.

Local area plans are intended to provide more detailed planning policies for areas that are expected to experience significant development and change, through proper public participation and democratic oversight. Under the provision of Town & Country Planning and Urban Development Act the Local Area Plan has been proposed discussing with the Hojai M.B at Ward No-3.

9.2 PROPOSED COMMERCIAL LAND USE:

Due to rapid population growth in Hojai, the existing commercial area concentrated in and around the surrounding the town area will not be sufficient to meet the need of future projected population.

Therefore, an additional area of about **2.19** Sq. Km is proposed for commercial purposes in the Hojai Master Plan area.

9.3 PROPOSED INDUSTRIAL LAND USE:

There are good prospects for setting up of forest and agricultural based small and medium industries in Hojai Master Plan area. There are also good scopes for setting up of service and light consumer goods producing industries like agriculture implements, readymade garments, soap making, brick making, bakery, plastic goods, power loom etc. In addition to the existing industrial area, an area of about **2.43** Sq. Km of land has been earmarked for setting up of medium and light industries in the Hojai Master Plan Area.

9.4 PROPOSED PUBLIC AND SEMI-PUBLIC USE:

Within Hojai Master Plan area land proposed for public and semi-public use is **0.21** Sq.km of the total developed area. The public and semi-public uses have been proposed on Govt. land available in the Planning Area.

9.5 PROPOSED CIRCULATION PLAN:

New road proposed under transportation will be **3.12** Sq.km. for Hojai Master Plan -2045. The proposals for improvement and widening of roads within Hojai Master Plan area of different places are mentioned in the table. All the major junction points should be developed in a planned manner. Modern traffic signaling system is to be improved within the Hojai Master Plan Area.

Hierarchy of Road proposed with width

- 1) Arterial Road - 50 to 80 metre
- 2) Sub Arterial - 30 to 50 metre
- 3) Collector Road - 12 to 30 metre
- 4) Local Road - 6.6 to 15 metre

9.6 LANDUSE FOR COMPOSITE USE

Within Hojai Master Plan area land proposed for Composite use is **1.18** Sq.km. This category of Land use is introduced as per Town & Country Planning Act, 2022 under which mixed use of commercial, Residential, Public & Semi-Public, existing industrial may be include.

9.7 FIXATION OF ROAD LEVEL OF HOJAI MASTER PLAN AREA

Road levels to be defined at the Local Area Plan level to ensure integrated road levels with drainage system and slope. No roads to have two different road levels without a proper median or a separator. Repeated excavation of roads damaging the underground utilities and disturbed road levels.

While planning, planners face the problems associated with road levels, lying of new pipelines, parking in residential areas, decongestion, fire safety issues, requirement of road widening and lose of heritage façade, provision of land for social infrastructure and sometimes re-planning underground infrastructure.

Table 53- Proposed Road Level (RL) of the some major Roads of the Hojai Master Plan Area shown in the below:

SL. No.	Name of the Road	Road Level at Different points (In metre)	Remarks
1	J.K Kedia Road	96, 95, 90	Shown in Circulation Map
2	Rampur Road	100, 101	
3	Netaji Road	93, 94	
4	Jugijaan Road	100, 98, 95	
5	Danki Gaon Road	95, 92	
6	Dimarupar-Pubnandalalpur Road	90, 91	

Source: - Consultancy

9.8 PROPOSE RECREATIONAL FACILITY:

Existing parks and playgrounds are not available within the Hojai Master Plan area to meet the demand of the people and the condition of the existing parks and playgrounds are deplorable condition which are urgently need to be improved. Thus, an area of 5. 08 sq.km has been proposed for recreational facilities (park and playground) for Hojai Master Plan 2045.

9.9 PROPOSED NO CONSTRUCTION ZONE OR BUFFER ZONE

To regulate the construction near water bodies and to conserve rivers and canals, buffer zones around them have been proposed in the Hojai Master Plan Area, and the same has been denoted in the proposed Nature Conservation Map. It indicates the buffer areas prescribed for the conservation of water bodies in the town. This area proposal is made based on the buffer distance fixed for each water body. As the primary objective for the zone is conservation, planned green space development can also be attained in this area. Buffer areas have been proposed along the Dimaru River, Jora-Pukhuri, Bor-Pukhuri and water bodies mainly wetland area, ponds, etc. of the Hojai Master Plan Area.

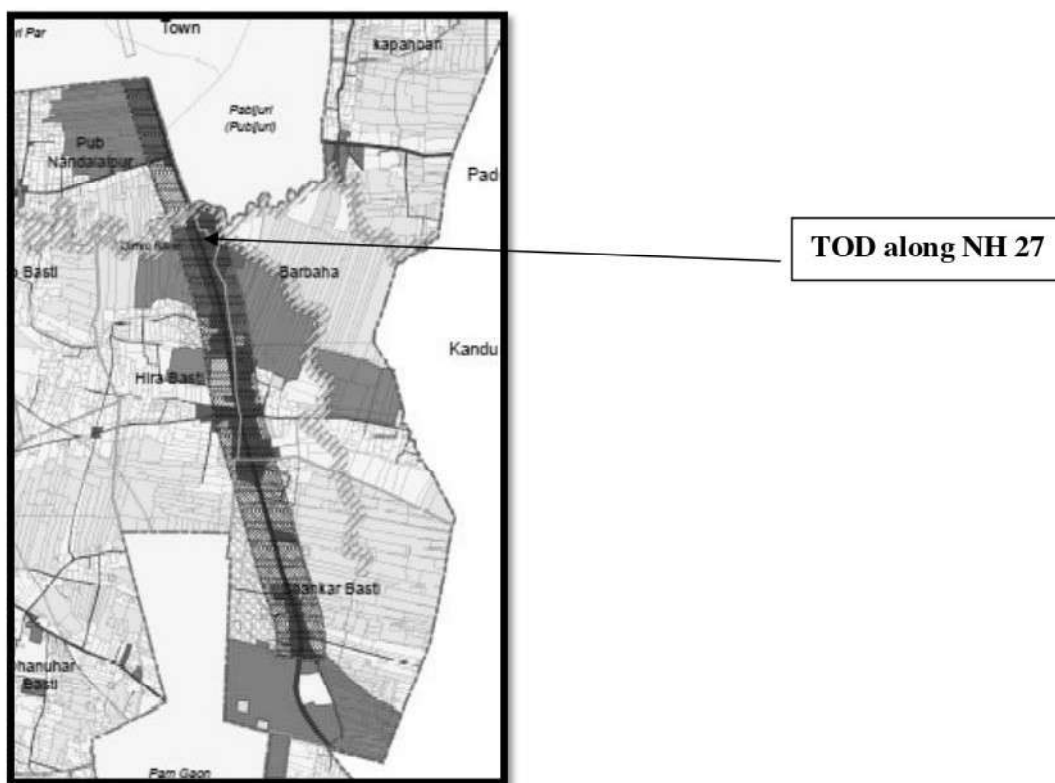
Buffer width of 15 metres has been proposed along the water bodies inside Municipal Area and 50 metres along the water bodies outside the Water Bodies. A Nature Conservation map has been prepared showing No construction zone or Buffer Zone of Hojai Master Plan Area.

9.10 ZERO POINT OF HOJAI MASTER PLAN AREA

Free Stationing is a method of determining a location of one unknown point in Relation to known point. There is a zero point of reference called a total station. Zero point is the first starting point from where we can measure distance from one point to another unknown point. In case of preparing Contour Map of Hojai Master Plan area, the zero point or the starting point has been selected at J.K Kedia Road near Railway station (which is shown in circulation Map)

9.11 TRANSIT ORIENTED DEVELOPMENT ZONES (TOD)

In order to ensure optimum utilization of scare land resources and to provide opportunities for restructuring through mixed land-use along the Mass Transit corridors, Transit Oriented Development will be allowed. TOD Zones will be the area in immediate vicinity of the mass transit Corridor i.e within a walking distance and also well integrated with bi-cycle, feeder and transit networks. In case of Hojai Master Plan TOD proposed **along-side the NH 27 from Master Plan boundary in the direction of Doboka town towards Lanka Town to Sankar-basti village** with a Buffer of 200 metre.



9.12 INFRASTRUCTURE PROPOSALS:

The existing social and physical infrastructure facilities and their services of Hojai Master Plan area have been studied and the deficits and future requirements are calculated as per URDPFI Guidelines as below: -

9.12.1 EDUCATION:

The existing educational facilities and future requirement for Hojai Master Plan area as per URDPFI Guidelines up to the year 2045 have been estimated considering a higher standard as mentioned in the **table below 54: -**

Sl. No.	Type of Educational Institute	Norms	Existing Numbers	Deficit	Total Requirement
1	Primary school	1 in 2500 population	67	46	46
2	Middle school	1 in 5000 population	11	45	45
3	High school	1 in 7500 population	12	26	26
4	Higher Secondary school	1 in 90,000 population	4	1	1
5	General college	1 in 1,25,000 population	1	1	1
6	Junior college	1 in 90,000 Population	7	-	-
7	B. Ed. College		1	1	1
8	Law College		1	1	1
Health					
8	Intermediate Hospital	1 in 1,00,000 population	1	1	1
9	Nursing Home, Maternityhome	1 in 45,000 population	1	5	5
10	Sub-Dispensary	1 in 15,000 population	8	10	10
Communication					
	Post Office	1 for 15,000 population	2	16	16
	Police Station	1 for 90,000 population	1	1	1
	Fire Station	1 for 2,00,000 population	1	1	1

Socio-Cultural Facilities:				
Community Room	1 in 5000 population	2	54	54
Community Hall/ Library	1 in 15,000 population	1	17	17
Music Dance & Drama etc.	1 in 1,00,000 population	-	2	2

Source-Consultancy

9.12.2 PROPOSALS FOR WATER SUPPLY:Proposed PWSS

- (1) Pipe Water Supply Scheme- All the Revenue Village of Hojai Master Plan

Table-55

Description	2021	2031	2041	2045
Total Population of Hojai Master Plan Area	150170	190988	245504	281994
Projected Water Demand (MLD)				
Total Water Demand @ 135 LPCD	20.27 MLD	25.78 MLD	33.14 MLD	38.06 MLD
15 % O & M loss	3.04	3.86	4.97	5.70
Sub Total	23.31	29.64	38.11	43.76
2% Fire Fighting	0.46	0.59	0.76	0.87
Total Water Demand	23.77 MLD	30.23 MLD	38.87 MLD	44.63 MLD
Grand Total Water Demand (Say)				
Add 10% extra (Say for defense area, Floating population, Tourism, Service population etc.)	2.37	3.02	3.88	4.46
Overhead Population Water Demand	26.14 MLD	33.25 MLD	42.75 MLD	49.09 MLD

Source: - T&C.P compilation

Minimum domestic water supply per capita per day will be 135 liters. There overhead water demand is 49.09 MLD for Hojai Master Plan Area up-to, 2045.

Thus, additional water supply schemes or up-gradation of existing water supply schemes will be required for Hojai Master Plan Area-2045.

9.12.3 SECTOR -WISE INVESTMENT PROPOSAL:

The sector wise requirement of implementation of various projects of Hojai Master Plan Area is detailed as table 56 below:

SL. NO.	Location	Project Name
Neighborhood Centre		
1.	Pub Dhaniram Pathar	Neighbourhood Centre(10.01 Hac)
2.	Dakshin Bidyanagar	Neighbourhood Centre (10.12 Hac)
3.	Gopal Nagar	Neighbourhood Centre (10.05 Hac)
4.	Pacchim Nandapur	Neighbourhood Centre (10.11 Hac)
5.	Sankardev Nagar	Neighbourhood Centre (10.15 Hac)
6.	Jora pukhuri	Neighbourhood Centre(10.01 Hac)
7.	Rampur	Neighbourhood Centre (10.12 Hac)
8.	Amtola	Neighbourhood Centre (10.05 Hac)
9.	Milik basti	Neighbourhood Centre (10.11 Hac)
10.	Islam Nagar	Neighbourhood Centre (10.15 Hac)
Solid Waste management		
11.	Hojai Planning Area	Improvement and Modernization of Solid Waste Collection, Transportation and Disposal System of Hojai
12.	Outside Hojai Planning Area	Development of Solid Waste Engineering Landfill Site on 20 (Twenty) Bigha of Land at Dag No. 178 of Kissam Lanka Jan under Hojai Mouza.

Drainage System		
13.	Hojai Planning Area	Preparation of DPR for Drainage System for Hojai Area
14.	Hojai Town	Construction and Improvement of Existing Storm Water Drains
15.	Hojai Town	Cleaning and Maintenance of existing Drains
Water Bodies		
16.	Jora Pukhuri	Beautification of Jorapukhuri as a Eco- Tourism spot.
17.	Borpukhuri	Beautification of Borpukhuri as Eco- Tourism spot.
Religious Spots		
18.	Jugijan	Improvement of Jugijan as a religious tourism spot.
Traffic and Transportation		
19.	Ward No-18, Hojai Municipal Board	Construction of Bus Terminus
20.	Barbaha, Hojai Planning Area	Construction of Truck Terminus
21.	Hojai Town Area	Construction of Cycle Parking
22.	Hojai Town Area	Construction of street Parking
23.	Hojai Town Area	Construction of Traffic Signals Point at various traffic congrats Area.
Fly over		
24.	Hojai Majzid road to Natun bazar Chariali	Construction of Fly over
25.	Jogijan bazaar to Radha Nagar	Construction of Fly over
26.	Santibon Area	Construction of Flyover/ foot over bridge connecting with Ward No. 4 to Ward No. 8
Recreational Facility		
27.	Nehru Hall at Natun Bazar	Construction of Public Auditorium with all modern facilities
28.	Mahatma Gandhi Children Park	Improvement of the Park with modern facilities
29.	Shantiban Park	Need to be developed
30.	Gandhi Children Park	Improvement of the Park with all modern facilities for children
31.	Hojai Archeological Park	Proposal for construction of Museum cum Exhibition centre for the indigenous tribe.
32.	Suitable Plot of Land within Hojai M.B Area	Proposal for construction of 2 Nos. Modern Parks for Children and 2 Nos. for senior citizen.
33.	Suitable Plot of land in village Area	Proposal for construction of a Community Centre & Parks in each revenue village of the H.M. P .A
34.	Dimru River	Proposal for River Front Development Project with Eco-Tourism Parks at suitable location on the Bank Dimru River within H.M.P.A
35.	Suitable Plot of Land within Town Area	Proposal for construction of Tourist Guest House
36.	Hojai Planning Area	Construction of Parks and Playgrounds.
37.	Dakshin Bidya Nagar	Construction of Parks
38.	Sankardev Nagar	Construction of Parks
39.	Rampur	Construction of Parks
40.	Pub Dhaniram Pathar	Construction of Parks and playground
41.	Uttar Bidyanagar	Construction of Parks
Industrial Area		

42	Barbaha	Development of industrial Area
43	Pub-Nandalapur	Development of Industrial estate
44	Pachim Nandalpur	Development of Industrial estate
Infrastructural Proposal		
45	Hojai Planning area, Sankardev Nagar	Construction of Auditorium
46	Hojai Planning area, Sankardev Nagar	Construction of District Library
47	Hojai Planning area, Sankardev Nagar	Construction of Helipad
48	Hojai Planning area, Sankardev Nagar	Construction of Skill Development Centre
49	Proposal for Town Planning Planning scheme (TPS)	
50	TPS-I at Islampur	Town Planning Scheme with affordable Housing
51	TPS-II at Fakira Basti	Town Planning scheme
52	TPS-III at Milik Basti	Town Planning scheme
53	Proposal for Local Area Plan (LAP)	
54	Ward No-3	Proposal for Local Planning Scheme (LAP)
55	Ward No-18,12,11,4,6,12,2,1,17,16	Proposal for Vending Zone
56	TOD has been proposed along-side the National Highway-27 from Lanka-Hojai Road towards Hojai- Doboka Road to Master Plan Boundary with a Buffer of 200 metre.	Transit Oriented Development Project.
57	Hojai MB area as shown in Zoning Map	Proposal for Installation of Fire Hydrant Point

Improvement and widening of Road		
	Name of Road	Length in km (Appx.)
48.	J.K Kedia Road (Main Road)	2.841 km
49.	N.S.C.B Raod	1.546 km
50.	College Road	1.056 km
51.	G.P Kedia Road	0.491 km
52.	Bhimsaria Road	0.160
53.	R.N.T Road	0.115
54.	J.L Bajaj Road	0.123
55.	Morning Glory school Road	0.329
56.	Link Road of J.K Kedia Road & N.S.C.B Road	0.395
57.	Morning Glory school road Bye lane	0.935
58.	Ratan Deori Road	0.292
59.	Sudarshan Road	0.376
60.	J.U Ahmed Road	0.413
61.	Sri Krishna Road	0.946
62.	Rabindra Bidyalaya school Road	0.462
63.	C.R. Das Road	1.017
64.	Sib-Bari Road	1.367
65.	Swami Bibekananda Raod	0.665
66.	R.K Mission Road	0.831
67.	Nabakalpa school Road	0.569
68.	S.N Debroy Road	0.488
69.	Abdul Hamid Road	0.264
70.	Abdul Hasib school Road	1.383
71.	A.K Azad Road	0.851
72.	R.A Kiduwai Road	0.825
73.	Gandhi Bidya Pith Road	0.806
74.	FCI Road	0.708

75.	GNB Road	0.746
76.	M.G Road	0.922
77.	Jugijaan Road	1.163
78.	Station Road	0.504
79.	Sankar Deb Road	1.006
80.	Kalibari Road	0.494
81.	Rampur Road	0.606
82.	Madhab Dev Road	0.590
83.	Gadhadhar Singh Road	0.434
84.	Bhugeswari Phukan Road	0.741
85.	Sati Jaimati Road	0.430
86.	Lachit Borphukan Road	0.366
87.	Swarupananda Road	0.830

Chapter: 10

DISASTER PLAN

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

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

Hojai District is situated at the south-eastern part of the Nagaon District and surrounded by the Karbi-Anglong District in its East, West, South and North-Eastern Part. The Kapili and Jamuna are the main rivers of this District. Hojai District is also one of the flood affected district of Assam. Basically Kapili and Jamuna are the main rivers causing flood in the district mainly during the time of monsoon period.

10.1 FLOOD

Hojai District is partially flood prone. There are all total 103 villages in Hojai circle, out of which 55 villages are located in the flood prone zone. From past history, it is seen that Hojai circle had experienced-05 major floods during last 20 years. During those floods, many areas were badly affected and some areas were submerged by flood water and affected families had to be shifted to different relief campus. Communication got disrupted in some places and G/R was distributed among the affected population. In 2010, in the month of August (1st wave) in the month of October (2nd wave) a flash flood occurred in the Jamunasheet area and affected around 15000 families (Approx).

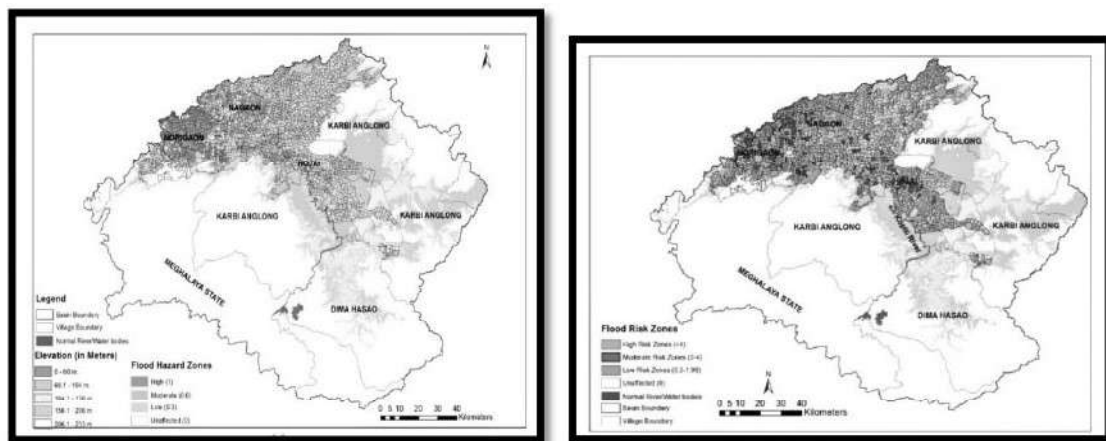
This Circle also experienced the have flood which occurred in the year 2004, which lasted for the longest period. The major source of flood to this Circle is river Kapili, river Jamuna, river Dimru. The total no. of affected population for the probable flood may be estimated at 40,000 to 42,000.

The Doboka Revenue Circle is also prone to devastating flood, which is quite evident from the last past history. The major rivers that flow in and around Doboka Revenue Circle are- Jamuna River, Kapili River, Dimaru River along with their several tributaries. It is estimated that approximately 1,15,958 population are vulnerable to probable flood. The circle comprises of 108 Revenue villages and 01 (one) Non Cadastral village out of which 50 villages are likely to be affected in case of flood situation. A brief history of last 20 years shows that, the circle has undergone 5 major flood hazards which led to severe damages of properties, communication, agriculture and loss of livestock's etc. affecting the Social- economic culture of the Society.

The flood prone areas have been identified from previous records and these areas have been divided into 4 (Four) zones in Hojai Circle, 3 (three) zones in Lanka circle and 3 sectors in Doboka circle namely

Jamunamukh Mouza, Kapahbari Mouza and Na-mati Mouza. To combat with the flood, particularly for smooth conduct of relief and rescue operation during the flood period, circle level committees are proposed to be formed with the Circle Officer, Hojai as chairman and the other members of this committee will be formed within the local heads of the Govt. officers of various Departments representatives of the Panchayat and Zila Parishad, Leading citizens, members of voluntary organization of Revenue Circle Area. All the Gaonburah and VDP members render all possible help to the committee as per demand of the hour.

During flood major part of the Revenue Circle remains submerged by flood water and the measures were adopted in due course to shift and shelter the affected families in different relief camps situated in comparatively high land areas, such as high raised platforms, schools and railway platform etc. and gratuitous reliefs were also distributed among the flood affected people residing in the camps at the evoke of such crucial situations. In addition, measures were also taken for sanitary facilities, safe drinking water and disinfectant packets were also distributed to keep the surrounding environment safe and clean.



Flood affected Area of Hojai District

The village's Lankajaan, Purb Nandlalpur, Purb Salmarajaan, Katalpur, Salmarajaan, Islamnagar, Kumrakata, Dakhin Kumrakata, Digalbari, Meenapathar, Barhola, Rajaphukri, Deuripam, Jantiabasti, Jurangpathar, Darjisheet, Jamunasheet, Danwarbasti, Fakirabasti, Nowbangha, Hawaipur, Taradubi, Kanduguri, Dakhin, Kanduguri, Radhanagar I, Bakwabasti. On the other hand Hojai's Daboka, Nilbagan areas are also adversely affected by the waves of flash flood. Kapili and Damru rivers are flowing above danger level and around 12,000 Hectare land is inundated under water.

Moreover, 2019, the excess water released from NEEPCO operated Kopili Hydro Electric project in Dima Hasao district and incessant rain for few days resulted into flash flood and disrupt normal life in some places of Hojai district which include village like Kumrakatas, Raikata, Thaplaguri, Kandaori, Nobhanga etc. In Kumrakata, the main road connecting Hojai and west Karbi-Anglong is completely flooded.

Hojai Master Plan Area: - Some of the Revenue villages of the Hojai Master Plan Area are also affected by Flood. They were Purb Nandalalpur, Pachim Nandalalpur, Islamnagar, Raja-Pukuri, Fakira-Basti etc.



Flood Affected Hojai Village

Embankments and Vulnerable Reaches of the District:-

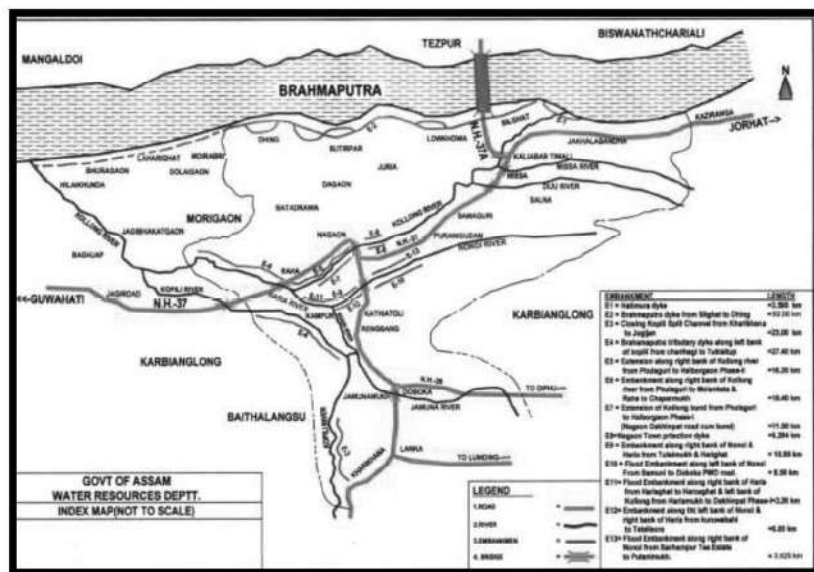
A. Kopilli Right Bank Dyke from Kharikhana to Jugijan:-

The dyke Falls under jurisdiction of Hojai Revenue Circle. Length-23km, Benefited area: - 24,847 ha. The dyke is prone to flood damages at several locations due to seepage, leakage, boiling, overtopping etc. during high flood periods. Erosion effected reach –

- i. At 6th km near Jamunasheet village affected reach – about 700m Bank distance from dyke – 100m (minimum).
- ii. Severe Bank erosion at Thaisubali, Jamunasheet, Jugimukh and Kanduguri.

Remedial measures:-

- i. Damages on the dykes are being repaired under flood drill provision (Minor Repairing).
- ii. Men with flood fighting materials will be put in force on the dykes during High floods as per site exigency.
- iii. Schemes have been submitted to the competent authorities to check erosion in the Above mentioned erosion affected reaches. Works will be carried out on receipt of Approval/sanction and other statutory clearances from the Govt.
- iv. The immediate measure work to restore the damaged section closing channel Kopilli from Kharikahanna at Jugijan from Ch. 22500 m to 23000 m under SDRF for 2017-18 amounting to Rs. 265L has been completed.



Embankments and Vulnerable Reaches of Hojai District

10.2 EARTHQUAKE:

Much of Assam lies in the Brahmaputra River Valley, except for a few southern districts. The Northern and eastern parts of this valley area bounded by the Himalayan frontal thrust. In the eastern parts along the HFT, there is the arc of the Lohit and Naga Thrusts. Among the large earthquakes in the region were the events in 1897 and 1950. The 1897 earthquake is well known for the dramatic accounts of violent upthrow during the shock.

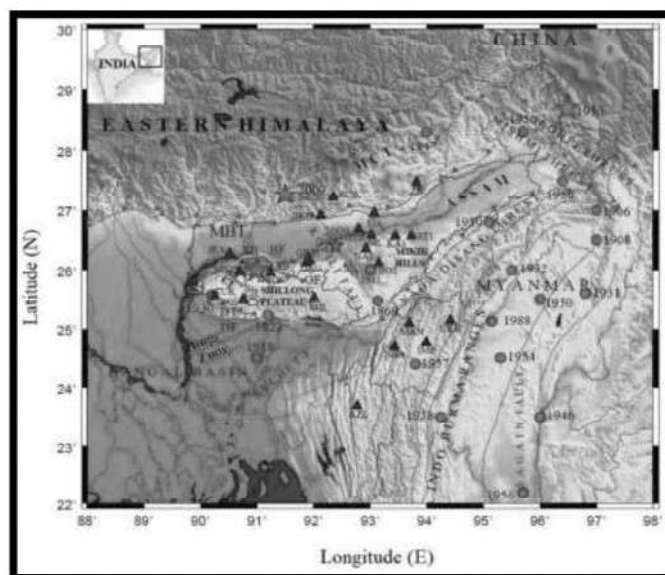
Like the rest of Assam the Hojai district has always been subject to earthquakes as it lies in them zone of seismic disturbances. The earthquake zoning map of India divides India into 4 seismic zones Based on the observations of the affected area due to Earthquake India divided into four types of zones viz. zone II, zone III, zone IV and Zone V. The north Eastern part of India including Assam is at zone V.

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

In Assam, the chances of having earthquake of higher magnitude (>6 Richter scale) in almost every 50 years are fairly high, based on historical records and geological evidence of numerous active faults that have produced earthquakes in the recent past. Near about 25(twenty five) earthquakes of magnitude 5 Richter scale have occurred in Assam in the last 5 years. Earthquake of magnitude 6 Richter scale and more can cause significant damage and pose life safety risks.

The largest possible earthquakes for this region of magnitude 8.6 Richter scale and above are very real as there are many faults capable of producing earthquakes of such magnitude and larger. It is sobering to consider the impact that some of the earlier historical earthquakes would have on today's urban setting. Large earthquakes will inevitably occur in Assam, only the timing is uncertain.

The great earthquake which occurred on June 12, 1897 had its epicenter in the Shillong plateau. It had a magnitude of 8.5 Richter and was probably one of the greatest earthquakes ever recorded. The shock was felt over an area of 1,750 Km² and destruction of stone buildings was almost universal in an area of 30,000 Km² including Shillong, Goalpara, Gauhati, Nagaon and Sylhet area of Bangladesh. Land slips and an earth fissure was very abundant over the whole of the epicentral area. In Hojai most of the government buildings including the Circuit House, Court building and the Deputy Commissioner's bungalow were rendered unfit for habitation. The earthquake of August 15, 1950 had its epicentre at 28.5o N and 96.7o E. and had a magnitude of 8.6 Richter. The estimated area of north-eastern Assam over which extensive and heavy damage occurred was 1,900 Km².



Map showing major tectonic features of northeast India region and the large Earth-quakes (from Kayal et al., 2012)

Table 57:- Earth-Quake near Hojai

Date	23rd October 1943
Epicentre	13.6 Kms East of Hojai (Assam), India
Latitude	26.00 N
Longitude	93.00 E
Origin of Time	17:23:17 UTC/22:53:17 IST
Magnitude	Ms 7.2
Date	11th May, 2012
Epicenter	19 km North of Hojai
Magnitude	Ms 5.4

Sources:-ASDMA

10.3 DROUGHT:

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

Table-58

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

Sources:-Department of Disaster Management, Nagaon

10.4 RIVER EROSION:

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

The erosion of banks by the rivers and the consequent loss of life and property are major problems. Rivers tend to erode their beds and banks in the hilly regions resulting in the deepening and widening of rivers. The bank line of the River Kapilli is extremely unstable consisting mostly of fine sands and silts. Large scale slumping of river banks takes place when the level falls after a flood. Erosion, therefore, has become a serious problem in Raikata Islampur, Chandanpur, Kumurakata area of the Hojai Revenue Circle as it eroded the valuable land.

10.5 WATER-LOGGING IN HOJAI:

The plain areas of the Hojai district suffer from the inundation caused by spilling of the River Kapili and Dimaru. In some areas of the district, this has been an annual phenomenon and the water logging continues for many months each year.

10.5 SEASONAL HAZARD ANALYSIS:

Table-59

[illegible]

10.6 DEPARTMENT OF DISASTER MANAGEMENT, HOJAI VULNERABILITY (RISK AND HAZARDS ANALYSIS):**Table:60**

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

Source:-District Disaster Management Plan, DDMA

10.7 INFRASTRUCTURE VULNERABILITY AGAINST HAZARDS:**Table:-61**

Vulnerability	Flood		Accident		Fire	
	Population	Area	Population	Area	Population	Area
Road network	15, 00,000 appx.	Total 2800 sq k.m All the Revenue Circle of Hojai & Nagaon District	6, 25,000 appx.	Municipal Areas, N.H, S.H, Roads	---	---
Water Supply	15, 00,000 appx.	Total 2800 sq k.m All the Revenue Circle of Hojai & Nagaon District	----	----	----	---
Hospital	50,000 appx.	All Development block areas of Hojai & Nagaon District	----	----	1500 appx.	
Food stocks & Supplies	15, 00,000 appx.	Total 2800 sq. km All the Revenue District of Hojai & Nagaon District	----	----	15,00,000	Total 2800 sq. All the Revenue Circle of Hojai
Communication (system)	15, 00,000 appx.	Total 2800 sq. km Hojai & Nagaon District	---	----	----	----
Embankments	15,00,000 appx	Total 2800 sq. km All the Revenue Circle of Hojai & Nagaon	----	----	----	----
Bridges	15,00,000 appx	Total 2800 sq. km All the Revenue Circle of Hojai & Nagaon District				

Source:-District Disaster Management Plan, DDMA

10.8 MITIGATION PLAN:

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

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

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

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

10.9 PREVENTION:

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

= The public work department should monitor the major water bodies like river, streams lakes for constant flow of water, rising level and identify potential areas along the water bodies which need additional embankment or revetments, and these works should be implemented on priority before the onset of the season.

= Power and communication should carry out through inspection of power lines, communication lines for defects and rectify them. Trees and branches which may damage power and communication lines should be trimmed or removed.

=Health department should ensure the primary and community health centers are equipped with medicines and medical staff. Preventive vaccines for epidemics should be stocked in adequate quantity. Chlorination of drinking water should be ensured to avoid the outbreak of epidemics in the event of cyclones and floods.

= The department of disaster management is the nodal agency in the Nagaon region and has already handled several flood and cyclone situation in the region. From this experience, it should be able to identify the low lying and vulnerable areas and the population of such places must be warned to be alert and to be ready to safer areas or to the relief camps in case of warning disaster.

- = The department of civil supplies & consumer affairs should decide for creation of buffer stock of food grains by making required withdrawal from the food corporation of India. Also, adequate quantities of kerosene and diesel should be procured and made available through the fair price shops.
- =Department of Agriculture should take steps to publicize precautionary measures to be taken to save the standing crops in the vulnerable areas. Farmers should be encouraged to have platforms in their fields to stock the crops. De-silting of the public and private irrigation canals should be ensured for quick drainage of paddy fields.
- =Fisheries Department shall alert all the people residing on river bank villages and hamlets about the impending natural calamities and advise the fisherman not to venture into sea till normalcy is restored.
- =Department of School education shall keep all schools ready for accommodating the evacuees and keep the central kitchens to function around the clock with in charge of the centers. NCC and NSS students shall also be grouped to send them for relief works.
- =Department of Animal Husbandry should store fodder, cattle feed, and poultry food etc. and also carries out the inoculation of animals against epidemics. The Key village units should harbor stray cattle with shelters.
- =Transport Department should keep ready the list of sufficient numbers of earthmoving vehicles, transportation vehicles such as trucks, tractors, tippers, proclams, mini buses etc. Further, all the listed vehicle allocated in connection with calamity has to be kept in roadworthy condition for using them in emergency.
- =Local Urban Bodies/Municipal Board shall make rearrangement for availability of Generators and pump sets at short notice. For areas with water logging and artificial flood local bodies should clear the L & U type drained which normally clog due to plastic materials and silt.
- =Police department shall set up a Search & Rescue Team which shall contain at least 20 police personal for each jurisdiction of the superintendent of police.
- =Similarly, the fire services department shall set up search & Rescue Team consisting of at least 6 members of each fire station.

10.9.1 MITIGATION AND PREPAREDNESS:

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

The first objective of the preparedness is to reduce the disaster impact through appropriate actions and improve the capacity of those who are likely to be improving the capacity of those who are likely to be affected most. The second is to ensure that ongoing development continues to improve the capacities and capabilities of the system to strengthen preparedness efforts at community level. Finally, it guides reconstruction so as to ensure reduction in vulnerability. The best example of preparedness activities are the development of community awareness and sanitization system through community education and administrative preparedness by way of stockpiling of supplies, developing emergency plans for rescue and relief. For successful mitigation plan it is necessary to identify short- medium-long term mitigation measures risks and damages.

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

=Restore communication networks

=The task force in association with reach and rescue teams of police and fire should thoroughly search the affected area for survivors and injured.

=In case of heavy flooding and inundation, vehicular access may be restricted and hence suitable rafts/boats should be used to rescue and evacuate the people affected by the floods

=Water logging in low lying residential areas should be pumped out and the pump out water could be let out through the nearest natural drain or canal. Also fire engines can be deployed to pump out water from affected areas during emergencies.

=Any breach in rivers, streams or natural drains should be protected with adequate sand bags or creation of temporary embankments to avoid further damage to property and human life

=In case of heavy storms, power supply to areas which are in the primary path of the storm can be disconnected to avoid hazards due to breakage of power lines. Provisions should be made to provide generators for temporary power supply to storm affected areas.

=Relief camps should be opened in appropriate location where a large number of people are affected.

Table 62:- Mitigation

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

Source:-District Disaster Management Plan, DDMA, Nagaon

10.9.2RESPONSE PLAN:

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

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

10.9.3 AIM OF DISASTER RESPONSE:

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

10.10 RELIEF:

10.10.1 DURING THE DISASTER

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

10.10.2 CITY DISASTER MANAGEMENT PLAN:

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

- =Risk & Hazard Assessment
- =Planning

- =Organization
- =Resource Utilization
- =Need for Specialist
- =Training

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

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

