

Payra-Kuakata Comprehensive Plan Focusing on Eco-Tourism

Kalapara Rural Area Plan: 2021-2031

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বাংলাদেশ



গেজেট

অতিরিক্ত সংখ্যা
কর্তৃপক্ষ কর্তৃক প্রকাশিত

বৃহস্পতিবার, আগস্ট ২৯, ২০২৪

গণপ্রজাতন্ত্রী বাংলাদেশ সরকার
গৃহায়ন ও গণপূর্ত মন্ত্রণালয়
পরিকল্পনা শাখা-৩

প্রজ্ঞাপন

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(২৪৪৫১)

মূল্য : টাকা ৪.০০

বিশেষ দৃষ্টব্যঃ অনুমোদিত প্ল্যানসমূহ নগর উন্নয়ন অধিদপ্তরের প্রধান কার্যালয়, বরিশাল আঞ্চলিক অফিস, বরগুনা ও পটুয়াখালী জেলার জেলা প্রশাসকের কার্যালয় এবং সংশ্লিষ্ট উপজেলা ও পৌরসভা কার্যালয়ে জনসাধারণের পরিদর্শনের সুবিধার্থে সংরক্ষিত থাকিবে।

রাষ্ট্রপতির আদেশক্রমে

মোহাম্মদ খাদেমুর রহমান
সহকারী সচিব।

Executive Summary

The development of the Rural Area Plan for Kalapara Upazila has been influenced by the policies, strategies, and planning standards outlined in the Structure Plan. Twelve unions of the Kalapara Upazila were taken into account when creating the rural area plan. The local government at the Upazila level has no prior experience putting such plans that integrate rural areas into action. There is no comparable expertise with carrying out physical designs at the rural level. This project's plan preparation will be their first opportunity to put physical plans into action at the Kalapara Upazila union level.

Rural Area Plan aims to guide the physical development of Kalapara Upazila including all the economic and social activities. Considering the local people demand from the PRA and based on the planning standards, about 217 acres of land has been proposed for educational facilities purpose, about 73.66 acres of land has been proposed for commercial activities purpose, about 8.23 acres of land has been proposed for health facilities purpose, about 1408.13 acres of land has been proposed for open space and recreational facilities purpose, about 236.98 acres of land has been proposed for community facilities purpose, about 1042.67 acres of land has been proposed for Transportation and Communication purpose, about 29498.74 acres of land has been proposed for Rural Settlement purpose.

It should be remembered that this development plan serves as a methodical blueprint for growth development and management. Authorities, responsibilities, and the extent of planned development in each Upazila Parishad and Union Parishad region are specified by the current Local Government Acts. Legal obligations and opportunities for coordinating development within the Upazila exist for the Upazila Parishad.

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CHAPTER- 1: INTRODUCTION

1.1 Introduction

Rural Area Plan is prepared as per the Terms of Reference (TOR) of the project. The policies, strategies, and planning standards adopted in the Structure Plan have guided the process of preparing the Rural Area Plan for Kalapara Upazila.

1.2 Background of Rural Area Plan

The process of raising the standard of living and economic security of rural residents is known as rural development. Rural Area Plan, which addresses the development of rural areas within the project area, offers a long-term strategy for 10 years. The People's Republic of Bangladesh's Prime Minister emphasizes the importance of providing all metropolitan amenities for rural residents in order to improve their quality of life. In order to realize the "Amar Gram-Amar Shohar" vision, the government must provide rural residents with access to urban amenities such as electricity, increased trade and business, development of all forms of communication, planned housing and sewage systems, clean drinking water, healthcare facilities, and internet and technology-based communication. This chapter discusses the current land use scenario, projected land requirements for the rural area plan, a list of the most pressing issues discovered during the rural sector PRA, and suggested facilities for the rural area.

1.3 Objectives of Rural Area Plan

Rural Area Plan will be a statutory guide and control for development of the six unions of Kalapara Upazila. This plan is prepared on mauza map with sectoral development proposals. The Rural Area Plan is aimed to determine the present and future functional structure of the rural area, including land use and provide infrastructure proposals for improving and guiding development of rural area of Kalapara Upazila. The objectives of the plan will be attained through orderly location of rural land uses and location of different services and facilities.

1.4 Area Coverage under Rural Area Plan

Administration of Kalapara thana was formed in 1906 and it was turned into an upazila in 1983. Kalapara Upazila (patuakhali district) area 492.102 sq km (National Web Portal), located in between 21° 59.156' and 21° 48.937' north latitudes and in between 90° 13.633'

and 90° 7.288' east longitudes. It is bounded by amtali upazila on the north, Bay of Bengal on the south, Rabnabad Channel and galachipa upazila on the east, Taltoli upazila on the west.

Kalapara Upazila is divided into Kalapara Municipality, Kuakata Municipality, and 12 union parishads: Baliatali, Chakamaia, Champapur, Dalbugonj, Dhankhali, Dulaser, Lalua, Latachapli, Mahipur, Mihagonj, Nilgonj, and Tiakhali. The union parishads are subdivided into 58 mauzas and 239 villages.

Table- 1: Union-wise Area of Kalapara Upazila

Union	Area(Acre)	SQKM
Baliatali Union	11050.11	44.72
Chakamaiya Union	9022.26	36.51
Champapur Union	8139.92	32.94
Dalbuganj Union	6585.07	26.65
Dhankhali Union	7174.90	29.04
Dhulasar Union	12057.49	48.79
Kalapara Paurashava	1055.03	4.27
Kuakata Paurashava	2372.08	9.60
Lalua Union	13469.93	54.51
Lata Chapli Union	12052.03	48.77
Mithaganj Union	7514.48	30.41
Mohipur Union	8084.99	32.72
Nilganj Union	14686.15	59.43
Tiakhali Union	7766.17	31.43
Grand Total	121030.61	489.79

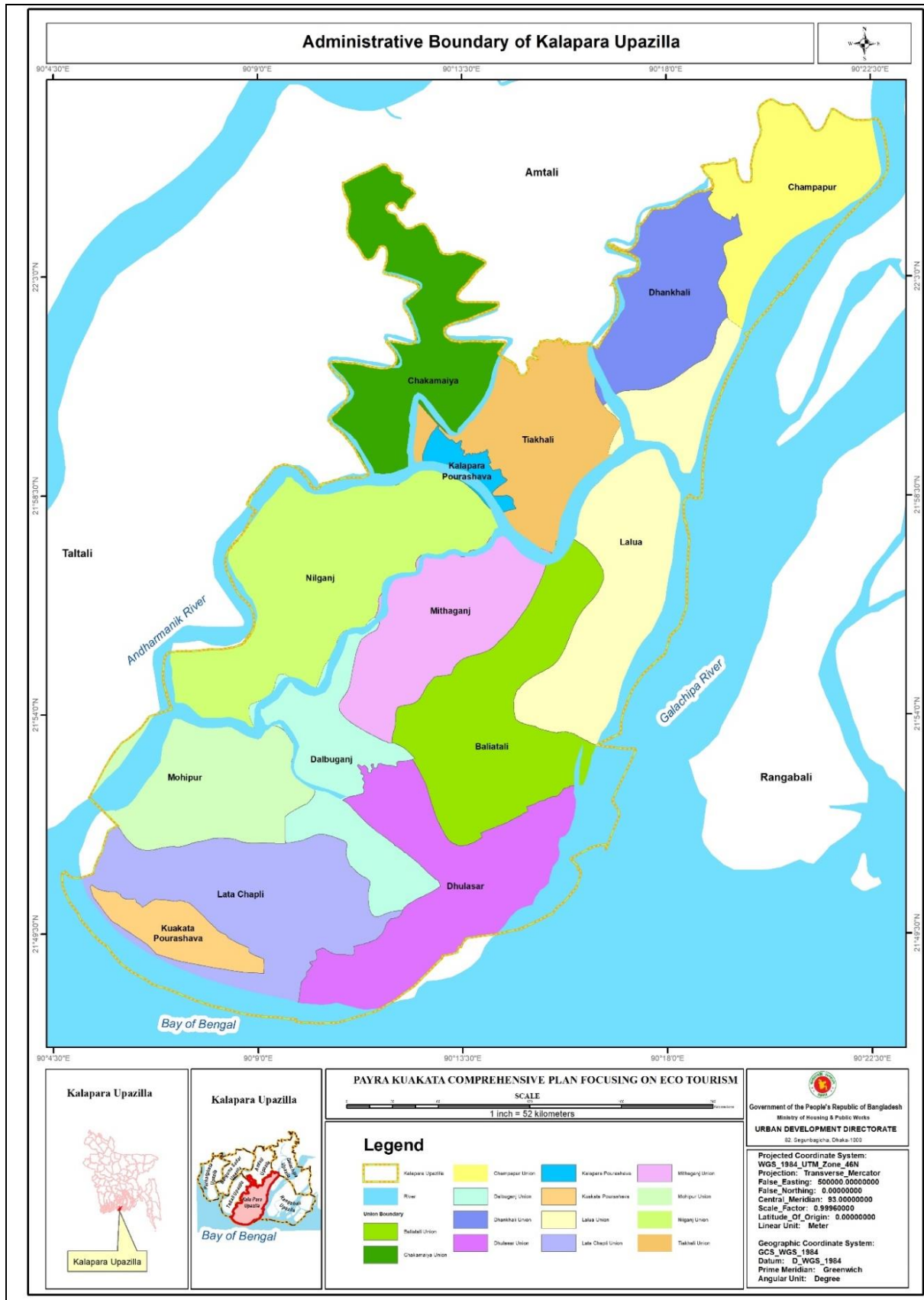


Figure 1: Administrative of Kalapara Upazila

CHAPTER- 2: EXISTING LANDUSE SCENERIO

2.1 Introduction

The current chapter of the report is about Rural Area Plan covering its development plan proposals. This chapter also describes the existing land use scenario; list of major problems compiled from rural PRA, functional hierarchy of different unions of rural area, future land requirement for different facilities, and proposed facilities for rural area of Kalapara Upazila.

2.2 Existing Land Use Pattern

Except for the core area of paurashava, topographically, Kalapara Upazila is mainly rural in nature. Some Unions are mainly containing urban characteristics. But in recent years, communication development has already impacted the growth and expansion of activities within the paurashava. The existing land use of the Upazila shows that 48.34 percent of the land is used for agricultural activity, and other mentionable land-use area are: 21.76 percent Waterbody, 12.01 percent residential, 1.03 percent vacant land and 2.45 percent forest area. Table 18 illustrates existing landuse statistics in detail.

Table- 2: Existing Landuse of Kalapara Upazila

Existing Land Use	Area(Acre)	%
Administrative/ Public Service	2288.35	1.92
Agriculture	57655.77	48.34
Beach	137.2922	0.12
Commercial	103.5752	0.09
Community Service	285.9909	0.24
Education and Research	243.4593	0.20
Forest	2915.962	2.45
Health Service	12.81998	0.01
Manufacturing and Processing	3837.568	3.22
Mixed Use	73.82675	0.06
Open Space and Recreational	1997.444	1.67
Residential	14325.26	12.01
Road	1514.031	1.27
Service Activity	132.7905	0.11
Transportation and Communication	6199.28	5.20
Vacant Land	1233.737	1.03
Vegetation	354.3578	0.30
Waterbody	25949.07	21.76
Grand Total	119260.6	100.00

Source: PKCP project, UDD, 2018

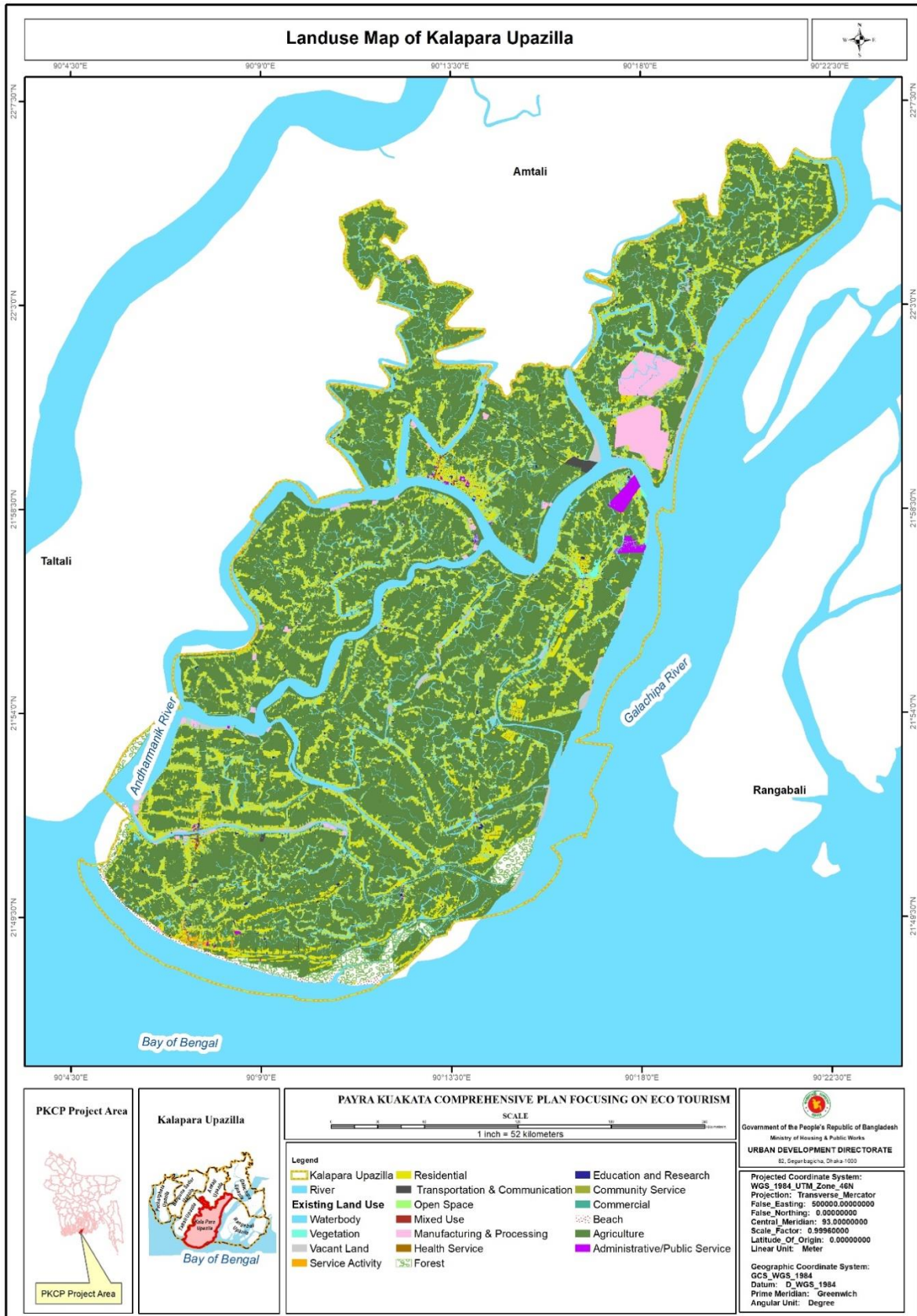


Figure 2: Existing land use
Source: PKCP project, UDD, 2018

CHAPTER- 3: TRANSPORTATION AND TRAFFIC MANAGEMENT GUIDELINES

3.1 Introduction

This section of the Rural Area Plan (RAP) intends to set out some guidelines for the transport sector development and its relevant institutional setup. The major areas of concern are network and infrastructure, traffic regulations, services, and institutional aspect. Also, different instructions are grouped under individual guidance notes on different topics.

The critical question here is how far the scenario of the future can be predicted with some level of accuracy. Specially, in a sector like transport that is heavily dependent upon technology, the underlying assumptions can shift quickly that can turn much of the decisions invalid.

3.2 Existing Conditions of Transportation Facilities

A comprehensive transportation study is undertaken to investigate the existing transportation infrastructure, transportation modes and modal share scenario of Kalapara Upazila and to estimate the anticipated transportation needs of the town up to the year 2031. Accordingly, the transportation study is conducted to determine the present travel patterns and the characteristics of existing transportation facilities to forecast the future travel demand and develop a transportation guidelines. Traffic volume survey has been conducted to find out the scenario of average daily traffic, peak hour traffic and off-peak hour traffic. Origin-Destination survey has been carried out to know the pattern of traffic generation, traffic distribution, traffic modes and traffic costing, travel behavior etc. Growth center survey has been conducted at 18 points on Upazila to determine the traffic congestion factors and conditions. Stakeholder interview has been accomplished to understand the traffic conditions in this area and find out the potential decisions to solve traffic problems.

3.3 Existing Road Network

From the transportation survey and public consultation in the PRA session, it is unveiled that congestion is caused by on-street parking, a narrow road network, and a lack of parking. Local people also emphasized how ferry crossings add a significant amount of time to travel. Land use, environmental quality, economic growth and viability and achieving lifestyle

objectives are obvious factors that must be considered in evolving a comprehensive plan. However, there are subtler factors that will have a bearing on the outcome of these comprehensive transportation studies. The condition of existing internal connecting roads is very bad. Traffic congestion occurs during the rainy season and flooding as roads go underwater and become muddy. None availability of parking facilities for vehicles, lack of public transport facilities, insufficient numbers of ghats and auto stand, lack of access to Rivers and Canals that are not properly dredged and narrow roads are major critical issues in the transport sector.

In Kalapara Upazila, considering road length, it is found that the majority of the roads are tertiary category (Table 4) which area mainly Katcha road with narrow road width and bumpy surface. Primary roads directly connect this Upazila with Amtali Upazila.

Table 1: Road category of Kalapara Upazila

Road Class	Length in Km	%
Path	1022.51	40.32
Primary	30.02	1.18
Secondary	249.39	9.83
Tertiary	1233.66	48.65
Grand Total	2535.58	100.00

Source: PKCP project, UDD, 2018

From Physical feature survey, it is found that according to road type around 76.44% of Roads are katcha in Kalapara upazila and also the total length of katcha roads are longer than others. In Kalapara Upazila, only 15.37% of roads are pucca.

Table 2: Road type based on construction material of roads

Road Type	Length in Km	%
HBB	217.65	8.58
Katcha	1938.12	76.44
Pucca	389.81	15.37
Grand Total	2535.58	100.00

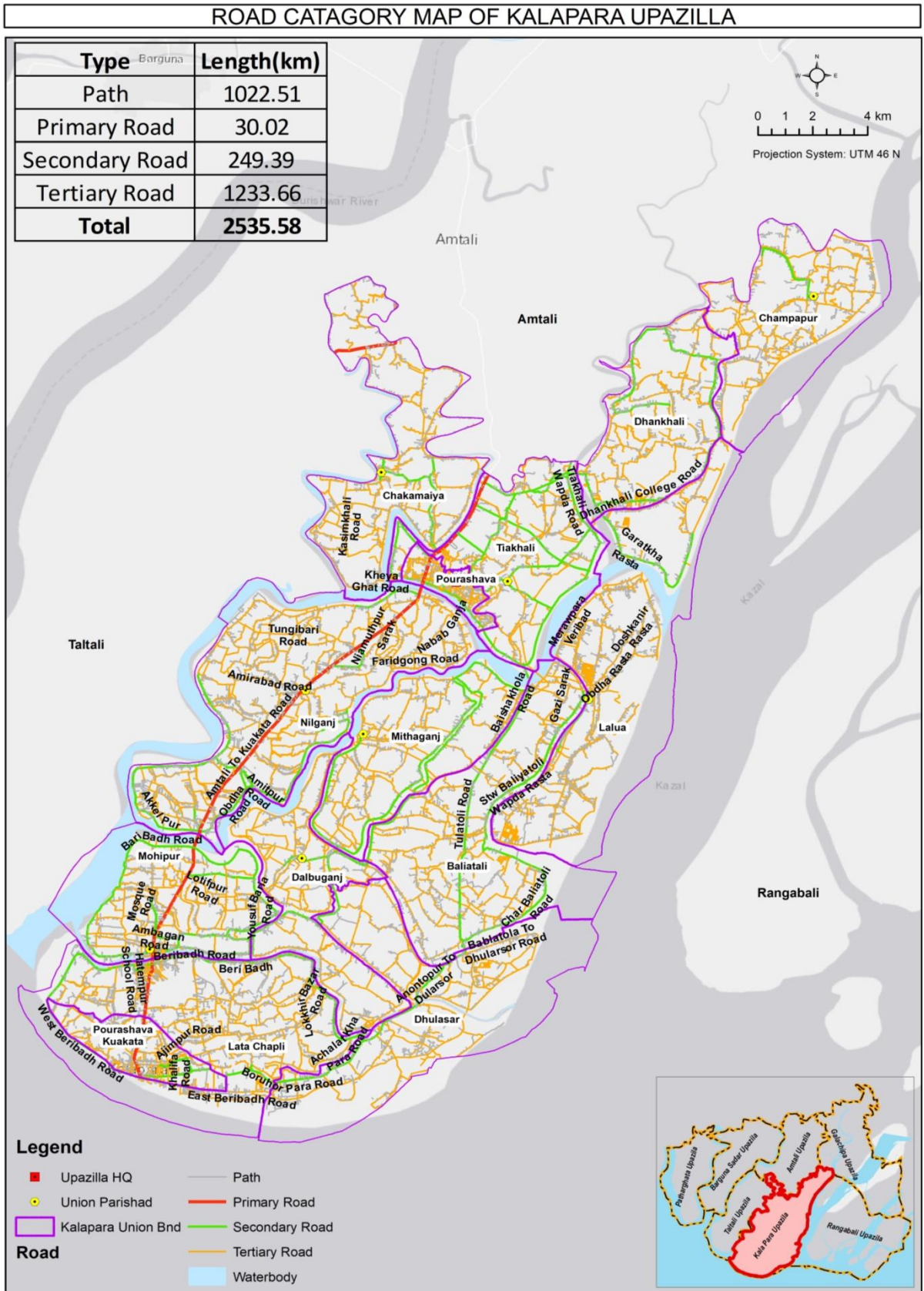


Figure 3: Transportation and communication network of Kalapara Upazilla
 Source: PKCP project, UDD, 2018

3.4 Existing Waterways

Water transport network of Kalapara Upazila has importance in carrying both people and goods. Boat, trawler and launch are used for carrying both passenger and commodity frequently.

3.5 Others Transportation System

Due to its natural beauty of sea beach and Pyra port development; there is also needed rail way in this Upazilla.

3.6 Transportation Development Plan

3.6.1 Future Projections and Travel Demand Forecasting

With the increase of population, demand on travel will be increase with the time. Estimating the demand for transportation facilities and services is one of the most important analysis tasks in transportation planning. The demand includes not only passenger travel but also the movement of goods. Whether conducting a regional transportation planning study or examining the impacts of transportation of a new development site, estimating expected travel demand at some future date is critical point of departure for transportation planning.

According to Transportation survey, The project area is enriched with the water network and people feel comfortable and reliable in water transport so people use water transport for travel even in long distance directly.

3.6.2 Road Network Plan

Kalapara is a small town with a very low volume of internal and external traffic movement. Considering traffic volume and discussion with Paurashava authority and PRA, consultants have established a road hierarchy based on the functional area within the Paurashava as well as the internal and external linkage. Existing Access roads will be connected with Tertiary and Secondary roads for better mobility. Following table shows the standard of future development of road network.

Table- 3: Standard for Future Development of the Road Network of Kalapara Paurashava

Landuse Category	Road Classification	Right of Way (RoW)
Circulation Network	Primary Road	80-100 feet
	Secondary Road	60 feet
	Tertiary Road	40 feet
	Access Road	12-20 feet

Table- 4: Proposed Road Network

Road Category	Length	%
Primary Road	80.07	28.72
Secondary Road	198.71	71.27
Total	278.78	100

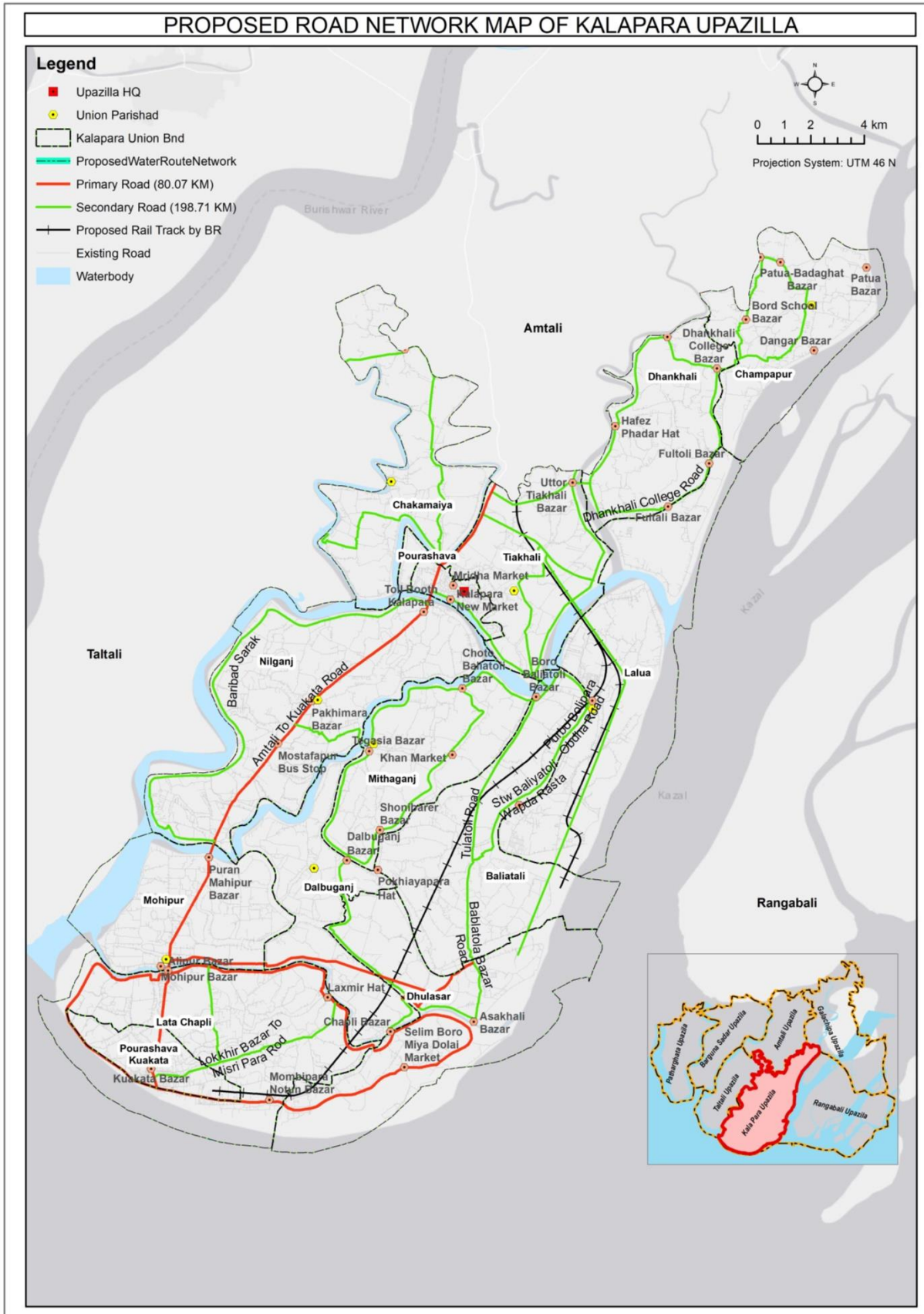


Figure 4: Proposed Road Network

CHAPTER- 4: DRAINAGE AND ENVIRONMENTAL MANAGEMENT GUIDELINES

This chapter states about existing conditions, Sub-basin catchment area analysis and methodology of Drainage Development Plan. A brief inventory of the existing drainage system of Kalapara has been made. While assessing the drainage conditions, the serviceability, structural conditions, obstruction, siltation, blockages are taken into consideration. And finally describe the drainage and environmental management plan, and its implementation strategies.

4.1 Existing Drainage Network

4.1.1 Man-Made Drainage Network

There has only 100.25 km of drainage network at Kalapara Upazilla.

4.1.2 Natural Canal & River

Table 7 represents the present scenario of existing waterbody of Kalapara Upazila. There is existence of canal, ditch, fish pond, pond and river. Majority of water bodies of this upazila are river which is 37.72%.

Table- 5: Existing Waterbody of Kalapara Upazila

Waterbody	SQKM	Percentage
Borrow Pit	0.17	0.21
Canal	22.67	28.56
Ditch	3.95	4.98
Fish Pond	18.18	22.90
Lake	0.09	0.11
Pond	4.27	5.38
River	29.94	37.72
Tank (Dighi)	0.10	0.13
Total	79.38	100

Source: PKCP project, UDD, 2018

There are linkages between natural and man-made drains. But how much effective and active the linkage is with the poorly maintained man-made drains is a question. Almost half of the depth of the man-made drain is filled with solid waste; as a result, the channel is not functioning properly.

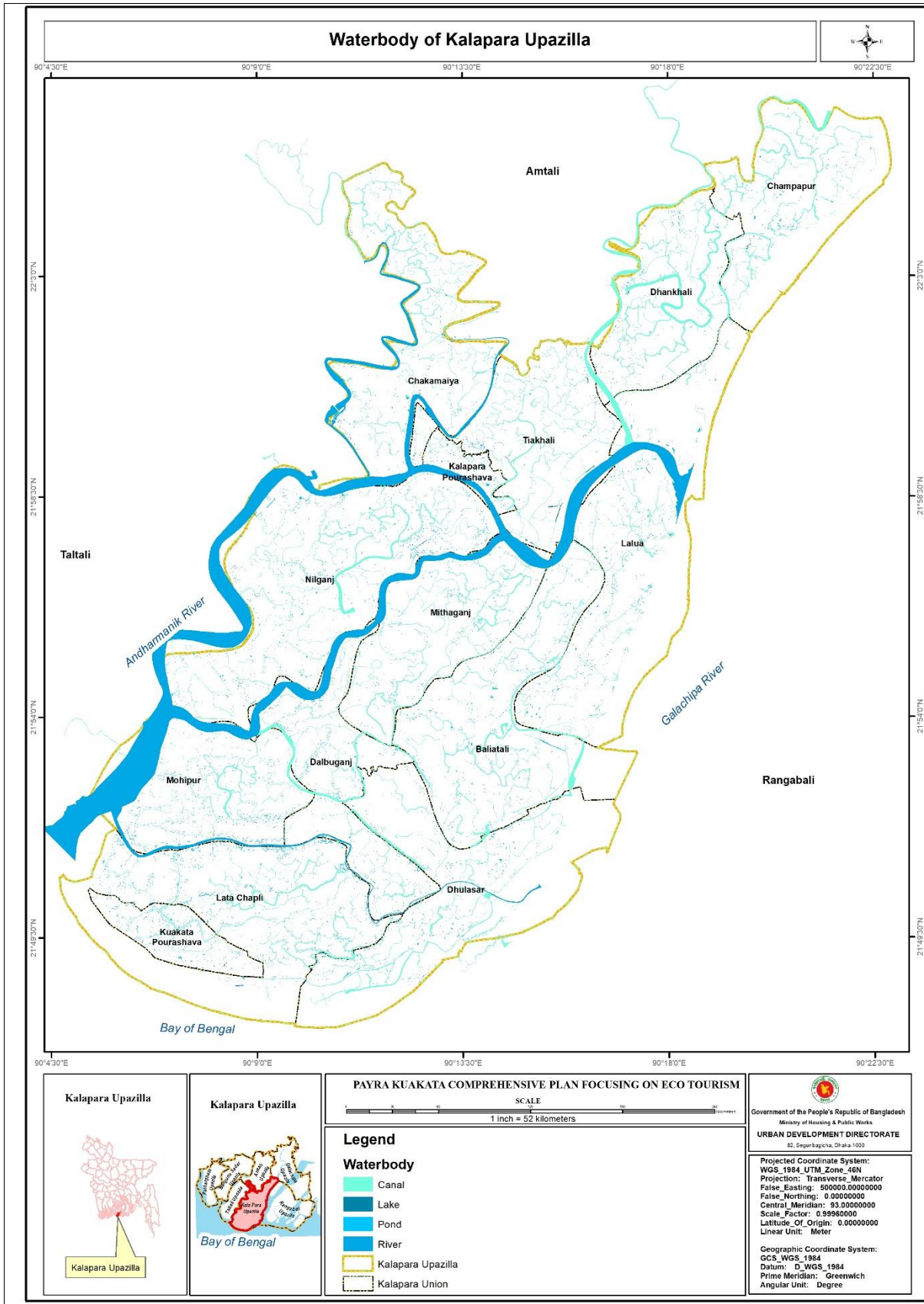


Figure 5: Existing Waterbody Type in the Upazila

CHAPTER- 5: RURAL AREA PLAN

5.1 Introduction

This chapter contains Rural Area Plan of each individual Union. First, the issues prevailing in different Unions have been briefly described followed by description of Development Proposals in Rural Area Plan for each Union.

5.2 Background

The Rural Area Plans are prepared under the framework of Structure Plan and Regional Plan. The Rural Area Plans contain details of development proposals at Union level including the problems and opportunities existing therein and also include the proposals made in the upper level plan that is in the Rural Area Plan. The Rural Area Plans have been formulated for execution within a period of 10 years.

Rural Area Plan is a vital part of the current plan package as far as Strategic development and development control is concerned. Absence of Rural Area Plan not only hampers undertaking of development projects by planning authority, but also leads to uncontrolled and unwanted Strategic development in the private sector. Land use zoning is also provided in the Rural Area Plan to enable detailed view of proposed land use and development.

5.3 Land Use Categories in the Rural Area Plan

The Rural Area Plan (RAP) is prepared with a number of detailed land use categories to guide the implementation of the Rural Area Plan in a planned manner. Separate land use categories are considered for the rural area of Kalapara Upazila. The land use categories considered for the Rural Area Plan of Kalapara Upazila are provided in Table 8.

Table- 6: Land Use Categories Considered for the Rural Area Plan of Kalapara Upazila

Land Use Categories	Description of the Categories
Administrative	Administrative area covers all kinds of government and nongovernment offices in the project area.
Agricultural Area	Agricultural land (also agricultural area) denotes the land suitable for agricultural production, both crops and livestock. It includes land left temporarily fallow; land under permanent crops (e.g., fruit, plantations); areas for natural grasses and grazing of livestock.
Circulation Network	All types of roadways, walkways, railways.
Commercial Area	Commercial areas generally contain one or more of a wide

	variety of uses that includes business uses, offices, hotels, public houses, and limited forms of retailing. Mainly bazar, shopping agglomerations and areas suitable for commercial development have been placed under this category.
Community Facilities	This land use covers all categories of community facilities and establishments like mosque, temple, church, Eidgah, graveyard, community center etc.
Education and Research	Land belonging to educational use includes all categories of educational and training institutions. Educational institute like Medical College, University etc. have been included in this zone.
Forest Area	All kinds of agglomeration of trees and existing forest area
Industrial Area	Processing and manufacturing industries
Health Services	The health service zone includes all existing health service establishments and the areas proposed for health facilities
Mixed Use Area	Mixed Use area will allow residential structures together with commercial uses and other services and facilities
Open Space and Recreation	Open space covers the parks, play fields and the existing open space areas like, forest, park, etc.
Residential Area	Different categories of housing areas have been proposed in the development plan under the categories of residential use. These categories have been made for promotion of housing through private and public initiatives. The residential category includes all areas of future residential development, public housing, hotels and lodging and also the existing housing areas.
Transportation and Communication	Transport facilities like, bus and truck terminals have been included in this zone
Utility Services	Public utilities for various services like, fire service, post office, solid waste transfer station, solid waste disposal center, electric substation, filling station, etc. fall under this category
Water bodies	Khal, irrigation canal and river are treated as water bodies.
Miscellaneous	Miscellaneous

5.4 Rural Area Plan for Baliatali Union

5.4.1 Demography

Baliatali Union is situated on the south east part of the Upazila , west of the Lalua union, east part of the mithaganj union and andharmanik river is on the north part.

Present population of the union is 18294 (2022) and it will 20971 in the year 2031 and 23510 in 2041. Density of population is 409.08 persons per sq. km and it will be 525.72 in the year 2031.

Table- 7: Population Statistics of Baliatali Union

Item	2011	2022	2031	2041
Area (sq. km)	44.72			
Population	16292	18294	20971	23510
Density	364.31	409.08	468.94	525.72

5.4.2 Review of Existing Land Use

Out of total 11050.38 acres of land of this union, more than 1300.01 acres of land i.e. 11.76% is used in residential. The agricultural use with 6292.86 acres, occupies 56.95% of total land, water bodies 20.45%, commercial use 0.09% and Transportation and Communication 8.28%. Only 0.16% of land is used as education facilities.

Table- 8: Existing Landuse category in Baliatali Union

Landuse Category	Area(Acre)	%
Administrative/ Public Service	0.68	0.01
Agriculture	6292.86	56.95
Commercial	10.23	0.09
Community Service	20.89	0.19
Education and Research	17.77	0.16
Health Service	0.28	0.00
Manufacturing and Processing	5.93	0.05
Mixed Use	5.95	0.05
Open Space and Recreational	0.52	0.00
Residential	1300.01	11.76
Road	115.99	1.05
Service Activity	3.76	0.03
Transportation and Communication	914.48	8.28
Vacant Land	57.56	0.52
Vegetation	43.65	0.40
Waterbody	2259.85	20.45
Grand Total	11050.38	100.00

5.4.3 Rural Area Plan Proposals

5.4.3.1 Proposed Land Use Zoning

The category wise proposals are presented here. Table 11 shows the amount of land uses in Baliatali Union. Map shows proposed land use of Baliatali Union.

Table- 9: Proposed Land Uses of Baliatali Union

Landuse Category	Area(Acre)	%
Agriculture	4326.26	39.15
Commercial	2.79	0.03
Community Service	17.06	0.15
Costal Afforestation and Foreshore	246.10	2.23
Economic Region	1397.38	12.65
Education and Research	14.92	0.14
Health Facilities	0.21	0.00
Manufacturing and Processing	1.71	0.02
Open Space and Recreation	0.52	0.00
Rural Settlement	2992.23	27.08
Strategic Service Center: 1st Order	38.30	0.35
Strategic Service Center: 2nd Order	30.04	0.27
Strategic Service Center: 3rd Order	53.33	0.48
Trade and Commerce Center	160.07	1.45
Transportation and Communication	75.87	0.69
Waterbody	1693.31	15.32
Grand Total	11050.11	100

5.4.3.2 Development Proposals for Baliatali Union

The consultant proposes some urban facilities in Baliatali Union. It includes Clinic, Waste Dumping Site, Kitchen market, Boat ghat, Auto/Rickshaw stand etc. Ethnic Community group area will be preserved. The details of the proposal is given in the table below.

Table- 10: Development Proposals for Baliatali Union (Mouza Wise)

Union Name	ID NO	Proposed Landuse	Proposals Name	Area (Acre)	Mouza Name	JL No	Sheet No	Plot No
Baliatali	Hea-33	Health Facilities	Clinic	0.16	Bara Baliatali	30	3	1949,1957,1958
	Rur-34	Rural Settlement	Low Cost Housing Area	1.05	Lemupara	19	5	1879,1881,1882

Com-76	Community Service	Waste Dumping Site	0.158	Lemupara	19	4	1656
				Lemupara	19	3	1197
Rur-39	Rural Settlement	Ethnic Community	4.89	Lemupara	19	3	1042,1044,1043,1051,1186
				Lemupara	19	4	1551,1647,1648
Com-37	Commercial	Kitchen Market	0.82	N/A	N/A	N/A	N/A
Tra-36	Transportation and Communication	Boat Ghat	0.097	N/A	N/A	N/A	N/A
Tra-89	Transportation and Communication	Auto/Rickshaw Stand	0.021415	Chotta Baliatali	18	1	265
Rur-38	Rural Settlement	Ethnic Community	15.34	Chotta Baliatali	18	5	2600,2615,2616,2618,2617,2619,2620,2621,2622,2623,2624,2625,2626,2627,2628,2629,2630,2632,2633,2634,2636,2638,2639,2640,2641,2642,2643,27,25,2726,
				Lemupara	19	2	531,545,546,547,548,551,552,553,554,555,556,557,584,589,590,592,593,594

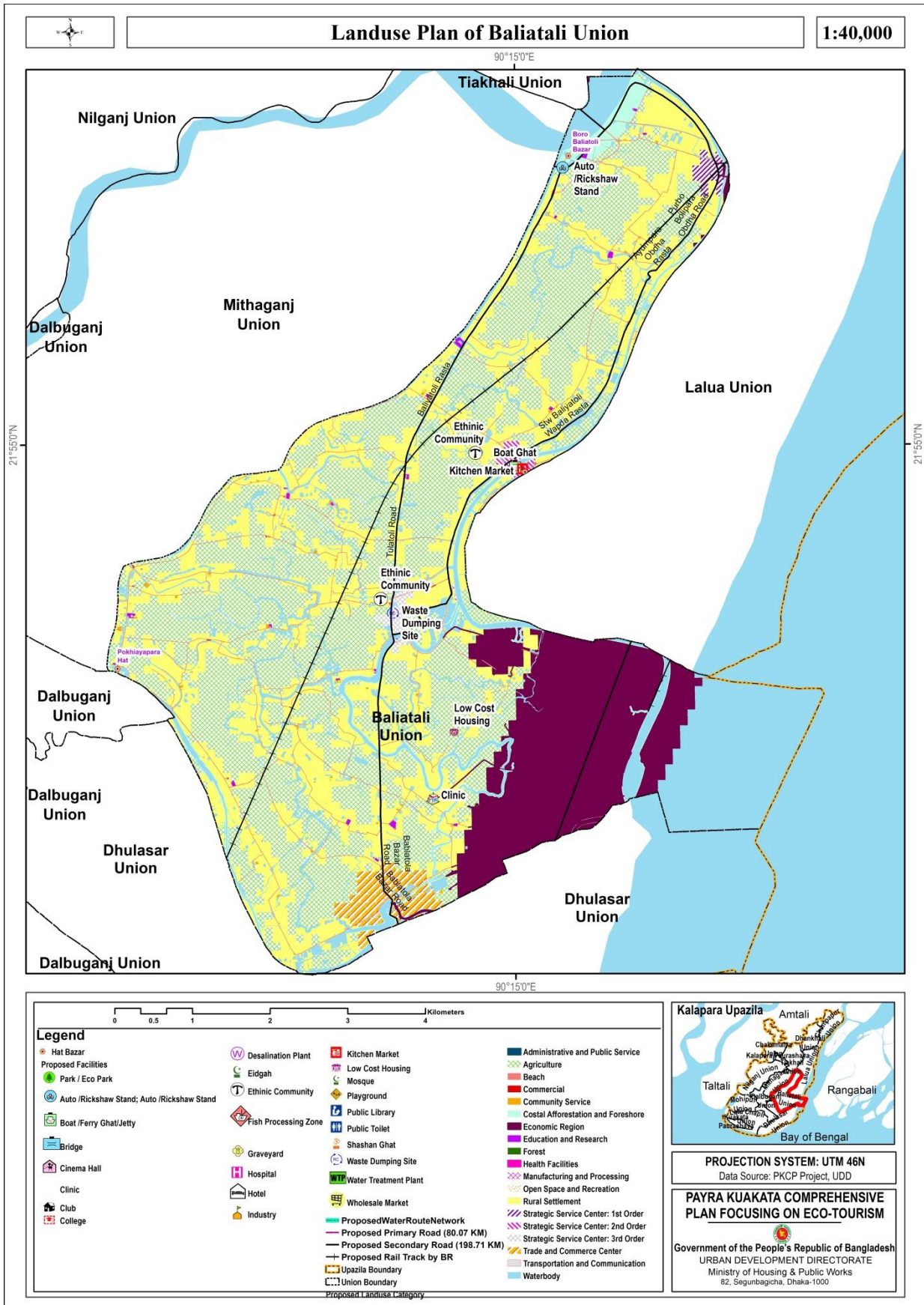


Figure 6: Rural Area Plan for Baliatali Union

5.5 Rural Area Plan for Chakamaiya Union

5.5.1 Demography

Chakamaiya Union is situated on the north part of the Upazila. Its south part is nilganj union and east part of tiakhali union.

Present population of the Union is 18354 (2022) and it will 20738 in the year 2031 and 22857 in 2041. Density of population is 502.71 persons per Sq. km and it will be 606.14 in the year 2031.

Table- 11: Population Statistics of chakamaiya Union

Item	2011	2022	2031	2041
Area (Sq. km)	9022.26			
Population	16472	18354	20738	22857
Density	451.16	502.71	568.01	606.14

5.5.2 Review of Existing Land Use

Out of total 9022.25 acres of land of this union, more than 1205.60 acres of land i.e. 13.36% is used in residential. The agricultural use with 5987.88 acres, occupies 66.37% of total land, water bodies 16.65%, commercial use 0.04%, Forest 0.2% and Transportation and Communication 0.26%. Only 0.01% of land is used as health facilities.

Table- 12: Existing Landuse category in Chakamaiya Union

Landuse Category	Area(Acre)	%
Administrative/ Public Service	0.94	0.01
Agriculture	5987.88	66.37
Commercial	3.59	0.04
Community Service	19.19	0.21
Education and Research	16.83	0.19
Forest	18.26	0.20
Health Service	0.89	0.01
Manufacturing and Processing	20.91	0.23
Mixed Use	3.19	0.04
Open Space and Recreational	0.35	0.00
Residential	1205.60	13.36
Road	103.46	1.15
Service Activity	1.41	0.02
Transportation and Communication	23.13	0.26
Vacant Land	54.81	0.61
Vegetation	60.03	0.67
Waterbody	1501.78	16.65
Grand Total	9022.25	100

5.5.3 Rural Area Plan Proposals

5.5.3.1 Proposed Land Use Zoning

The category wise proposals are presented here. Table 15 shows the amount of land uses in Chalamaiya Union. Map shows proposed land use of Chalamaiya Union.

Table- 13: Proposed Land Uses of Chalamaiya Union

Landuse Category	Area(Acre)	%
Administrative and Public Service	0.35	0.00
Agriculture	3850.28	42.68
Commercial	2.74	0.03
Community Service	16.47	0.18
Costal Afforestation and Foreshore	481.04	5.33
Education and Research	15.94	0.18
Forest	3.10	0.03
Health Facilities	0.17	0.00
Manufacturing and Processing	8.43	0.09
Open Space and Recreation	0.41	0.00
Rural Settlement	3474.89	38.51
Strategic Service Center: 3rd Order	30.81	0.34
Transportation and Communication	60.83	0.67
Waterbody	1076.77	11.93
Grand Total	9022.26	100

5.5.3.2 Development Proposals for Chakamaiya Union

The consultant proposes some urban facilities in Kakchira Union. It includes Desalination Plant, Public Library, Club, Waste Dumping Site, Park / Eco Park, Playground, Auto Stand etc. The details of the proposal is given in the table below.

Table- 14: Development Proposals for Chakamaiya Union (Mouza Wise)

Union Name	ID NO	Proposed Landuse	Proposals Name	Area (Acre)	Mouza Name	JL N o	Sheet No	Plot No
Chakamaiya	Com-27	Community Service	Public Library	0.514	Chakamaiya Nishanbariya	3	4	4382
	Adm-29	Administrative and	Desalination Plant	.35	Anipara	4	2	1671,173 1,1730

	Public Service							
Com-83	Community Service	Waste Dumping Site	.29	Anipara	4	1	353,368,372,529,541,676,729,732	
Ope-26	Open Space and Recreation	Palygroun d	.25	Gamurib unia	2	5	6416,6417	
Tra-90	Transportation and Communication	Auto /Rickshaw Stand	0.1	Chakama iya Nishanba riya	3	5	21387	
Ope-25	Open Space and Recreation	Park / Eco Park	0.1	Chakama iya Nishanba riya	3	4	4874,4880,4873,4881	
Com-30	Community Service	Club	0.05	Chakama iya Nishanba riya	3	4	4328	

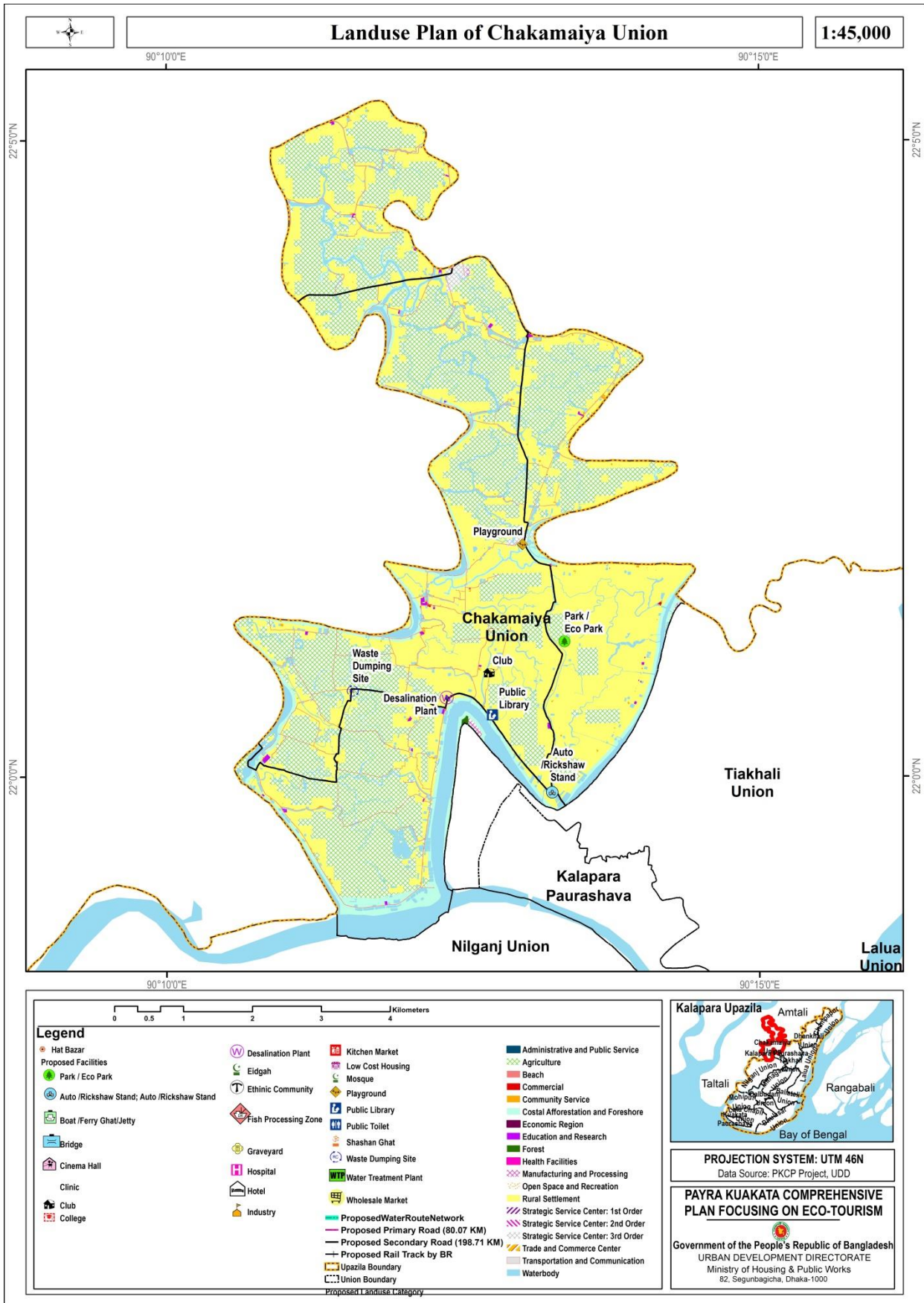


Figure 7: Rural Area Plan for Chakamaiya Union

5.6 Rural Area Plan for Champapur Union

5.6.1 Demography

Champapur Union is situated on the north east part of the Upazila, beside the Galachipa River.

Present population of the Union is 17043 (2022) and it will 20134 in the year 2031 and 22130 in 2041. Density of population is 517.40 persons per sq.km and it will be 671.83 in the year 2031.

Table- 15: Population Statistics of Champapur Union

Item	2011	2022	2031	2041
Area (Sq. km)	8139.92			
Population	15207	17043	20134	22130
Density	461.66	517.40	611.23	671.83

5.6.2 Review of Existing Land Use

Out of total 8139.91 acres of land of this Union, more than 992.14 acres of land i.e. 12.19% is used in residential. The agricultural use with 4145.98 acres, occupies 50.93% of total land, water bodies 29.74%, commercial use 0.03%, Forest 1.26% and Transportation and Communication 0.57%. Only 0.01% of land is used as health facilities.

Table- 16: Existing Landuse category in Champapur Union

Landuse Category	Area(Acre)	%
Administrative/ Public Service	0.18	0.01
Agriculture	4145.98	50.93
Commercial	2.52	0.03
Community Service	18.70	0.23
Education and Research	10.07	0.12
Forest	102.67	1.26
Health Service	0.59	0.01
Manufacturing and Processing	285.91	3.51
Mixed Use	3.51	0.04
Residential	992.14	12.19
Road	77.46	0.95
Service Activity	1.35	0.02
Transportation and Communication	46.63	0.57
Vacant Land	19.61	0.24
Vegetation	11.64	0.14
Waterbody	2420.97	29.74
Grand Total	8139.91	100

5.6.3 Rural Area Plan Proposals

5.6.3.1 Proposed Land Use Zoning

The category wise proposals are presented here. Table 19 shows the amount of land uses in Champapur Union. Map shows proposed land use of Champapur Union.

Table- 17: Proposed Land Uses of Champapur Union

Landuse Category	Area(Acre)	%
Administrative and Public Service	0.56	0.01
Agriculture	2958.93	36.35
Commercial	1.20	0.01
Community Service	17.99	0.22
Costal Afforestation and Foreshore	658.54	8.09
Education and Research	9.45	0.12
Forest	102.67	1.26
Health Facilities	0.53	0.01
Manufacturing and Processing	340.50	4.18
Open Space and Recreation	1.02	0.01
Rural Settlement	1932.78	23.74
Strategic Service Center: 2nd Order	1.22	0.01
Strategic Service Center: 3rd Order	30.72	0.38
Transportation and Communication	56.03	0.69
Waterbody	2027.77	24.91
Grand Total	8139.92	100

5.6.3.2 Development Proposals for Champapur Union

The consultant proposes some urban facilities in Champapur Union. It includes Shasan Ghat,, Public Toilet,Club, Desalination Plant, Auto /Rickshaw Stand, Park/Eco Park ,Water Treatment Plant, Waste Dumping Site etc. The details of the proposal is given in the table below.

Table- 18: Development Proposals for Champapur Union (Mouza Wise)

Union Name	ID NO	Proposed Landuse	Proposals Name	Area (Acre)	Mouza Name	JL No	Sheet No	Plot No
Champa pur	Com-3	Community Service	Public Toilet	0.01	Machu akhali	64	2	1001,1002
	Com-4	Community Service	Shashan Ghat	0.03	Machu akhali	64	2	2518,2523,2524
	Com-2	Community Service	Club	0.09	Machu akhali	64	2	2362,2366
	Adm-54	Administrative and Public Service	Desalinati on Plant	0.56	Binam Katadi ya	66	0	148
	Com-45	Community Service	Water Treatment Plant	1.5	Chalita bunia	14	4	5172,5173
	Com-7	Community Service	Waste Dumping Site	0.1	Chalita bunia	14	2	1998,2001
	Ope-0	Open Space and Recreation	Park / Eco Park	1.02	Debpu r	689	3	1847,1840,1905,
	Tra-1	Transportation and Communication	Auto /Rickshaw Stand	0.15	Chalita bunia	14	2	2331,2330

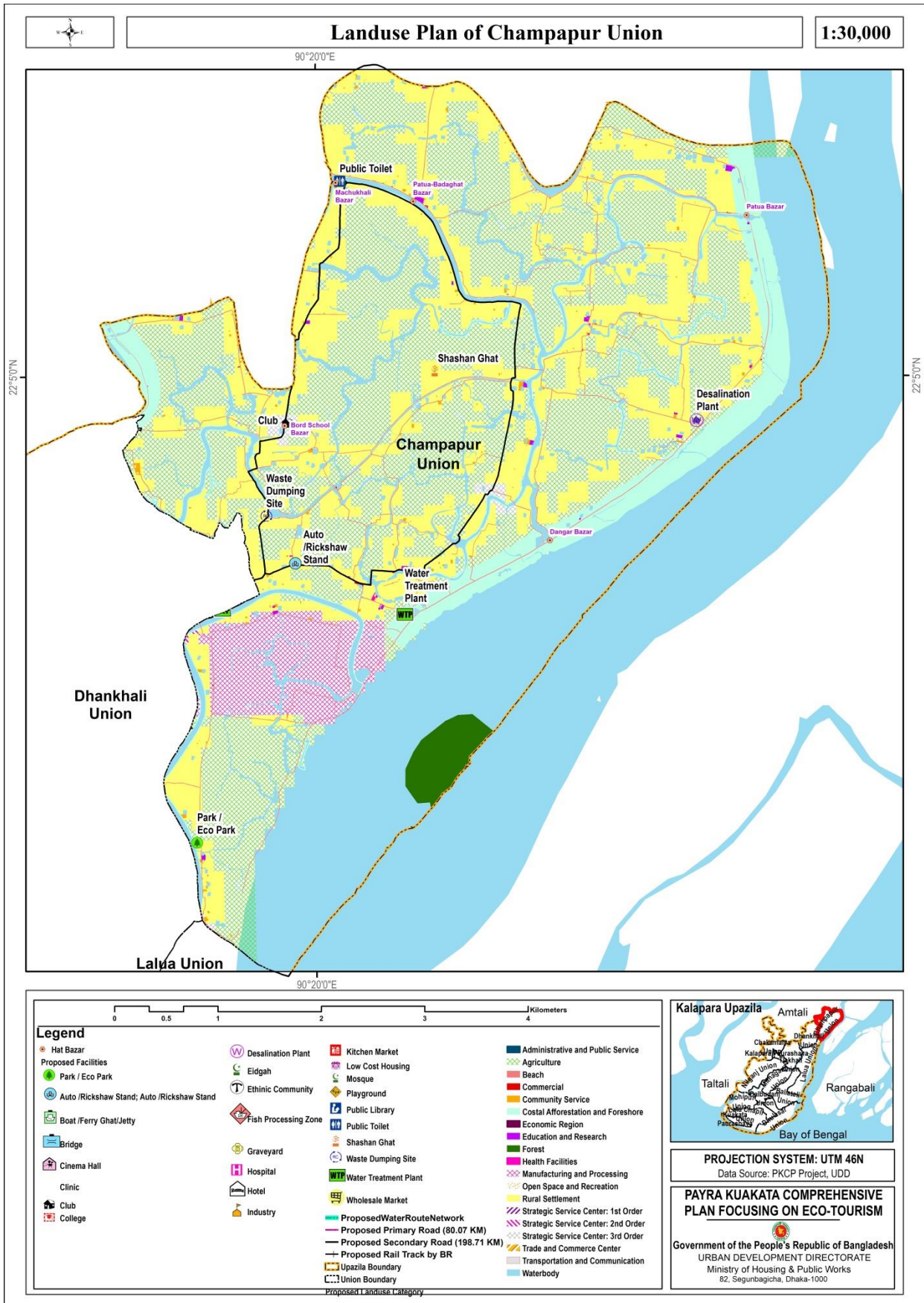


Figure 8: Rural Area Plan for Champapur Union

5.7 Rural Area Plan for Dhalbuganj Union

5.7.1 Demography

Dalbuganj Union is situated on the Middle part of the Upazila and Nilganj Union is on the north, Latachapli Union on the south, mohipur Union is on the west.

Present population of the Union is 12240 (2022) and it will 14001 in the year 2031 and 17779 in 2041. Density of population is 431.86 persons per sqkm and it will be 667.13 in the year 2031.

Table- 19: Population Statistics of Dalbuganj Union

Item	2011	2022	2031	2041
Area (Sq. km)	26.65			
Population	10921	12240	14001	17779
Density	409.79	431.86	525.37	667.13

5.7.2 Review of Existing Land Use

Out of total 6585 acres of land of this union, more than 1018.92 acres of land i.e. 15.47% is used in residential. The agricultural use with 4055.68 acres, occupies 61.59% of total land, water bodies 18.96%, commercial use 0.08%, community services 0.22% and Transportation and Communication 0.68%. Only 0.15% of land is used as education facilities.

Table- 20: Existing Landuse category in Dalbuganj Union

Landuse Category	Area(Acre)	%
Administrative/ Public Service	0.52	0.01
Agriculture	4055.68	61.59
Commercial	5.49	0.08
Community Service	14.49	0.22
Education and Research	9.74	0.15
Health Service	0.21	0.00
Manufacturing and Processing	21.87	0.33
Mixed Use	1.24	0.02
Open Space and Recreational	0.75	0.01
Residential	1018.92	15.47
Road	78.49	1.19
Service Activity	1.22	0.02
Transportation and Communication	44.82	0.68
Vacant Land	56.72	0.86
Vegetation	26.51	0.40
Waterbody	1248.39	18.96
Grand Total	6585.05	100.00

5.7.3 Rural Area Plan Proposals

5.7.3.1 Proposed Land Use Zoning

The category wise proposals are presented here. Table 23 shows the amount of land uses in Dalbuganj Union. Map shows proposed land use of Dalbuganj Union.

Table- 21: Proposed Land Uses of Dalbuganj Union

Landuse Category	Area(Acre)	%
Agriculture	2918.61	44.32
Commercial	6.58	0.10
Community Service	16.43	0.25
Costal Afforestation and Foreshore	655.78	9.96
Education and Research	9.18	0.14
Health Facilities	0.11	0.00
Manufacturing and Processing	30.46	0.46
Open Space and Recreation	1.75	0.03
Rural Settlement	1859.37	28.24
Strategic Service Center: 2nd Order	2.67	0.04
Strategic Service Center: 3rd Order	62.83	0.95
Transportation and Communication	61.03	0.93
Waterbody	960.27	14.58
Grand Total	6585.07	100.00

5.7.3.2 Development Proposals for Dalbuganj Union

The consultant proposes some urban facilities in Dalbuganj Union. It includes Water Treatment Plan, Auto /Rickshaw Stand, Industry, Wholesale Market, Eco Park, etc. The details of the proposal is given in the table below.

Table- 22: Development Proposals for Dalbuganj Union (Mouza Wise)

Union Name	ID NO	Proposed Landuse	Proposals Name	Area (Acre)	Mouza Name	JL No	Sheet No	Plot No
Dalbuganj	Com-46	Community Service	Water Treatment Plant	3.94	Dalbuganj	29	1	36,37,44,45,65,66,67,68,70,72,74,71
	Tra-91	Transportation and Communication	Auto /Rickshaw Stand	0.01	Dalbuganj	29	6	3920

	n						
Com-42	Commercial	Wholesale Market	4.84	Char Chapli	36	4	1001,1002,1004,1005,1176,1592,1007,1009,1010,1008
				Harendrapur Khpurbhanga	33	3	1117,1176,1592
Ope-79	Open Space and Recreation	Park / Eco Park	1.05	Manasatali	28	1	63,64,259
Man-80	Manufacturing and Processing	Industry	15.92	Manasatali	28	1	64,259,253,210,209,203,202,200,199,198,1968
Man-81	Manufacturing and Processing	Industry	9.3	Latachhapli	34	5	1922,1921,1920,1919,1918,1917,1916,1915,1914,1913,1912,1911,1910,1909,1905,1904,1903,1902

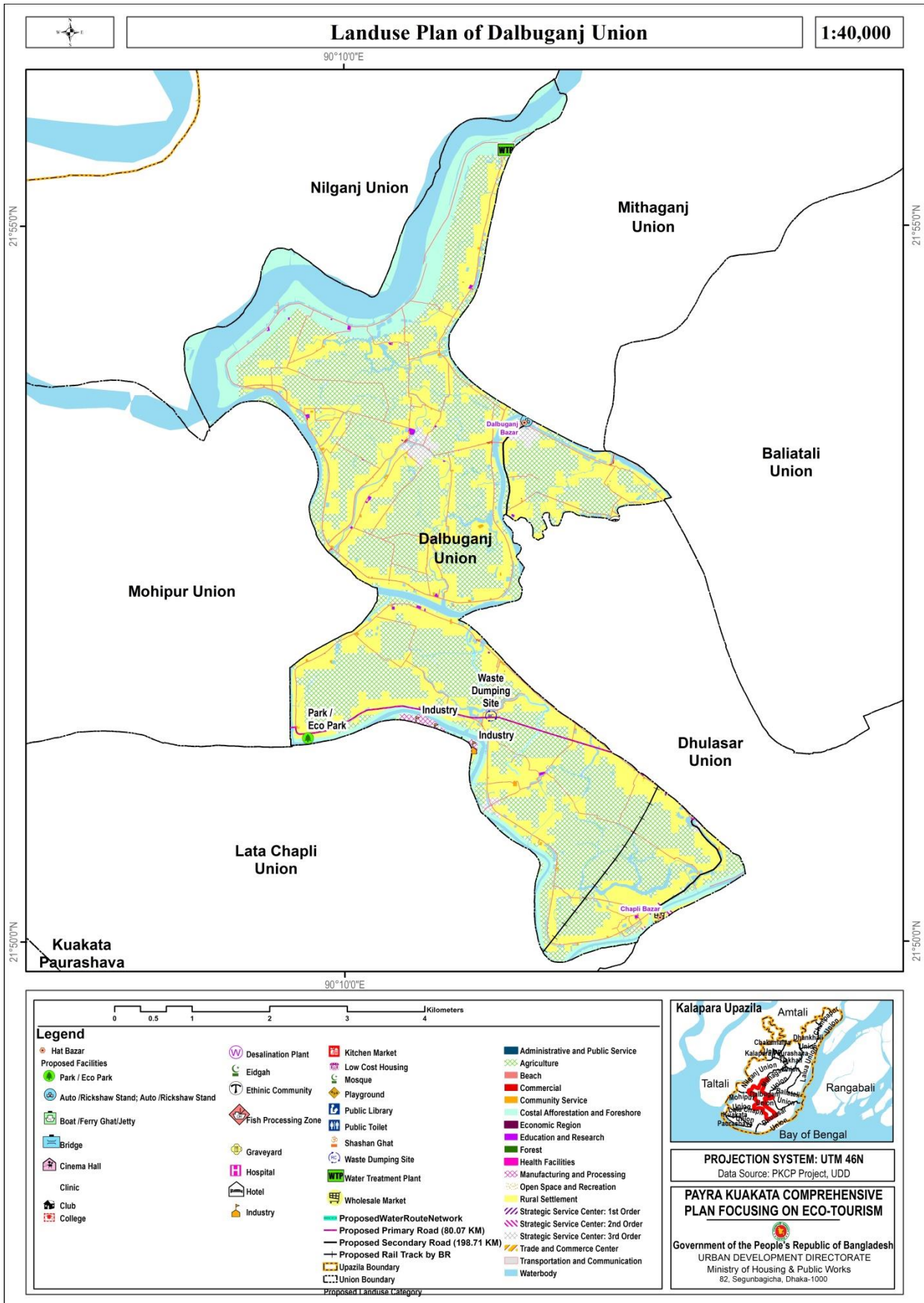


Figure 9: Rural Area Plan for Dalbuganj Union

5.8 Rural Area Plan for Dhankhali Union

5.8.1 Demography

Dhankhali Union is situated on the northwestern part of the Upazila. Its west part is Dhankhali union and its east part is Galachipa River.

Present population of the Union is 29067 (2022) and it will 23948 in the year 2031 and 36280 in 2041. Density of population is 1000.93 persons per sqkm and it will be 1134.57 in the year 2031.

Table- 23: Population Statistics of Dhankhali Union

Item	2011	2022	2031	2041
Area (Sq. km)	29.04			
Population	26073	29067	32948	36280
Density	897.83	1000.93	1134.57	1249.31

5.8.2 Review of Existing Land Use

Out of total 7174.90 acres of land of this Union, more than 776.68 acres of land i.e. 10.83% is used in residential. The agricultural use with 2857.47 acres, occupies 39.83% of total land, water bodies 20.71%, commercial use .13%, Transportation and Communication 0.79%. Only 0.24% of land is used as education facilities.

Table- 24: Existing Landuse category in Dhankhali Union

Landuse Category	Area(Acre)	%
Administrative/ Public Service	1.15	0.02
Agriculture	2857.47	39.83
Commercial	9.14	0.13
Community Service	24.48	0.34
Education and Research	17.03	0.24
Health Service	1.01	0.01
Manufacturing and Processing	1763.84	24.58
Mixed Use	6.51	0.09
Open Space and Recreational	1.04	0.01
Residential	776.68	10.83
Road	82.60	1.15
Service Activity	2.15	0.03
Transportation and Communication	56.49	0.79
Vacant Land	49.61	0.69
Vegetation	40.05	0.56
Waterbody	1485.63	20.71
Grand Total	7174.90	100

5.8.3 Rural Area Plan Proposals

5.8.3.1 Proposed Land Use Zoning

The category wise proposals are presented here. Table 27 shows the amount of land uses in Dhankhali Union. Map shows proposed land use of Dhankhali Union.

Table- 25: Proposed Land Uses of Dhankhali Union

Landuse Category	Area(Acre)	%
Agriculture	1832.99	25.55
Commercial	2.97	0.04
Community Service	19.69	0.27
Costal Afforestation and Foreshore	969.29	13.51
Economic Region	0.67	0.01
Education and Research	16.18	0.23
Health Facilities	0.62	0.01
Manufacturing and Processing	2058.15	28.69
Open Space and Recreation	0.81	0.01
Rural Settlement	1248.75	17.40
Strategic Service Center: 2nd Order	42.20	0.59
Strategic Service Center: 3rd Order	37.05	0.52
Transportation and Communication	63.55	0.89
Waterbody	881.98	12.29
Grand Total	7174.90	100

5.8.3.2 Development Proposals for Dhankhali Union

The consultant proposes some urban facilities in Dhankhali Union. It includes Playground, Eidgah, Waste Dumping Site, Industry, Auto /Rickshaw Stand, Water treatment Plant, Graveyard etc. The details of the proposal is given in the table below.

Table- 26: Development Proposals for Dhankhali Union (Mouza Wise)

Union Name	ID NO	Proposed Landuse	Proposals Name	Area (Acre)	Mouza Name	JL No	Sheet No	Plot No
Dhankhali	Ope-6	Open Space and Recreation	Playground	0.061	Panch Jaina	13	1	52,253,254
	Com-5	Community Service	Eidgah	0.133	Panch Jaina	13	1	72,74

Tra-8	Transportation and Communication	Auto /Rickshaw Stand	0.01	Panch Jaina	13	4	2357
Com-28	Community Service	Water Treatment Plant	0.21	Panch Jaina	13	4	2140,2139,2333
Com-11	Community Service	Graveyard	0.1	Londa	73	4	4986,4995
Com-84	Community Service	Waste Dumping Site	0.31	Londa	73	4	4921,4922,4923,4905
Com-10	Community Service	Eidgah	0.12	Londa	73	4	4697,4694
Man-9	Manufacturing and Processing	Industry	4.46	Londa	73	4	4526,4525,4524,5255

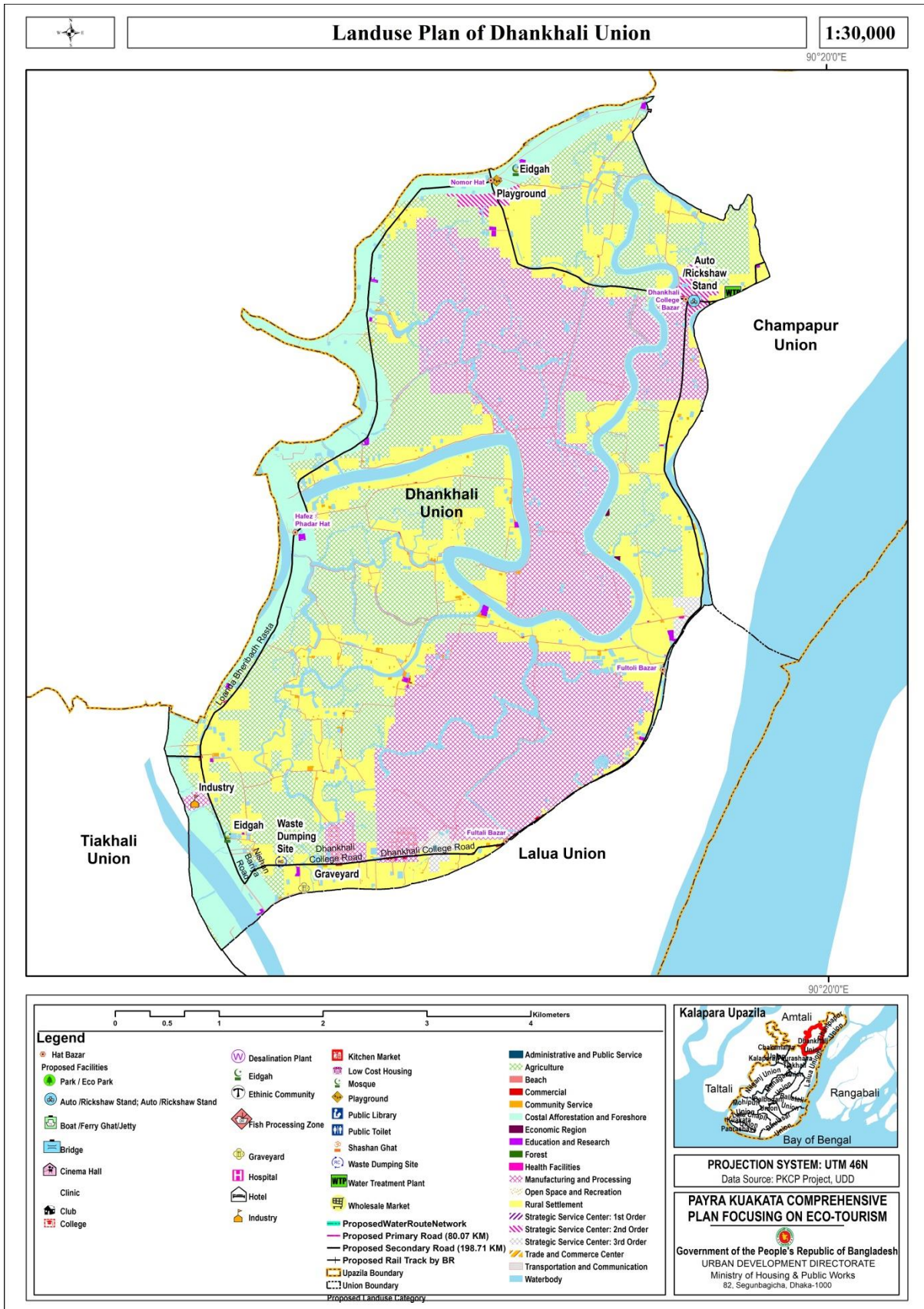


Figure 10: Rural Area Plan for Dhankhali Union

5.9 Rural Area Plan for Dhulasar Union

5.9.1 Demography

Dhulasar Union is situated on the southern part of the Upazila. Baliatali Union is on the north, Bay of Bengal is on the south and Latachapli union is on the West.

Present population of the Union is 19720 (2022) and it will 21231 in the year 2031 and 24063 in 2041. Density of population is 404.18 persons per sqkm and it will be 435.15 in the year 2031.

Table- 27: Population Statistics of Dhulasar Union

Item	2011	2022	2031	2041
Area (Sq. km)	48.79			
Population	18243	19720	21231	24063
Density	373.91	404.18	435.15	493.20

5.9.2 Review of Existing Land Use

Out of total 12057.99 acres of land of this Union, more than 816.86 acres of land i.e. 6.77% is used in residential. The agricultural use with 3470.71 acres, occupies 28.78% of total land, water bodies 24.60%, commercial use 0.13%, forest 14.93% and Transportation and Communication 7.66%. Only 0.16% of land is used as education facilities.

Table- 28: Existing Landuse category in Dhulasar Union

Landuse Category	Area(Acre)	%
Administrative/ Public Service	1.22	0.01
Agriculture	3470.71	28.78
Commercial	5.95	0.05
Community Service	15.16	0.13
Education and Research	18.71	0.16
Forest	1799.81	14.93
Health Service	0.71	0.01
Manufacturing and Processing	1.08	0.01
Mixed Use	2.85	0.02
Open Space and Recreational	1812.41	15.03
Residential	816.86	6.77
Road	99.96	0.83
Service Activity	1.40	0.01
Transportation and Communication	923.49	7.66
Vacant Land	117.85	0.98
Vegetation	3.23	0.03
Waterbody	2966.58	24.60
Grand Total	12057.99	100

5.9.3 Rural Area Plan Proposals

5.9.3.1 Proposed Land Use Zoning

The category wise proposals are presented here. Table 31 shows the amount of land uses in Dhulasar Union. Map shows proposed land use of Dhulasar Union.

Table- 29: Proposed Land Uses of Dhulasar Union

Landuse	Area
Agriculture	1813.86
Commercial	0.33
Community Service	7.55
Costal Afforestation and Foreshore	102.21
Economic Region	1017.79
Education and Research	6.61
Forest	586.57
Health Facilities	0.15
Manufacturing and Processing	0.61
Open Space and Recreation	6.59
Rural Settlement	1059.42
Strategic Service Center: 2nd Order	0.01
Strategic Service Center: 3rd Order	15.49
Trade and Commerce Center	101.31
Transportation and Communication	28.77
Waterbody	1888.99
KTC Area	5421.21
Total	12057.49

5.9.3.2 Development Proposals for Dhulasar Union

The consultant proposes some urban facilities in Dhulasar Union. It includes Waste Dumping Site, Auto /Rickshaw Stand, Wholesale Market, etc. The details of the proposal are given in the table below.

Table- 30: Development Proposals for Dhulasar Union (Mouza Wise)

Union Name	ID NO	Proposed Landuse	Proposals Name	Area (Acre)	Mouza Name	JL No	Sheet No	Plot No
	Com-85	Community Service	Waste Dumping Site	0.12	Char Chapli	36	4	1001

	Tra-92	Transportation and Communication	Auto /Rickshaw Stand	0.01	Char Chapli	36	4	1007
	Com-42	Commercial	Wholesale Market	4.84	Char Chapli	36	4	1001,1002,1004,1005,1176,1592,1007,1009,1010,1008
					Harendrapur Khpurbhangga	33	3	1117,1176,1592

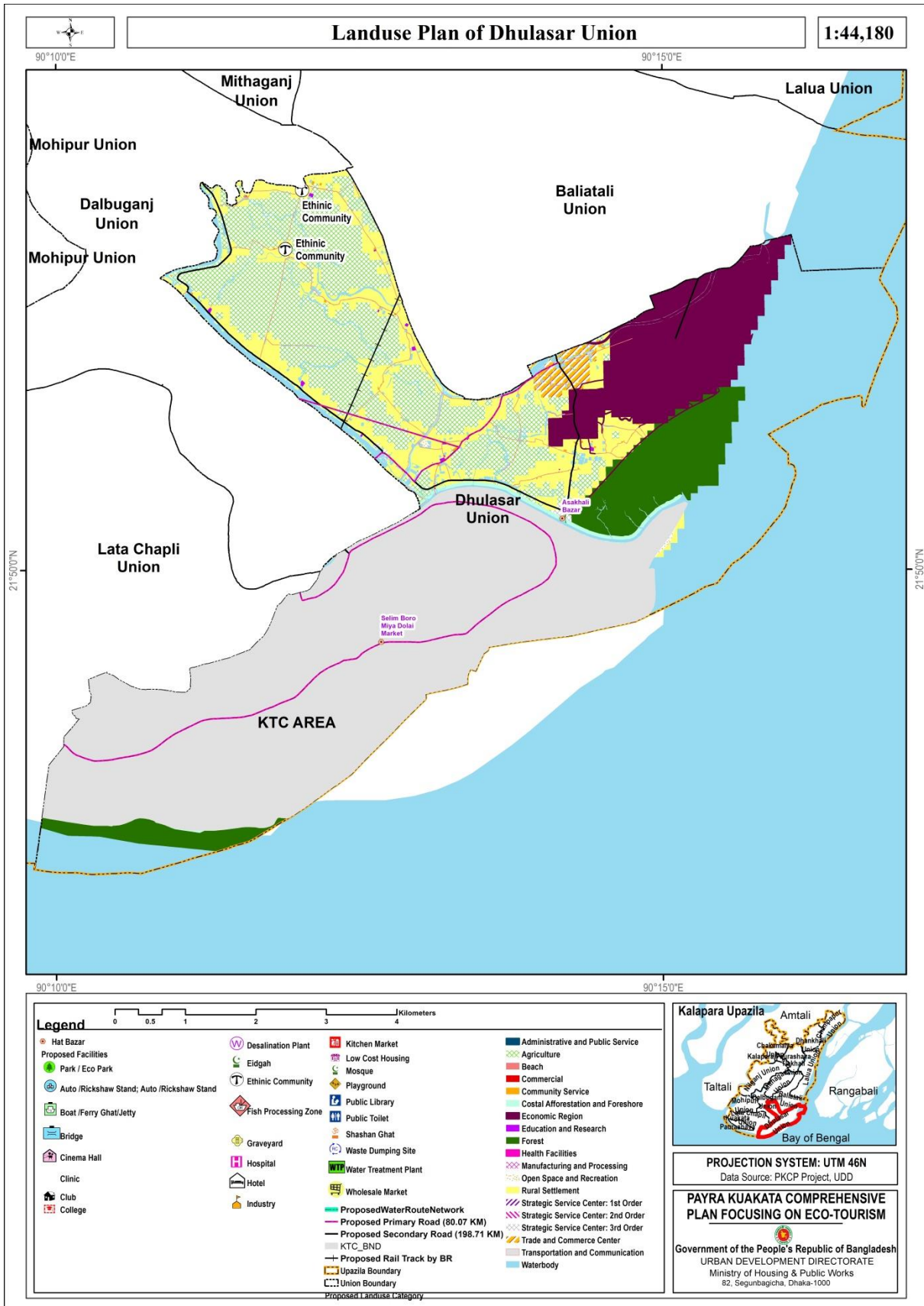


Figure 11: Rural Area Plan for Dhulasar Union

5.10 Rural Area Plan for Lalua Union

5.10.1 Demography

Lalua Union is situated on the eastern part of the Upazila. Dhankhali Union is on the North, Galachipa River on the east.

Present population of the Union is 23192 (2022) and it will 24837 in the year 2031 and 27853 in 2041. Density of population is 425.46 persons per sqkm and it will be 455.64 in the year 2031.

Table- 31: Population Statistics of Lalua Union

Item	2011	2022	2031	2041
Area (Sq. km)	24.96			
Population	21532	23192	24837	27853
Density	395.01	425.46	455.64	510.97

5.10.2 Review of Existing Land Use

Out of total 4229.28 acres of land of this Union, more than 433.75 acres of land i.e. 3.22% is used in residential. The agricultural use with 782.76 acres, occupies 5.81% of total land, water bodies 31.40%, commercial use 0.06%, Community Service 0.11. Only 0.04% of land is used as education facilities.

Table- 32: Existing Landuse category in Lalua Union

Landuse Category	Area(Acre)	%
Administrative/ Public Service	2144.44	15.92
Agriculture	782.76	5.81
Commercial	8.64	0.06
Community Service	14.93	0.11
Education and Research	5.69	0.04
Health Service	0.64	0.00
Manufacturing and Processing	1339.25	9.94
Mixed Use	2.77	0.02
Residential	433.75	3.22
Road	133.45	0.99
Service Activity	6.25	0.05
Transportation and Communication	3797.09	28.19
Vacant Land	485.10	3.60
Vegetation	85.79	0.64
Waterbody	4229.28	31.40
Grand Total	13469.83	100.00

5.10.3 Rural Area Plan Proposals

5.10.3.1 Proposed Land Use Zoning

The category wise proposals are presented here. Table 35 shows the amount of land uses in Lalua Union. Map shows proposed land use of Lalua Union.

Table- 33: Proposed Land Uses of Lalua Union

Landuse Category	Area(Acre)	%
Administrative and Public Service	0.03	0.10
Agriculture	381.94	2.84
Commercial	3.33	0.02
Community Service	14.77	0.11
Costal Afforestation and Foreshore	158.98	1.18
Economic Region	4779.19	35.48
Education and Research	4.23	0.03
Health Facilities	0.68	0.01
Manufacturing and Processing	4037.96	29.98
Rural Settlement	810.59	6.02
Strategic Service Center: 1st Order	9.76	0.07
Strategic Service Center: 2nd Order	14.04	0.10
Strategic Service Center: 3rd Order	13.59	0.10
Transportation and Communication	34.92	0.26
Waterbody	3205.94	23.80
Grand Total	13469.93	100

5.10.3.2 Development Proposals for Lalua Union

The consultant proposes some urban facilities in Lalua Union. It includes Waste Dumping site, clinic, auto/rickshaw, Hotel Jetty, Mosque etc. The details of the proposal are given in the table below.

Table- 34: Development Proposals for Lalua Union (Mouza Wise)

Union Name	ID NO	Proposed Landuse	Proposals Name	Area (Acre)	Mouza Name	JL No	Sheet No	Plot No
Lalua	Com-77	Community Service	Waste Dumping Site	0.19	Chandupata	17	4	1887,1886,1885
	Hea-35	Health Facilities	Clinic	0.46	Chandupata	17	3	1401,1411,1415,14

					a			00,1360
Tra-93	Transportation and Communication	Auto /Rickshaw Stand	0.31	Lalua	14	1		47
Com-12	Community Service	Hotel	2.24	Madhupara	12	4		1647,1648,1653,1654
Tra-14	Transportation and Communication	Jetty	1.08	Char Nishanbariya	48	1		54,55
Com-17	Community Service	Mosque	0.13	Nishanbaria	11	1		24,35,26

5.12 Rural Area Plan for Mitaganj Union

5.12.1 Demography

Mitaganj Union is situated on the middle part of the Upazila. Dhalbuganj Union are on the south, Baliatali on the east.

Present population of the Union is 12488 (2022) and it will 13422 in the year 2031 and 15097 in 2041. Density of population is 410.65 persons per sqkm and it will be 441.37 in the year 2031.

Table- 35: Population Statistics of Mitaganj Union

Item	2011	2022	2031	2041
Area (Sq. km)	30.41			
Population	11586	12488	13422	15097
Density	380.99	410.65	441.37	496.45

5.12.2 Review of Existing Land Use

Out of total 7514.11 acres of land of this Union, more than 988.29 acres of land i.e. 13.15% is used in residential. The agricultural use with 4767.79 acres, occupies 63.45% of total land, water bodies 19.01%, commercial use 0.08%, Community Service 0.23% and Transportation and Communication 0.73%. Only 0.23% of land is used as education facilities.

Table- 36: Existing Landuse category in Mitaganj Union

Landuse Category	Area(Acre)	%
Administrative/ Public Service	0.49	0.01
Agriculture	4767.79	63.45
Commercial	6.39	0.08
Community Service	17.06	0.23
Education and Research	17.50	0.23
Health Service	0.47	0.01
Manufacturing and Processing	29.91	0.40
Mixed Use	0.48	0.01
Residential	988.29	13.15
Road	78.27	1.04
Service Activity	2.49	0.03
Transportation and Communication	54.53	0.73
Vacant Land	97.17	1.29
Vegetation	24.90	0.33
Waterbody	1428.39	19.01
Grand Total	7514.11	100

5.10.3 Rural Area Plan Proposals

5.10.3.1 Proposed Land Use Zoning

The category wise proposals are presented here. Table 35 shows the amount of land uses in Mitaganj Union. Map shows proposed land use of Mitaganj Union.

Table- 37: Proposed Land Uses of Mitaganj Union

Landuse Category	Area(Acre)	%
Agriculture	3634.52	48.37
Commercial	3.04	0.04
Community Service	14.10	0.19
Costal Afforestation and Foreshore	622.39	8.28
Economic Region	6.67	0.09
Education and Research	15.16	0.20
Health Facilities	0.35	0.00
Manufacturing and Processing	46.52	0.62
Rural Settlement	1977.17	26.31
Strategic Service Center: 3rd Order	54.04	0.72
Transportation and Communication	64.62	0.86
Waterbody	1075.91	14.32
Grand Total	7514.48	100

5.10.3.2 Development Proposals for Mitaganj Union

The consultant proposes some urban facilities in Mitaganj Union. It includes Wholesale Market , Bridge, Auto /Rickshaw Stand, Waste Dumping Site, Public toilet, Public library, Ferry ghat etc. The details of the proposal is given in the table below.

Table- 38: Development Proposals form Mithaganj Union (Mouza Wise)

Union Name	ID NO	Proposed Landuse	Proposals Name	Area (Acre)	Mouza Name	JL No	Sheet No	Plot No
Mithaganj	Com-68,69	Commercial	Wholesale Market	0.50	Madhukhali	44	1	445,48,449,13,15,47,79,
	Tra-96	Transportation and Communication	Bridge	0.1	Mithaganj	21	1	445,449
	Tra-95	Transportation and	Auto /Ricksha	0.1	Mithaganj	21	1	449

		Communication	w Stand					
Com-70	Community Service	Public Library	0.1	Mithaganj	21	1	105	
Com-71	Community Service	Public Toilet	0.02	Madhukhali	44	1	5005,5010	
Com-86	Community Service	Waste Dumping Site	0.29	Mithaganj	21	1	4694,4691, 4695,4696	
Tra-15	Transportation and Communication	Ferry Ghat	0.38	Madhukhali	44	2	1122,1121, 1387,1000	

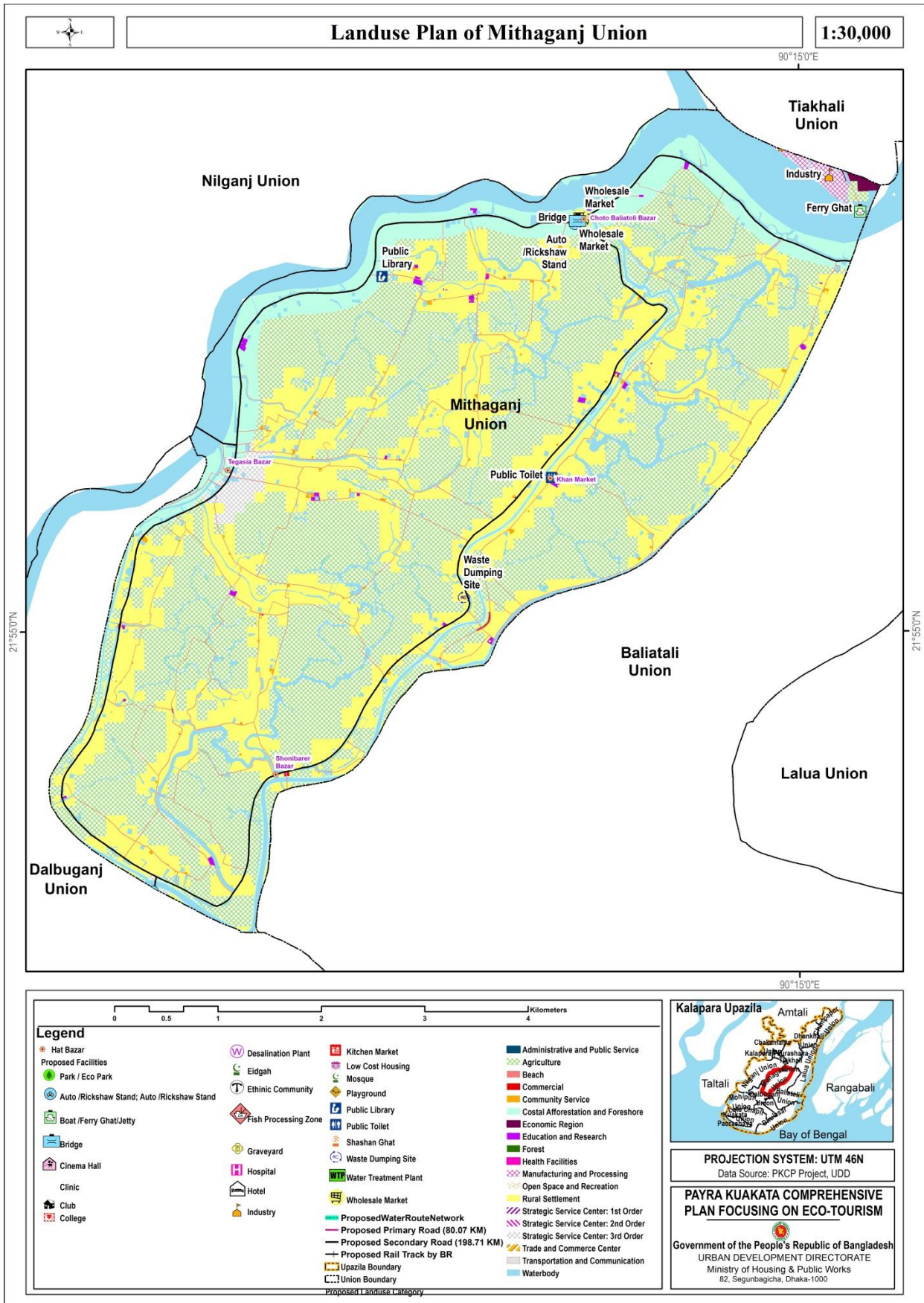


Figure 13: Rural Area Plan for Mithaganj Union

5.10 Rural Area Plan for Tiakhali Union

5.10.1 Demography

Tiakhali Union is situated on the northern part of the Upazila. Nilganj and mitaganj Union are on the south, Chakamaiya union on the west.

Present population of the Union is 15,470 (2022) and it will 16667 in the year 2031 and 18645 in 2041. Density of population is 492.20 persons per acre and it will be 530.29 in the year 2031.

Table- 39: Population Statistics of Tiakhali Union

Item	2011	2022	2031	2041
Area (Sq. km)	31.43			
Population	14,341	15,470	16667	18645
Density	456.28	492.20	530.29	593.22

5.10.2 Review of Existing Land Use

Out of total 7765.32 acres of land of this Union, more than 894.54 acres of land i.e. 11.52% is used in residential. The agricultural use with 498.17 acres, occupies 63.21% of total land, water bodies 17.29%, commercial use 0.08%, Community Service 0.31% and Transportation and Communication 2.11%. Only 0.22% of land is used as education facilities.

Table- 40: Existing Landuse category in Tiakhali Union

Landuse Category	Area(Acre)	%
Administrative/ Public Service	8.39	0.11
Agriculture	4908.17	63.21
Commercial	5.84	0.08
Community Service	24.38	0.31
Education and Research	17.44	0.22
Forest	15.77	0.20
Health Service	0.51	0.01
Manufacturing and Processing	120.01	1.55
Mixed Use	5.69	0.07
Open Space and Recreational	0.65	0.01
Residential	894.54	11.52
Road	151.16	1.95
Service Activity	6.19	0.08
Transportation and Communication	163.52	2.11
Vacant Land	87.55	1.13
Vegetation	13.27	0.17
Waterbody	1342.24	17.29
Grand Total	7765.32	100.00

5.10.3 Rural Area Plan Proposals

5.13.3.1 Proposed Land Use Zoning

The category wise proposals are presented here. Table 35 shows the amount of land uses in Tiakhali Union. Map shows proposed land use of Tiakhali Union.

Table- 41: Proposed Land Uses of Tiakhali Union

Landuse Category	Area(Acre)	%
Administrative and Public Service	0.65	0.01
Agriculture	2229.20	28.70
Commercial	3.10	0.04
Community Service	17.82	0.23
Costal Afforestation and Foreshore	430.10	5.54
Economic Region	1691.04	21.77
Education and Research	15.50	0.20
Forest	37.13	0.48
Health Facilities	0.43	0.01
Manufacturing and Processing	124.43	1.60
Open Space and Recreation	5.49	0.07
Rural Settlement	2133.18	27.47
Transportation and Communication	103.28	1.33
Waterbody	974.81	12.55
Grand Total	7766.17	100

5.13.3.2 Development Proposals for Tiakhali Union

The consultant proposes some urban facilities in Tiakhali Union. It includes Auto /Rickshaw Stand, park/eco park, Waste Dumping Site, Low cost housing, Playground and Graveyard etc. The details of the proposal is given in the table below.

Table- 42: Development Proposals for Mitaganj Union (Mouza Wise)

Union Name	ID NO	Proposed Landuse	Proposals Name	Area (Acre)	Mouza Name	J L N o	Sheet No	Plot No
Tiakhali	Ope-21	Open Space and Recreation	Playground	1.12	Itbariya	8	1	16
	Com-24	Community Service	Graveyard	0.27	Itbariya	8	1	16,17,18
	Tra-22	Transportatio	Auto	0.08	Itbari	8	1	24

		n and Communication	/Rickshaw Stand		ya			
Open-23	Open Space and Recreation	Park / Eco Park	4.01	Itbariya	8	1	24	
Man-19	Manufacturing and Processing	Industry	10.79	Rajapara	9	3	497,499,500,523	
					9	1	31,32,33,34,35,36,38,199,40	
Com-88	Community Service	Waste Dumping Site	1.05	Badurtali	7	1	19,20,21	
Man-16	Manufacturing and Processing	Industry	22.79	Badurtali	7	1	1123,1142,1143,1144,1148,1149,1150,1151,1152,1153,1154,1155,1156,1157,1158,1159,1160,1161,1162,1163,1164,1165,1165,1169,1170,1171,1176,1181,1225,1226,1286	
				Madhukhali	4	2	1000	
Man-18	Manufacturing and Processing	Industry	18.30	Itabria	8	4	1252,1253,1254	
				Madhukhali	4	2	1000	
Rur-20	Rural Settlement	Low Cost Housing	1.37	Itabria	8	1	23,24,27,35,36,303	

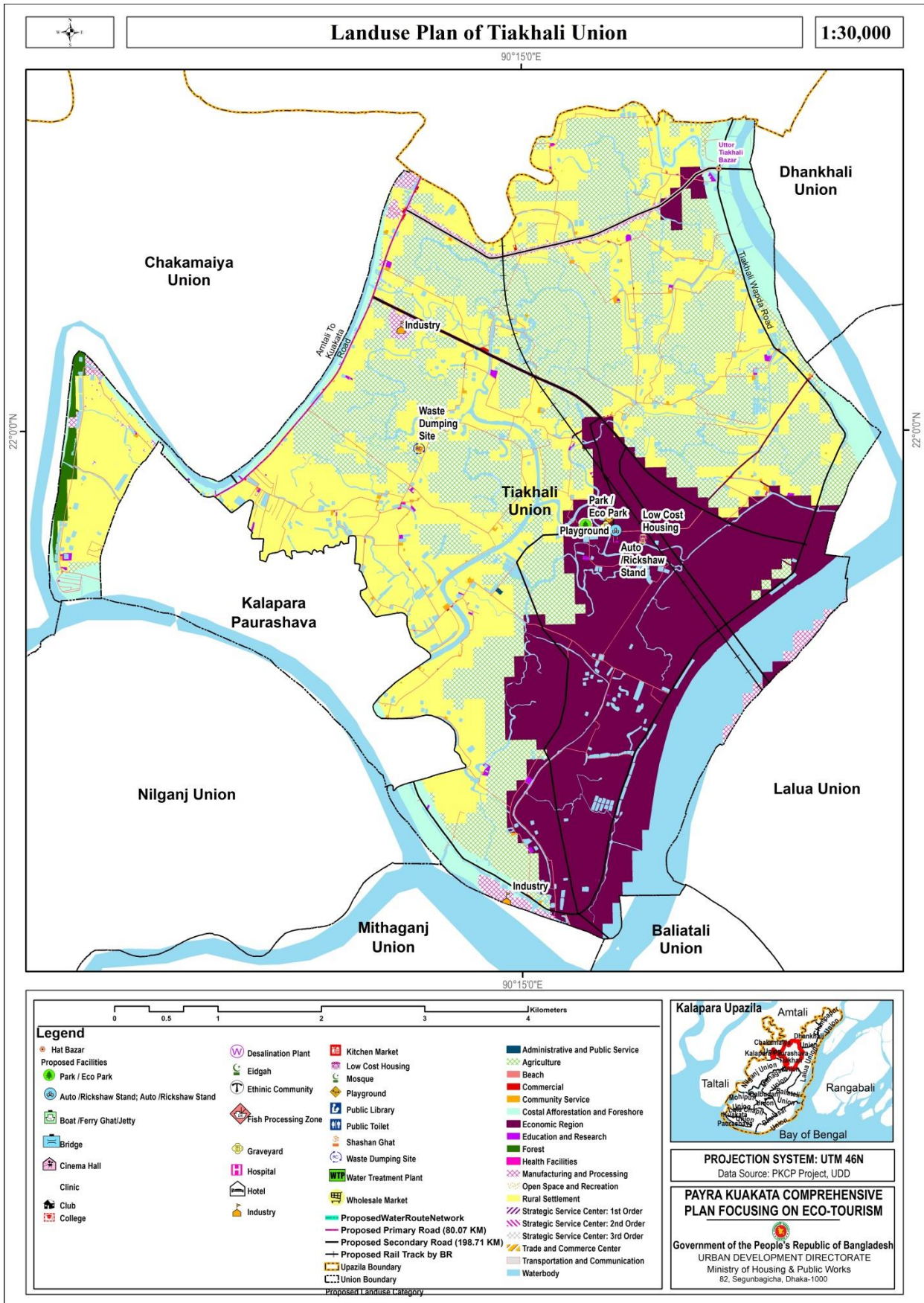


Figure 14: Rural Area Plan for Tiakhali Union

5.10 Rural Area Plan for Nilgang Union

5.10.1 Demography

Nilganj Union is situated on the Middle western part of the Upazila. Dalbuganj and mohipur Union are on the south, Mitaganj on the east.

Present population of the Union is 31376 (2022) and it will 33825 in the year 2031 and 38107 in 2041. Density of population is 527.95 persons per sqkm and it will be 569.16 in the year 2031.

Table- 43: Population Statistics of Nilgang Union

Item	2011	2022	2031	2041
Area (Sq. km)	59.43			
Population	29019	31376	33825	38107
Density	488.29	527.95	569.16	641.21

5.10.2 Review of Existing Land Use

Out of total 14686.23 acres of land of this Union, more than 2078.33 acres of land i.e. 14.15% is used in residential. The agricultural use with 9397.16 acres, occupies 63.99% of total land, water bodies 18.06%, commercial use 0.10%, Community Service 0.17% and Transportation and Communication 0.52%. Only 0.21% of land is used as education facilities.

Table- 44: Existing Landuse category in Nilgang Union

Landuse Category	Area(Acre)	%
Administrative/ Public Service	16.37	0.11
Agriculture	9397.16	63.99
Commercial	14.74	0.10
Community Service	24.29	0.17
Education and Research	30.77	0.21
Manufacturing and Processing	113.64	0.77
Mixed Use	0.42	0.00
Residential	2078.33	14.15
Road	216.87	1.48
Service Activity	7.06	0.05
Transportation and Communication	76.63	0.52
Vacant Land	48.41	0.33
Vegetation	9.63	0.07
Waterbody	2651.91	18.06
Grand Total	14686.23	100.00

5.10.3 Rural Area Plan Proposals

5.10.3.1 Proposed Land Use Zoning

The category wise proposals are presented here. Table 35 shows the amount of land uses in Nilgang Union. Map shows proposed land use of Nilgang Union.

Table- 45: Proposed Land Uses of Nilgang Union

Landuse Category	Area(Acre)	%
Administrative and Public Service	0.03	0.10
Agriculture	381.94	2.84
Commercial	3.33	0.02
Community Service	14.77	0.11
Costal Afforestation and Foreshore	158.98	1.18
Economic Region	4779.19	35.48
Education and Research	4.23	0.03
Health Facilities	0.68	0.01
Manufacturing and Processing	4037.96	29.98
Rural Settlement	810.59	6.02
Strategic Service Center: 1st Order	9.76	0.07
Strategic Service Center: 2nd Order	14.04	0.10
Strategic Service Center: 3rd Order	13.59	0.10
Transportation and Communication	34.92	0.26
Waterbody	3205.94	23.80
Grand Total	13469.93	100

5.10.3.2 Development Proposals for Nilganj Union

The consultant proposes some urban facilities in Nilgang Union. It includes Auto /Rickshaw Stand , Public Library, Clinic, Club, Desalination Plant waste dumping site, etc. The details of the proposal is given in the table below.

Table- 46: Development Proposals for Nilgang Union (Mouza Wise)

Union Name	ID NO	Proposed Landuse	Proposals Name	Area (Acre)	Mouza Name	JL No	Sheet No	Plot No
Nilganj	Tra-73	Transportation and Communication	Auto /Rickshaw Stand	0.1	Sonatala	23	5	6076,6080
	Com-72	Community Service	Public Library	0.02	Sonatala	23	5	6065,6059

Hea-74	Health Facilities	Clinic	0.1	Sonatala	23	5	6059,6065
Com-75	Community Service	club	0.02	Sonatala	23	5	6323,6166,6319
Com-87	Community Service	Waste Dumping Site	0.53	Udeampur	22	3	2175,2431,2430,2429,2432
Adm-53	Administrative and Public Service	Desalination Plant	0.36	Hazipur	24	02	2422,7003

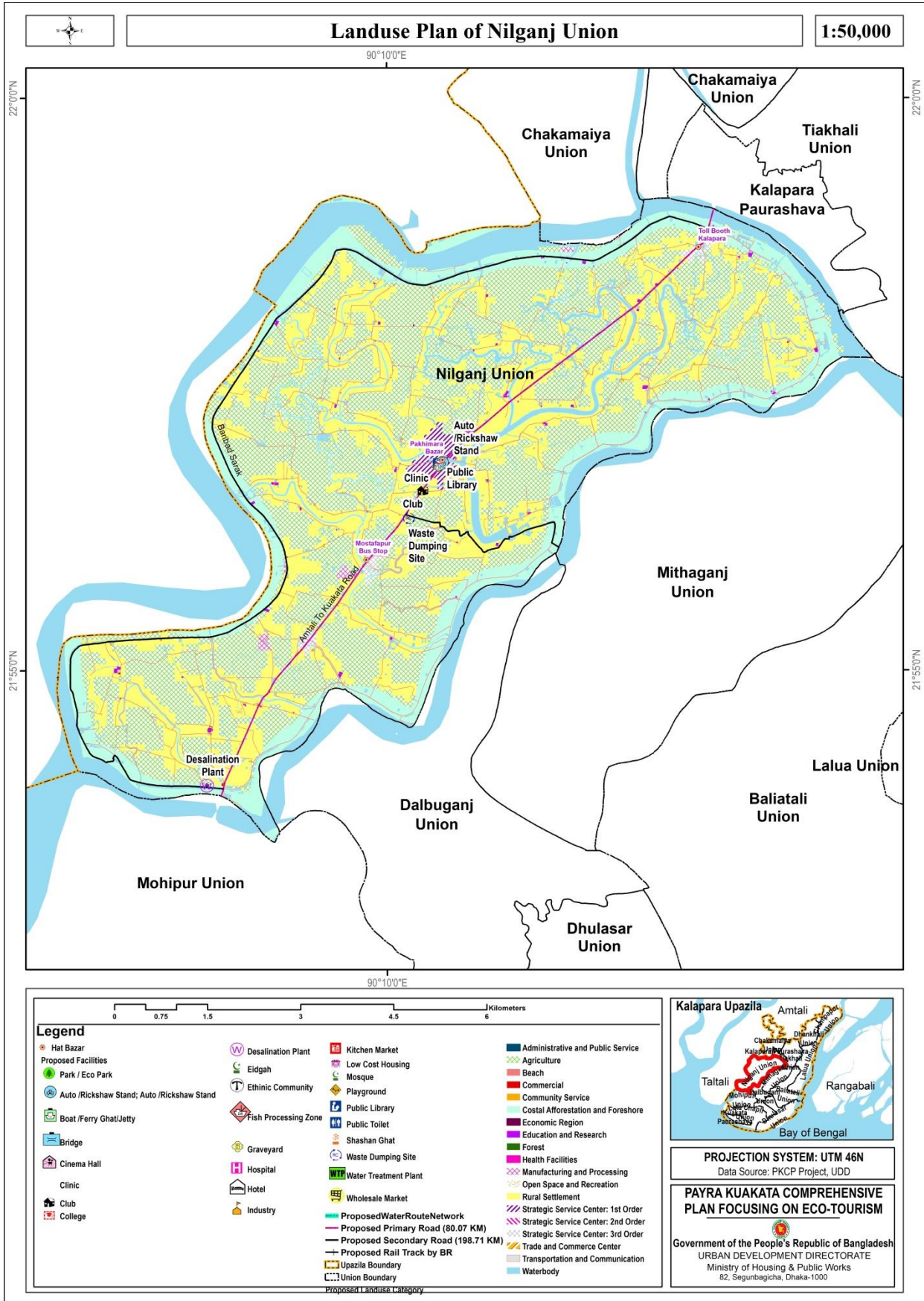


Figure 15: Rural Area Plan for Nilganj Union

5.10 Rural Area Plan for Mohipur Union

5.10.1 Demography

Mohipur Union is situated on the south western part of the Upazila. Latachapli Union is on the south, Nilganj on the North, Dhalbuganj on the east.

Present population of the Union is 22905 (2022) and it will 25338 in the year 2031 and 27407 in 2041. Density of population is 700 persons per acre and it will be 776 in the year 2031.

Table- 47: Population Statistics of Mohipur Union

Item	2011	2022	2031	2041
Area (Sq. km)	24.96			
Population	20886	22905	25388	27407
Density	638	700	776	838

5.10.2 Review of Existing Land Use

Out of total 8084.9 acres of land of this Union, more than 1396.90 acres of land i.e. 17.28% is used in residential. The agricultural use with 3536.74 acres, occupies 43.74% of total land, water bodies 29.63%, commercial use 0.10%, Community Service 0.27% and Transportation and Communication 0.47%. Only 0.19% of land is used as education facilities.

Table- 48: Existing Landuse category in Mohipur Union

Landuse Category	Area(Acre)	%
Administrative/ Public Service	8.83	0.11
Agriculture	3536.74	43.74
Commercial	8.31	0.10
Community Service	21.94	0.27
Education and Research	15.59	0.19
Forest	286.94	3.55
Health Service	0.42	0.01
Manufacturing and Processing	62.05	0.77
Mixed Use	3.47	0.04
Residential	1396.90	17.28
Road	105.37	1.30
Service Activity	12.92	0.16
Transportation and Communication	38.01	0.47
Vacant Land	154.37	1.91
Vegetation	37.26	0.46
Waterbody	2395.78	29.63
Grand Total	8084.9	100

5.10.3 Rural Area Plan Proposals

5.10.3.1 Proposed Land Use Zoning

The category wise proposals are presented here. Table 35 shows the amount of land uses in Mohipur Union. Map shows proposed land use of Mohipur Union.

Table- 49: Proposed Land Uses of Mohipur Union

Landuse Category	Area(Acre)	%
Administrative and Public Service	5.57	0.07
Agriculture	2494.97	30.86
Commercial	14.74	0.18
Community Service	20.04	0.25
Costal Afforestation and Foreshore	853.76	10.56
Education and Research	14.66	0.18
Forest	251.77	3.11
Health Facilities	0.39	0.00
Manufacturing and Processing	13.40	0.17
Open Space and Recreation	0.14	0.00
Rural Settlement	2214.91	27.40
Strategic Service Center: 3rd Order	42.59	0.53
Trade and Commerce Center	139.68	1.73
Transportation and Communication	82.14	1.02
Waterbody	1936.23	23.95
Grand Total	8084.99	100

5.10.3.2 Development Proposals for Mohipur Union

The consultant proposes some urban facilities in Mohipur Union. It includes Desalination Plant, water treatment plant, wholesale market, Cinema hall, Waste Dumping Site, Public toilet, Club, Low cost housing , Auto /Rickshaw Stand, Fish Processing zone etc. The details of the proposal is given in the table below.

Table- 50: Development Proposals for Mohipur Union (Mouza Wise)

Union Name	ID NO	Proposed Landuse	Proposals Name	Area (Acre)	Mouza Name	JL No	Sheet No	Plot No
Mohipur	Com-32	Commercial	Wholesale Market	0.74	Nizampur	25	2	769,768,767,766,765,758,757,1004
	Ope-31	Open Space and Recreation	Cinema Hall	0.13	Nizampur	25	4	3432,3431
					Isabpur	27	3	1910

Com-44	Community Service	Water Treatment Plant	1.86	Shibbariya	26	7	6153,6151,6150
Adm-52	Administrative and Public Service	Desalination Plant	0.5	Shibbariya	26	7	6110,6111
Com-49	Community Service	Waste Dumping Site	0.22	Shibbariya	26	7	4571,4572,4570
Rur-51	Rural Settlement	Low Cost Housing Project	0.39	Nizampur	25	5	4319,4317
				Shibbariya	26	6	4109
Rur-50	Rural Settlement	Low Cost Housing Project	0.39	Nizampur	25	5	4319,4316,4317
				Shibbariya	26	6	4109
Com-57	Community Service	Public Toilet	0.06	Shibbariya	26	5	2831
Com-56	Community Service	Club	0.05	Shibbariya	26	5	2641,2642,2640,2826
Com-55	Community Service	Hospital	0.2	Shibbariya	26	5	2941,2940,2939
Tra-63	Transportation and Communication	Auto/Rickshaw Stand	0.2	Shibbariya	26	5	3116
Com-62	Commercial	Fish Processing Zone	1.06	Shibbariya	26	5	3063,3018,3065,3066,3019

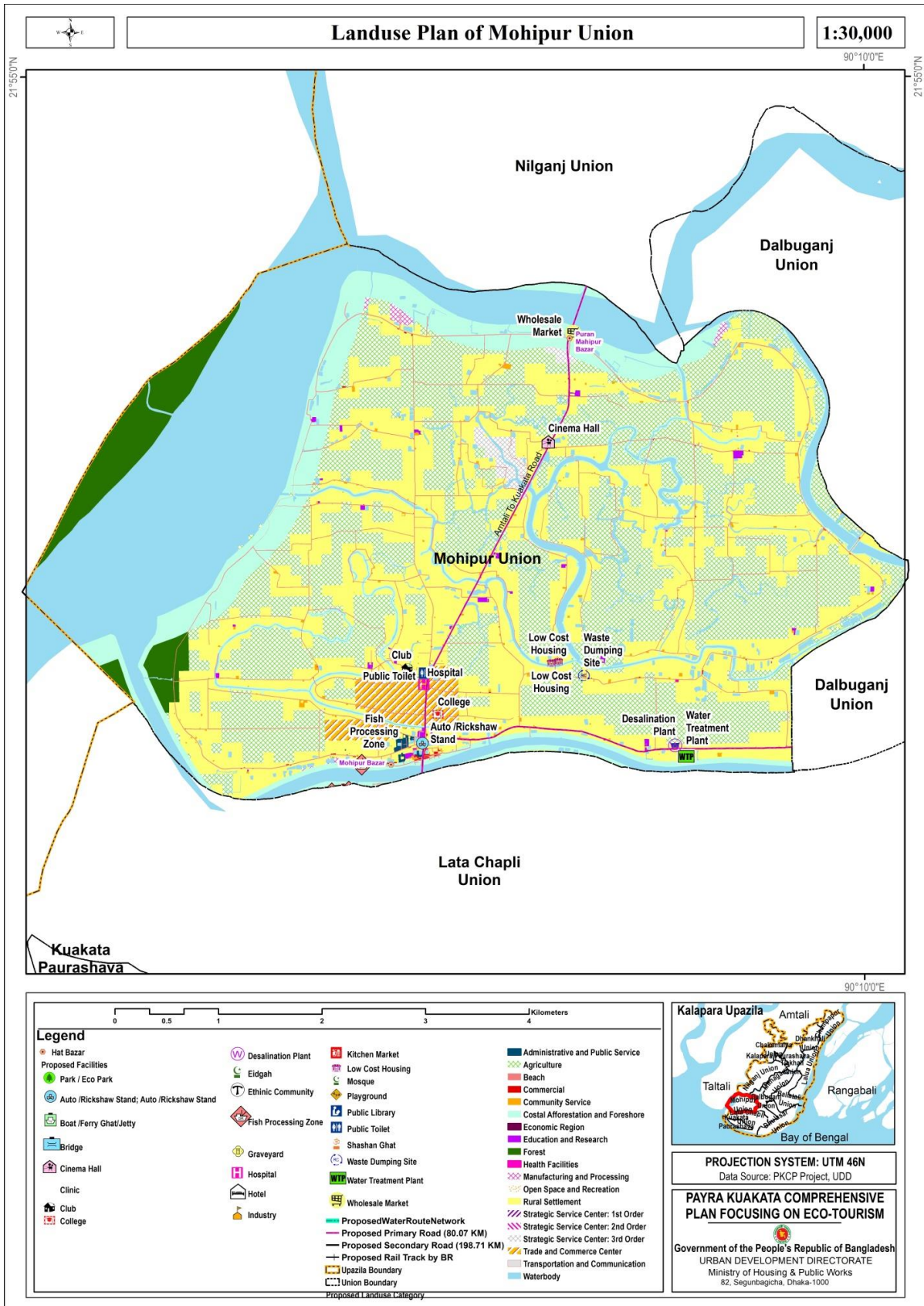


Figure 16: Rural Area Plan for Mohipur Union

CHAPTER- 6: CONCLUSION

6.1 Conclusion

The Rural Area Plan of Kalapara Upazila consists of the plans for Union level as identified in the Structure Plan for the Upazila. Since the Rural Area Plan is mainly indicative further measures should be taken during implementation.

In the development process of the Upazila, coordination among all local authorities within Kalapara Upazila will be necessary for integrated development encompassing the potentials of both urban and rural areas. There is scope for local government authorities for cooperation and collaboration among themselves for local development in a comprehensive manner. It is expected that the Rural Area Plans prepared under the current project will provide essential tools for integrated development at Kalapara Upazila.