

Payra-Kuakata Comprehensive Plan Focusing on Eco-Tourism

Urban Area Plan: 2021-2031

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রেজিস্টার্ড নং ডি এ-১

বাংলাদেশ



গেজেট

অতিরিক্ত সংখ্যা
কর্তৃপক্ষ কর্তৃক প্রকাশিত

বৃহস্পতিবার, আগস্ট ২৯, ২০২৪

গণপ্রজাতন্ত্রী বাংলাদেশ সরকার
গৃহায়ন ও গণপূর্ত মন্ত্রণালয়
পরিকল্পনা শাখা-৩

প্রজ্ঞাপন

তারিখ: ০৬ ভাদ্র ১৪৩১ বঙ্গাব্দ/ ২১ আগস্ট ২০২৪ খ্রিষ্টাব্দ

নং ২৫.০০.০০০০.০৩২.১৪.০১৬.১৫(অংশ-১)/৩৬৪—তদানিন্তন পূর্ব পাকিস্তান সরকারের ১৭ জুলাই ১৯৬৫ তারিখের ৪৬৪ নং স্মারকে গঠিত ‘Urban Development Directorate’ এর কার্যাবলির ২নং ক্রমিকে বর্ণিত “to prepare and co-ordinate regional plans, master plans and detailed layout and site plans for the existing as well as the new urban centres excluding the areas covered by the present town development authorities of Dhaka, Chittagong and Khulna” এর প্রদত্ত ক্ষমতাবলে গণপ্রজাতন্ত্রী বাংলাদেশ সরকার “পায়রা বন্দর নগরী ও কুয়াকাটা উপকূলীয় অঞ্চলের পরিবেশ পর্যটনভিত্তিক সমন্বিত পরিকল্পনা প্রণয়ন” শীর্ষক প্রকল্পের আওতায় মাস্টার প্ল্যান (১টি রিজিওনাল প্ল্যান, ০৭ টি স্ট্রাকচার প্ল্যান, ০৭টি রুরাল এরিয়া প্ল্যান, ০৬টি আরবান এরিয়া প্ল্যান এবং এ্যাকশন এরিয়া প্ল্যান ফর সোনার চর এক্সক্লুসিভ টুরিস্ট জোন) প্রণয়ন সম্পন্ন করিয়াছে।

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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।

Table of Contents

Executive Summary	1
CHAPTER-1: INTRODUCTION	2
1.1 Background	2
1.2 Purpose of Urban Area Plan.....	3
1.3 Area Coverage under Urban Area Plan.....	3
1.4 Urban Plan Proposals	3
1.5 Reflection from Upper-Tier Plans.....	3
CHAPTER-2: STRATEGIC PLANNING ZONES	4
2.1 Background	4
2.2 SPZ- Upazila Town Center	6
2.3 SPZ-Urban Fringe North and South.....	7
2.4 SPZ-Urban Area.....	8
2.5 Land Schedule of SPZ.....	8
CHAPTER-3: URBAN LAND USE PLAN	10
3.1 Introduction.....	10
3.2 Existing Land Use.....	11
3.3 Existing Urban Facilities.....	12
3.4 Ideal Urban Area Facilities	14
3.5 Land use plan components	14
CHAPTER-4: URBAN TRANSPORTATION AND TRAFFIC MANAGEMENT GUIDELINE ...	29
4.1 Introduction.....	29
4.2 Purpose and Objectives	29
4.3 Transportation Survey finding	29
4.4 Projected Travel and Traffic Demand.....	32
4.5 Existing Road Network.....	32
4.6 Proposed Road Network	33
4.7 Proposal for Improvement of the Existing Road Networks	34
4.8 Proposals for New Roads	36
4.9 Proposed Waterways.....	40
4.10 Future Plan and Direction	41

CHAPTER-5: URBAN DRAINAGE AND ENVIRONMENT MANAGEMENT PLAN	42
5.1 Introduction.....	42
5.2 Goals and Objectives	42
5.3 Methodology and Approach to Planning	42
5.4 Existing Drainage Network.....	43
5.5 Natural Canal & River	43
5.6 Proposed Drainage Network	43
CHAPTER-6: URBAN SERVICES PLAN.....	49
6.1 Introduction.....	49
6.2 Basic Urban Services Development Plan.....	49
6.2.1 Water Supply	49
6.2.2 Sanitation	50
6.2.3 Waste Management Site.....	51
6.2.4 Electricity	51
6.2.5 Community Facilities	52
6.2.6 Affordable Housing.....	55
CHAPTER- 7: CONCLUSION	57
Conclusion	57
ANNEXURE-A	58
ANNEXURE-B.....	64
ANNEXURE -C: PROJECT TEAM	82

List of Figures

Fig-01: Strategic Planning Zones.....	5
Fig-02: Existing Land use Map.....	13
Fig-03: Potential Urban Area Plan.....	20
Fig-04: Vehicle Count and OD Survey Location.....	31
Fig-05: Existing Functional Category.....	33
Fig-06: Proposed Road Network Map.....	34
Fig-07: Typical Cross-Section of Various Types of Roads.....	40
Fig-08: Typical Cross-Section of Various Types of Roads.....	41
Fig-09: Digital Elevation Model (DEM) of Rangabali Urban Area.....	44
Fig-10: Flow direction map of Rangabali Urban Area.....	45
Fig-11: Flow Accumulation map of Rangabali Urban Area.....	46
Fig-12: Drainage network map of Rangabali Urban Area.....	47
Fig-13: Sub-watershed map of Rangabali Urban Area.....	48
Fig-14: Map of sub-watersheds outlet in Rangabali Urban Area.....	48
Fig-15: Proposed Water Treatment Plant.....	49
Fig-16: Faecal Sludge Treatment Plant.....	50
Fig-17: Waste Management Site.....	51
Fig-18: Power Station Site.....	52
Fig-19: Proposed Stadium.....	53
Fig-20: Proposed Fire Service Station.....	54
Fig-21: Proposed Health Centre.....	55

List of Tables

Table-01: SPZ Land Schedule of Potential Urban Area	8
Table-02: Existing Land use distribution	11
Table-03: Existing Urban Facilities	12
Table-04: Land Zone Definition	14
Table-05: List of Proposed facilities	19
Table-06: Proposed Land use area	21
Table-07: Urban Proposed Facilities Land Schedule	27
Table-08: Household Interview Survey	30
Table-9: Mode of Transport	32
Table-10: Road functional category	32
Table-11: Phase Wise Road Widening Proposal for Existing Road	34
Table-12: Proposal for new road	36
Table-13: Description of the Types, Definitions and Definitions and Agencies Responsible for various Roads of the Country (2003)	37
Table-14: Road Cross-Section Standards	38
Table-15: Proposed Road Width	39

Executive Summary

The structure plan, potential urban area plan, and rural area plan are the three parts of the Rangabali Upazila Plan. The Structure Plan aims to integrate economic, physical, and environmental goals by focusing on the physical development of broad policies for controlling and supporting efficient urban growth over the long term. Additionally, it lists the fundamental strategy alternatives that can be used to handle the predicted expansion. The Structure Plan also includes important sector-level strategies to direct development over a longer time frame (20 years) in the intended direction.

The second component is the Potential Urban Area Plan, which combines the Structure Plan at the top tier of the plan. The Potential Urban Area Plan offers a temporary, 10-year framework for the potential urban area's growth under the general guidelines established by the longer-term structure plan. The plans may be created for particular urban areas that were designated in the structure plan for rapid development or for particular projects and upgrades. The ideal development pattern is described in full, together with the locations of the roadways, infrastructure, community facilities, and land use zones. For the urban area of Rangabali, an expected growth rate has been determined in consideration of development growth trends. The land use plan, transportation and traffic management plan, drainage and environmental management plan, and plan for urban services make up the four parts of the possible urban area plan.

Land use zoning is the primary focus of the Land Use Plan. 13.012% of the land is set aside for residential use. Additionally, relevant implementation guidelines and pertinent land development control regulations have been integrated.

The current state of transportation facilities, the volume of traffic, travel demand projections for the next 20 years, future traffic volume, and a strategy for transportation development are all included in the transportation and traffic management plan. A total of 47.29 kilometers of new roads have been suggested for the development of the Rangabali Urban Area's circulation system in the Transportation and Traffic Management Plan. Additionally, this plan includes descriptions of the management and execution strategies for the transportation system.

The third part of the management plan is broken into two sections: drainage and environment. This plan also includes descriptions of the current drainage system, the elevation of the land, and plans for managing flooding and drainage. There are further sections on the current state of the environment, solid waste management, environmental contamination, plans for environmental management, and techniques for plan implementation. This plan includes projections for urban services that are both current and prospective.

CHAPTER-1: INTRODUCTION

1.1 Background

An urban area plan is a detailed framework that outlines how a city or urban area should be developed over a specific period. The plan typically includes policies, guidelines, and regulations for land use, zoning, transportation, infrastructure, housing, and environmental protection. The goal of an urban area plan is to provide a comprehensive and coordinated approach to guide the growth and development of a city or urban area in a way that meets the needs of its residents, businesses, and visitors while preserving its unique character and identity.

The urban area plan is usually created through a collaborative process involving various stakeholders, including government officials, planners, architects, developers, community leaders, and residents. The plan may be updated periodically to reflect changing needs and priorities, as well as changes in the physical, social, and economic conditions of the urban area.

Urban Area Plan is concerned with the planned sustainable development of the urban area of a town or settlement and the protection of its environment. In establishing the limits of the urban area, this Plan is complacent of existing development, projects approved for development but not yet built, and of development in progress. Urban Area Plan includes those areas which require economic, physical and social renewal and for areas likely to be subject to large scale development over the lifetime of the plan.

The Land use Plan is one of the four components of Urban Area Plan. Land use Planning rules are statutory rules to control land use according to planning standard. It is based on land use policies including Local Plans, such as residential density, road standard, provision of infrastructure and services. The relevant Acts and Master Plans of the cities are the legal instruments, which is in force with regard to exercise planning control and standards. Therefore, future land use of Rangabali Urban Area is shaped by intermingling relation between existing and proposed land use.

Overall, an urban area plan provides a roadmap for the sustainable growth and development of a city or urban area, balancing economic, social, and environmental considerations, and ensuring that the urban area remains vibrant, livable, and competitive in the long term.

The Urban Area Plan (UAP) will consist of the following plans:

- Land use Plan
- Transportation and Traffic Management Guideline
- Drainage and Environmental Management Guideline
- Plan for future urban services

1.2 Purpose of Urban Area Plan

Urban Area Plan is a statutory planning document to guide future development of urban up to 2031. The plan will play an important role of enabling upazila parishad to play greater role as a facilitator for promoting private sector development initiatives. These plans guidance to how it can develop the roles i.e. to promote development, to co-ordinate development and to control development.

1.3 Area Coverage under Urban Area Plan

Rangabali Upazila has no Pourashava but some certain areas have great impact of urban growth. According to the structure plan, Baherchar and Khalgora Bazar area is experiencing probable urban growth. Urban Area Plan is included Transport Network, Drainage Plan and Future Facilities. In this chapter, Future Demand has been calculated as per derived planning standard and proposal has been made based on existing facilities. The future service allocation proposals have been outlined in this chapter. On the basis of existing land use, population projection and paurashava area the future urban area has been identified.

1.4 Urban Plan Proposals

Depending on existing facilities, projected population for 20 years and demand from PRA the urban facilities are distributed. The circulation network and drainage network has been given top priority. Other facilities like schools, health clinics, neighborhood markets, eco- Park, bus terminal, CNG stand and many more have been proposed.

1.5 Reflection from Upper-Tier Plans

Upper-tier plans, such as regional plan can provide valuable insights and guidance for local urban area plans. By considering the broader regional or statewide context, anyone can gain a better understanding of the potential impacts and opportunities of their development decisions. Upper-tier plans often address issues such as transportation, housing, and environmental protection that are relevant to urban areas. By aligning local plans with these broader objectives, it can ensure that their plans contribute to the overall regional or state-level goals.

The Structure Plan provides a long term strategy to the year 2041 for the development of Rangabali Upazila. It consists of a report and a map. It identifies the magnitude and direction of growth and recommends spatial and sectoral policies over the long term for the Rangabali Upazila potential urban area of control of about 1960 acre (7.09 sq. km.).The Urban Area Plan provides a mid-term strategy to the year 2031 for the development of the existing potential urban area and those areas likely to come under urbanization pressure over the next decade.

CHAPTER-2: STRATEGIC PLANNING ZONES

2.1 Background

Strategic Planning Zones (SPZs) are designated areas within a municipality or a region that are identified for specific land use purposes. These zones are typically used to support and facilitate the implementation of strategic plans and policies for the area. The main purpose of SPZs is to promote sustainable and coordinated development of an area by directing development and land use activities in a way that is consistent with the overall vision and objectives of the area's strategic plan. SPZs are typically established through zoning regulations and may include a range of land use designations such as residential, commercial, industrial, or green space.

The specific characteristics of SPZs may vary depending on the needs of the municipality or region, but they typically involve a collaborative process involving community stakeholders, government officials, and planning professionals. Through this process, stakeholders can identify and prioritize areas for development and determine appropriate land uses, design standards, and development guidelines. The SPZs of Rangabali Potential urban area divided into three zones. It has taken over to enable consideration of a number of higher level parameter for whole parts of the SPZs or for some parts of the SPZs.

Not all of the SPZ are urban or will become urban in the near future. Whether urban, urbanizing or remaining rural clarity is required on the legal status of the existing land use and on the change in land use that may be promoted, allowed or prohibited. The Spatial Planning Zones are-

- SPZ-Upazila Town Center
- SPZ-North Urban Fringe
- SPZ- South Urban Fringe
- SPZ- Urban Area

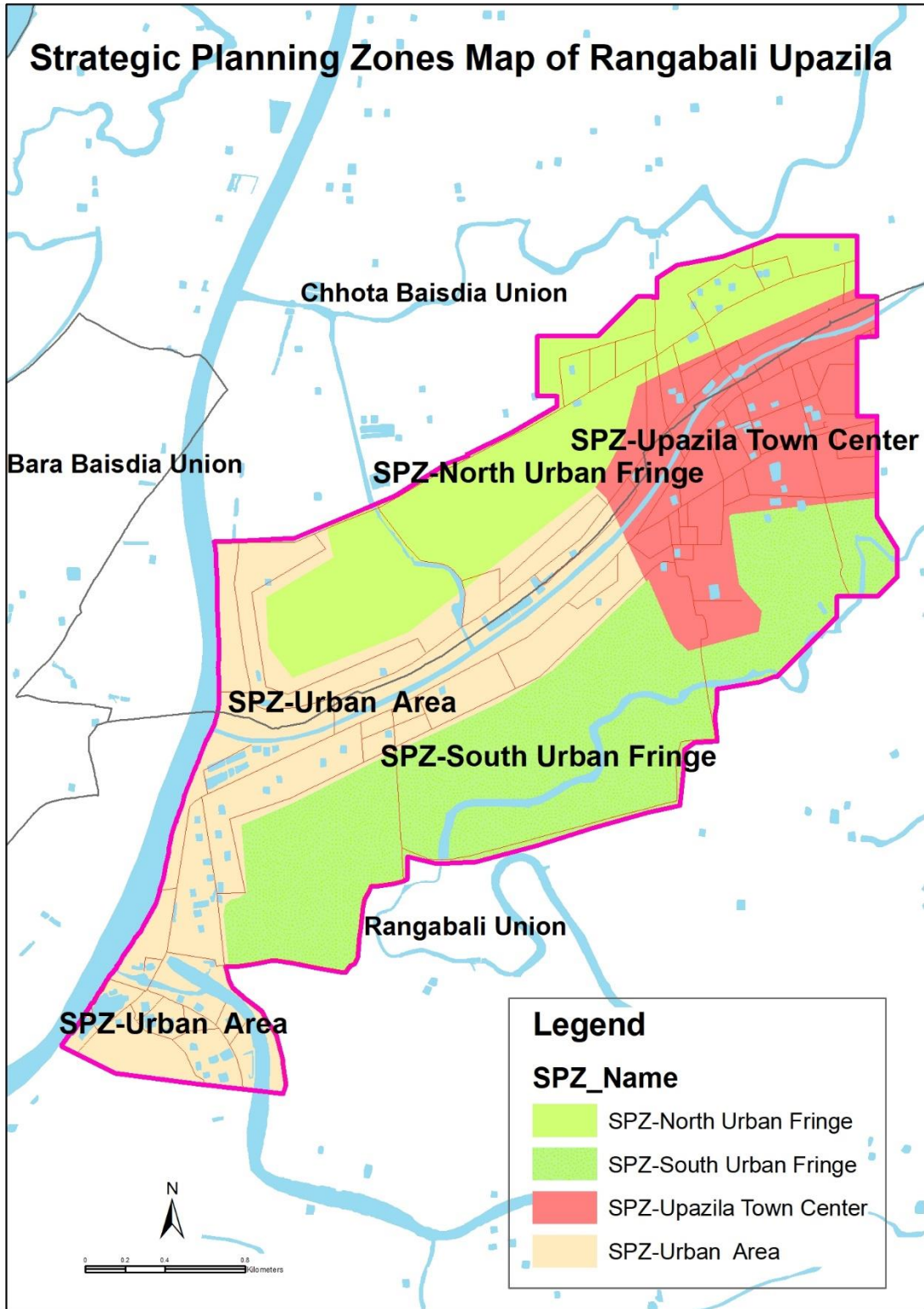


Fig-01: Strategic Planning Zones

Source: PKCP Project, UDD,2022

2.2 SPZ- Upazila Town Center

CBD area has a well road network. The area is dominated by commercial uses while the remainder is predominantly mixed use. Mostly from the middle income group live in this area. Dominant land use includes Upazila Parishad, Upazila Veterinary Hospital, Forest office, Police Station, Food Storage and Commercial area.

Major Issues and Problems

- The road network is narrow and has no connection with mainland. The potential CBD area has no connection with other union because of the absence of bridge and geographical location.
- Due to the proper communication network, the agricultural product and others good price is high compare to the other upazila of Bangladesh
- There is no land office for the local people and they need to take service from Galachipa Upazila. There is an upazila Health complex for the treatment and no proper system for pure drinking water.

Opportunities

- The proposed ferry ghat will establish a well-connected road network with other Upazila.
- The proposed primary road from Koralia Bazar to Baherchor Bazar will ease traffic circulation.
- The construction of proposed bridge improves the communication system and connects other union of Rangabali Upazila.

Action Required

- Widening of roads and Construction of drainage should pivotal. This will substantially reduce the traffic and drainage problem. The local authorities can invest in infrastructure such as roads, drainage systems to make the area more accessible and safe for businesses and customers.
- Promote all investors to ensure that the area develops with a positive image of a gateway to Rangabali.
- Parking facility is necessary to avoid congestion
- As Rangabali CBD area is connected though waterway transport so that a well-connected public transport system can make it easier for people to access the CBD area. A prompt action is in need to construct proposed Bridge at Khalgora Bazar.
- Local authorities can work with transport providers to improve connectivity so that people from other upazila or unions can easily communicate
- Prepare an action plan.

2.3 SPZ-Urban Fringe North and South

The urban fringe is the transition zone between urban and rural areas, also known as the suburban or exurban area. It is typically located on the outskirts of a city, where the built-up urban landscape gives way to open land and rural areas. The urban fringe can be characterized by a mix of urban and rural land uses, such as residential subdivisions, shopping centers, industrial parks, and agricultural land. The population density in this area is typically lower than in the central urban areas, and there may be more green spaces, parks, and natural areas. The urban fringe is often a target for suburbanization, where people move from the city to the suburbs in search of more affordable housing and a better quality of life. However, this growth can also have negative impacts on the environment, such as increased traffic congestion, pollution, and loss of natural habitats.

Major Issues and Problems

- It is a transitional zone.
- It is an area of present and future development.
- Fringe withdraws the land from agricultural production.
- Land value of fringe area is more than rural less than urban area.
- It is a zone of fast changing ownership of the land.
- The expansion of residential houses took place fast.
- Hazardous growth is found
- Service oriented facilities such as – water supply; sewerage system, gas etc. are not good.

Opportunities

- It has better waterways network compare to the CBD area.
- This bazar is the hub for trade and fisheries center.
- This Bazar has potentiality for tourist market due to the proximity of the Sonarchar, andarchar and char hare.

Action Required

- Widening of roads and Construction of drainage should pivotal.
- Promote all investors to ensure that the area develops with a positive image of a gateway to Rangabali.
- Parking facility is necessary to avoid haphazard parking
- A prompt action is in need to construct proposed Bridge to connect between two union.
- Local authorities can work with transport providers to improve connectivity so that people from other upazila or unions can easily communicate
- Prepare an action plan.

2.4 SPZ-Urban Area

A residential area is a neighborhood or section of a city, town or suburban area primarily designed and zoned for residential use. It is typically characterized by a concentration of homes, apartments, townhouses, and other types of dwellings, along with supporting infrastructure such as parks, schools, and shops. The primary function of a residential area is to provide housing for individuals and families, and as such, it is usually designed to be a safe, comfortable, and livable environment. Some residential areas may also have restrictions on certain types of commercial or industrial activity, to ensure that the area remains primarily residential in nature.

Major Issues and Problems

- Semi-urban area
- Low/moderate density
- Spontaneous development without proper infrastructure provision
- No initiative for provision of infrastructure reserve
- Though the area is generally free from annual flooding, urbanization is not yet taking place and it is unlikely that it is to experience rapid changes.

Opportunities

- Low density development
- High land
- Proximity to the existing urban area
- Major road and canal forms the boundary

Action Required

- Defer development activities on land required for new road.
- Initiate community based actions to prepare local development plan.
- Pursue different government agencies to prepare infrastructure plan before development takes place.
- Prepare Local Area Plan on priority basis.
- The zone shall remain rural for many more years. As such the authority should discourage development and keep its urban infrastructure development to the minimum.
- Linear development should be discouraged to contain the urban areas in manageable limits in view of the resource constraint.
- A municipality or development board should be created for the governance of the zone and to provide guidance for the public and private development.

2.5 Land Schedule of SPZ

Table-01: SPZ Land Schedule of Potential Urban Area

SPZ_Cat	Mouza_Nam	JL_No	Sheet_No	Plot No
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e				
North Urban Fringe	Fulkhali	180	1	101,102,103,104,105,106,108,109,110,111,117,118,124,125,126,127,128,132,133,134,135,136,137,143,144,145,146,154,156,157,209,211,212,213,214,215,379,380,381,382,383,384,385,386,387,388,389,390,391,392,394,395,397,450,451,457,468,97,98
	Chatkhali	179	2	1496,1497,1498,1499,1500,1501,1502,1641,1642,1643,1644,1645,1646,1647,1651,1652,491,492,493,494,495,496,497,498,499,500,501,502,503,505,506,507,508,509,510,511,512,513,514,515,516,517,518,519,520,521,522,523,524,525,526,527,528,529,530,531,532,534,538
South Urban Fringe	Kazir Howla	153	1	112,113,114,119,126,127,128,290,291,295,296,299,300,301,302,303,304,305,306,307,308,309,310,311,312,313,314,315,316,317,318,319,320,321,322,323,324,327,328,345,346,347,348,349,350,351,61,62,64,65,87,88,528,529,530,531,532,534,538
	Baherchar	155		0,10,1008,1010,1011,1013,1055,1057,1059,1061,1062,112,113,114,115,116,117,118,119,12,120,121,122,123,124,125,126,127,128,129,130,131,132,133,134,135,136,137,138,139,140,142,143,144,145,146,147,148,149,150,151,152,153,154,155,156,157,176,177
	Kazirhowla	153	2	1130,1136,1205,1206,1207,1208,1209,1210,1212,1213,1219,1220,1221,1229,1230,1231,1232,1233,1234,1236,1237,1238,1239,1240,1241,1242,378,379,380,381,382,383,393,394,395,396,397,399,411,412,417,418,419,420,431,432,433,434,435,436,449,450,451,452,453,476,477,478,497
	Kazirhowla	153	4	1001,1002,1003,1004,1005,1006,1007,1008,1011,1013,1014,1015,1016,1020,1021,1022,1023,1024,1025,1026,1027,1028,1029,1030,1031,1032,1033,1034,1045,1046,1255,1256,1258,1259,1260,1261,1262,1263,1264,564,565,566,567,568,569,570,571,581,583,584,585,604,605,606,607,608,609,610,611
Upazila Town Center	Baherchar	155	1	1055,1057,1060,1062,1063,152,159,160,161,163,164,165,166,167,168,169,170,171,172,173,174,176,195,196,197,198,200,201,202,219,222,223,224,225,226,227,228,229,230,231,232,233,234,235,236,237,238,239,240,241,242,243,244,245,247,248,250,251,252
	Fulkhali	179	2	1101,1102,1103,1104,1105,1106,1107,1108,1109,1110,1111,1112,1113,1114,1115,1116,1117,1118,1119,1120,1121,1122,1123,1124,1125,1126,1127,1128,1129,1130,1131,1132,1133,1134,1135,1136,1137,1138,1139,1140,1141,1142,1143,1144,1145,1146,1147,1148,1149,1150,1151,1152,1153,1154,1155,1156,1157,1158,1159
Urban Area	Rangabali	179	1	1,10,100,101,102,103,104,105,1055,1056,106,1066,107,108,109,11,110,111,112,113,114,115,116,117,118,119,12,120,121,122,123,124,125,126,127,128,129,13,130,131,132,133,134,135,136,137,138,139,14,140,141,142,143,144,145,146,147,148,149

	Fulkhali	179	2	375,376,377,378,383,384,385,387,388,389,390,391,392,393,397,398,399,400,401,402,403,404,405,406,407,408,411,412,413,414,415,416,417,420,421,422,423,424,425,426,427,430,431,434,435,436,437,438,439,440,441,442,443,444,445,446,447,448,449
	Kazirhowla	153	3,4	1294,1298,1299,1300,1301,1302,1303,1304,1305,1306,1307,1308,1309,1310,1311,1312,1313,1314,1315,1316,1317,1318,1319,1320,1321,1322,1323,1324,1325,1326,1327,1351,1352,1353,1354,1355,1356,1357,1358,551,552,553,554,555,556,557,558,559,560,561,562,563,564,571,572,573,574,575,576

Source: PKCP Project, UDD,2022

CHAPTER-3: URBAN LAND USE PLAN

3.1 Introduction

The land use plan is the principal component of the Urban Area Plan. The plan must consider the allocation of land for residence, business, industry, potential municipal facilities, public and private recreation, major institutional facilities, mixed uses, open space and natural and fragile areas. Optimum intensities and standards of development must be established for each use

classification and location based upon current development, natural land characteristics, and projected municipal services and facilities.

Allocations of land use must consider impacts on surface and ground water resources, wetlands, coastal features, and other sensitive and fragile natural resources. Judgments must be made on the ability of various existing and new land use controls to properly protect these natural resources.

The characteristics, trends and projections of population and employment will be essential input to the allocation of land areas for use. The plan should show how the projections have been used to determine amounts of land needed for residential, industrial, and other purposes. These quantitative relationships carry over to other components of the plan in that certain facilities and services (utilities, transportation, recreation areas etc.) are needed to support the land allocation to each use.

3.2 Existing Land Use

The overall pattern of existing land uses and possible future land distribution for various land uses can be observed. The information shows the quantity of land coverage for various land use categories over different spatial planning areas in the Upazila. This helps the adoption of land use development strategies and distribution of required land for various services and facilities for promotion of urban services in the suitable places of the Upazila identified from physical planning point of view. The inhabitant of Rangabali main occupation is agriculture and fishing. So, the potential urban area is agriculture dominant area that occupy 1096 acre of land. The residential land use is the second largest of this urban area.

Table-02: Existing Land use distribution

Land use	Area (Acre)	Percentage
Administrative	10.48	0.53

Agricultural Land	1096.40	55.71
Circulation Network	27.27	1.39
Commercial	17.56	0.89
Community Service	4.34	0.22
Education and Research	6.44	0.33
Healthcare Service	0.81	0.04
Industrial	0.60	0.03
Mixed Use	0.13	0.01
Non-Government Services	0.61	0.03
Residential	572.14	29.07
Service Activities	0.56	0.03
Water body	230.98	11.74

Source: PKCP Project, UDD,2022

3.3 Existing Urban Facilities

Table-03: Existing Urban Facilities

Existing Facilities			
Bank	2	Madrasah	2
BRAC NGO	1	Police Station	1
College	2	Mosque	10
Diagnostic Center	3	VIP Dakbanglo	1
Forest Research Institute/Office	2	Upazila/Union Parishad	2
Health Complex	1	Primary School	5
High School	1	Temple	2

Source: PKCP Project, UDD,2022

Existing Landuse Map of Rangabali Potential Urban Area

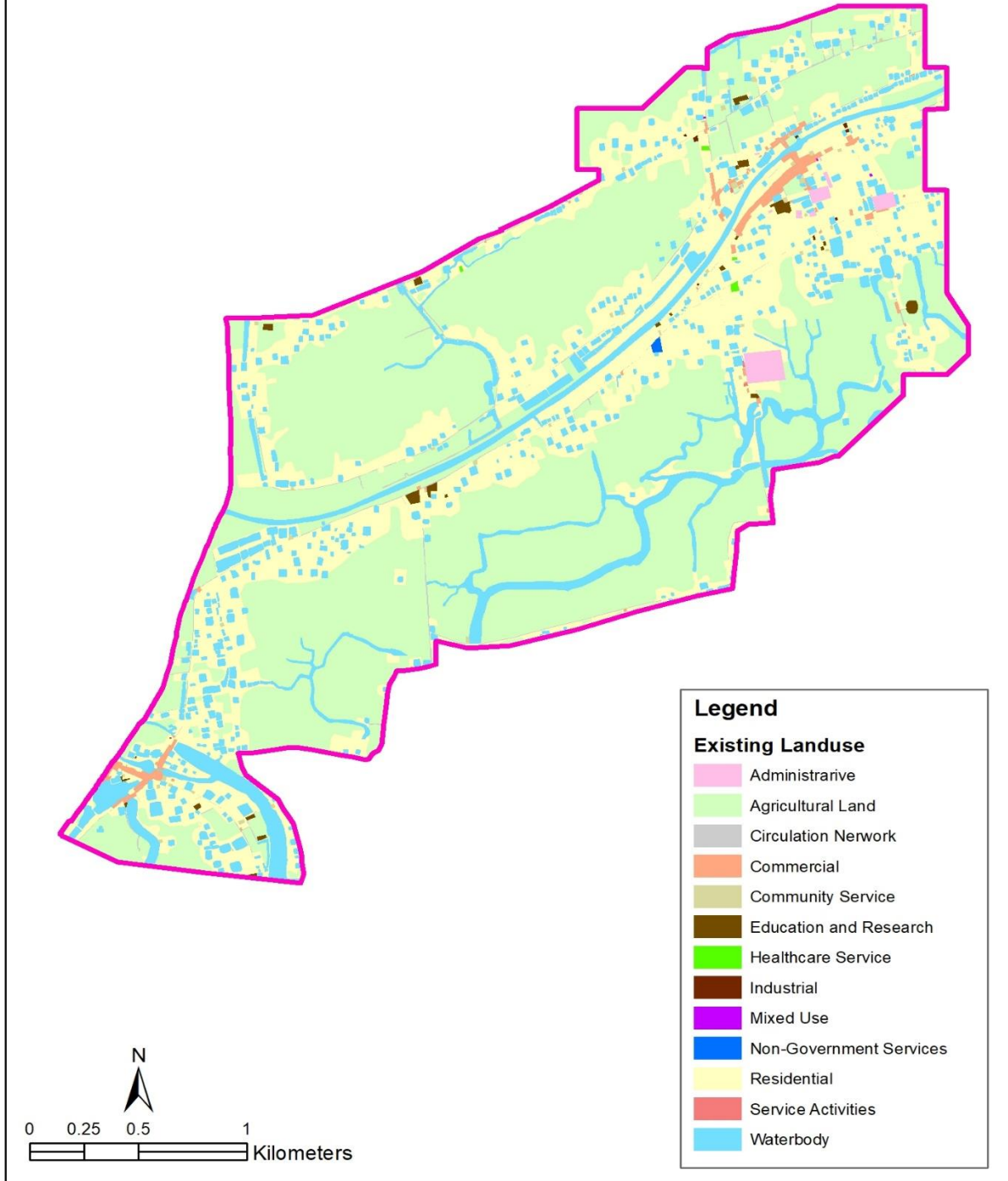


Fig-02: Existing Land Use Map

Source: PKCP Project, UDD,2022

3.4 Ideal Urban Area Facilities

Ideal urban cities can vary based on specific cultural, environmental, and societal contexts, but there are several common criteria that are often considered important for creating livable and sustainable urban environments. An ideal urban city seeks to create a balanced and sustainable environment that enhances the quality of life for its residents, promotes inclusivity, fosters innovation and creativity, and preserves the city's unique cultural identity.

3.5 Land use plan components

Designation of Land Use

One of the objectives of land use plan is to designate appropriate areas for residential, commercial, industrial, parks and open space, and various types of community and public facilities that will be mutually supportive, equitably distributed and will accommodate the projected need for reasonable development opportunities in each sector. Following is the classification of land use that may be used as a guide for designating appropriate areas for different types of land uses in the potential paurashava depending upon its size and its socio-economic and physical characteristics.

Land Development Management Zones

As a basis of land development management for Rangabali Upazila, the urban area plan designates fourteen development management zones as listed below and which are indicated on the potential urban area plan map.

For each of these zones, land uses are indicated in three categories –permitted uses, conditional uses and use requiring a special plan review.

Table-04: Land Zone Definition

	Land use	Permit	Remarks
1	Residential	Residential developments for:	The developments in this zone are subject to controls on building form and building height as determined by the competent authority. The quantum of all ancillary or non-residential uses needed for support or management of a residential estate are to be determined by the competent authority according to the scale of the residential
	a. Low density residential	1. Flats	
	b. Medium density	2. Condominium	
	c. High density residential	3. Town house	
	d. Planned residential	4. Terrace House	
	e. Special area (aborigine's area, fishermen's	5. Semi-Detached House	
		6. Detached House	
		7. Strata-Landed Housing	

	area, low income housing)	8. Retirement Housing 9. Serviced Apartments 10. Student Hostel	development.
2	Commercial a. Central Business District/ Town center b. Community commercial c. Neighborhood commercial d. ICT/e-commerce center e. Urban Street Vendor f. Farmer's market	Developments for: 1. Offices 2. Mixed Uses (e.g. Office/Shopping/Cinema/Hotel/Flat). 3. Convention/Exhibition Centre 4. Commercial 5. Bank 6. Market/Food Centre/Restaurant 7. Cinema 8. Entertainment 9. Foreign Trade 10. Mission/Chancery	The developments in this zone are subject to controls on the type and quantum of commercial uses as determined by the competent authority.
3	Residential and Commercial	1. Flats with commercial uses at 1st storey 2. Shop 3. Residential Developments (e.g. Flats)	Commercial areas are normally restricted to the 1 st storey. Commercial areas may be allowed above and/or below the 1st storey subject to evaluation by the competent authority. Where the competent authority allows commercial areas above and/or below the 1 st storey, the total quantum of the floor area of commercial uses in the 1st and other storeys shall not exceed the maximum allowable floor area at the 1 st storey
4	Commercial and Residential	1. Mixed Commercial & Residential development (e.g. Shopping/Hotel/ Office & Residential)	Commercial areas shall not be located above residential areas. The type and quantum of commercial and related uses and the total quantum of such

			commercial and related uses shall be determined by the competent authority. The total quantum of commercial and related uses shall not, unless otherwise allowed by the competent authority exceed 40% of the maximum allowable floor area
5	Industrial and Manufacturing 1 (IM-1)	Clean and Light industrial factories with one or more predominant uses as mentioned in industrial development act.	The quantum of permitted ancillary uses shall not exceed 40% of the total floor area. The types of uses that may be allowed are subject to the evaluation of the competent authority and other relevant authorities.
6	Health Facilities	<ol style="list-style-type: none"> 1. Hospital 2. Polyclinic 3. Clinic/Dental Clinic 4. Veterinary Clinic 5. Nursing Home 6. Medical suite 	Hospitals shall only be allowed subject to evaluation by the competent authority
7	Education and Research	<ol style="list-style-type: none"> 1. Kindergarten 2. Primary School 3. Secondary School 4. Junior College 5. Institute of Technical Education 6. Polytechnic 7. University 8. Religious School/Institute 9. Foreign System School 10. Special Education School (e.g. School for the Disabled) 	
8	Public Administrative and Community Facilities	<p>Public Administrative</p> <ol style="list-style-type: none"> 1. Courts 2. Police Station 3. Fire Station 4. Prison 5. Drug Rehabilitation 	The specific institutional use that may be allowed for a site is subject to evaluation by the competent authority.

		<p>Centre/Halfway House</p> <ol style="list-style-type: none"> 6. Reformative Centre Community Institutions 7. Association premises 8. Community Centre/Club 9. Community Hall 10. Welfare Home 11. Child Care Centre 12. Home For The Aged 13. Home For The Disabled 14. Workers’ Dormitory Cultural Institutions 15. Television/Filming Studio Complex 16. Performing Arts Centre 17. Library 18. Museum 19. Arts Centre/Science Centre Concert Hall 	
9	Open Space/ Green Space	<ol style="list-style-type: none"> 1. Park 2. Play-grounds (stadium, Play field etc.) 3. Natural and underdeveloped resources areas (critical habitat areas, areas with natural beauty such as river bank or char, heritage sites etc.) 4. Coastal Afforestation 5. Swamp Area 6. Natural Open Space 	<p>Where additional sites for open space are deemed necessary, they may be secured by the competent authority.</p> <p>The notations used to delineate the park connectors may not show their precise boundaries which are subject to interpretation and determination by the competent authority.</p>
10	Waterbody	<ol style="list-style-type: none"> 1. River 2. Major Drain & Canal 3. Reservoir 4. Pond 5. Pond (Conservation) 	<p>The notations used to delineate the drainage reserves may not show their precise alignment which are subject to interpretation and determination by the competent authority and other relevant authorities. Additional drainage reserves may be</p>

			secured by the competent authority for any locality as may be deemed necessary.
11	Road	<ol style="list-style-type: none"> 1. Roads (all category) 2. Cycle tracks 3. Footpath 4. Special facilities for disabled and elderly people 	<p>The notations used to delineate the route of the roads may not show their precise alignment, which is subject to interpretation and determination by the competent authority and other relevant authorities.</p> <p>All roads including their junctions are subject to widening and improvement, as may be determined by the competent authority. Buffers along and adjoining roads may be required to be set aside where deemed necessary by the competent authority. Additional road reserves may be secured by the competent authority for any locality as may be deemed necessary.</p>
12	Transportation Facilities	<ol style="list-style-type: none"> 1. Bus, truck, taxi terminal 2. Rickshaw/tempo/ bike stand 3. Launch/boat/steamer terminals 4. Helipad/airport 5. Driving Circuit/Test Centre 6. Petrol Station 	Petrol Station/Kiosk shall only be allowed subject to evaluation by the competent authority
13	Public Services and Utilities	<ol style="list-style-type: none"> 1. ICT center 2. Fire service 3. Sewerage treatment/disposal area 4. Waste disposal area 5. Water supply/ treatment plant 6. Rainwater harvest area 7. Power station 8. Graveyard/Cemetery/ Cremations area 9. Electrical Substation 10. Power Station 11. Sports Facilities (Gymnasium) 	Additional sites for such purposes for any locality may be secured by the competent authority where deemed necessary.

14	Agriculture	<ol style="list-style-type: none"> 1. Agrotechnology Par 2. Aquaculture Farm (e.g. Aquarium fish) 3. Plant Nursery 4. Hydroponics Farm 5. Agriculture research/ experimental station 	
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Source: PKCP Project, UDD,2022

Proposed Facilities

Table-05: List of Proposed facilities

1. Waste Management Site	2. Fire Service Station	3. Ashrayon Area
4. Power Station	5. Orphanage	6. Health Center
7. Bus Terminal	8. Helipad	9. CNG Stand
10. Graveyard	11. Water Treatment Plant	12. Mosque
13. Public Library	14. Community Center	15. Fecal Sludge Treatment Plant
16. Health Center	17. Neighborhood Commercial 18. Court	19. Technical Training Center
20. IT Park	21. Open Space	22. Affordable Housing
23. Stadium	24. Town Hall	25. Public Toilet 26. Waste Transfer Station
27. Community Transport Stand	28. Park	29. Community Center
30. Community Commercial	31. Land Office	32. Market

Source: PKCP Project, UDD,2022

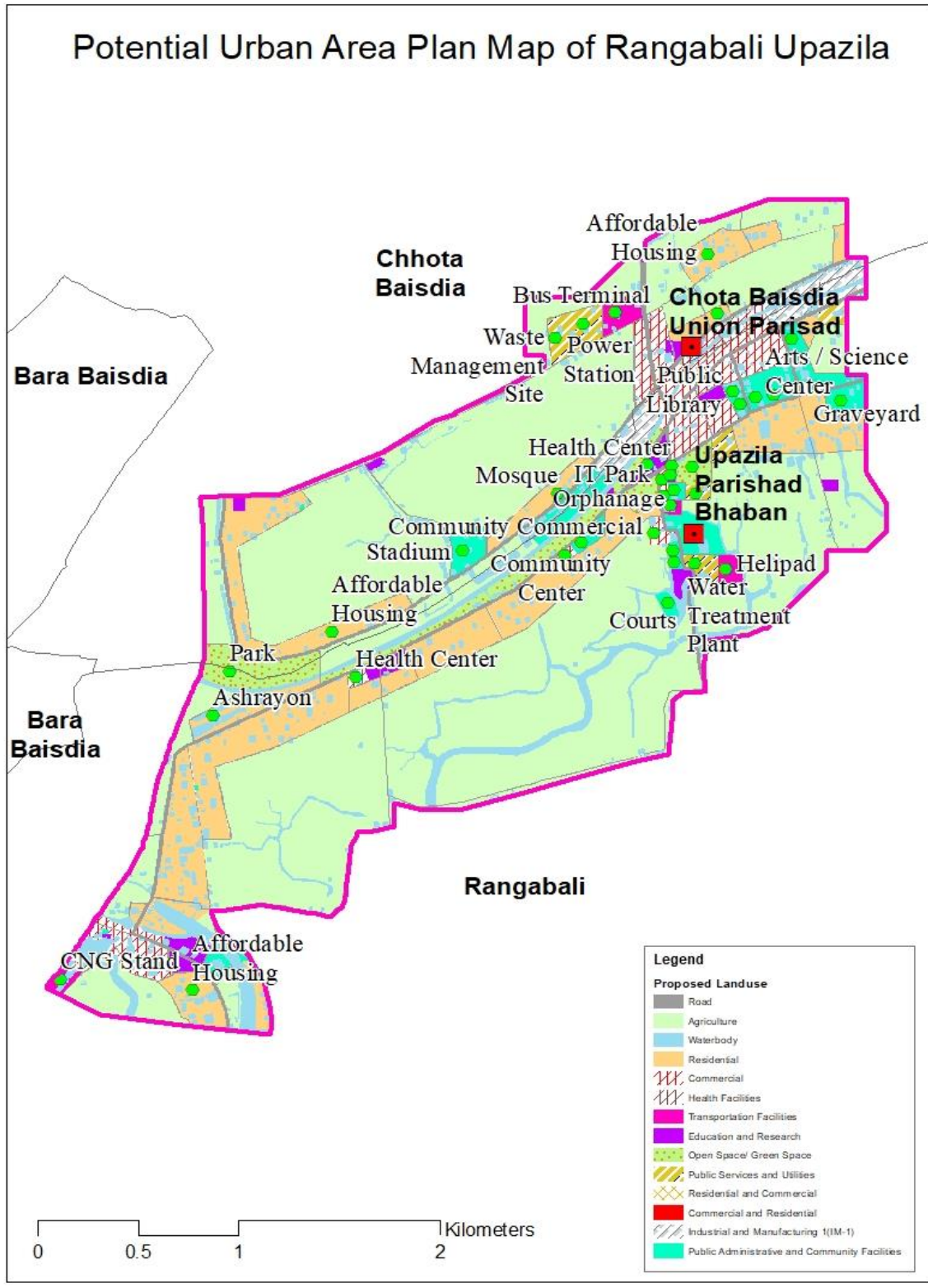


Fig-03: Potential Urban Area Plan

Source: PKCP Project, UDD,2022

Table-06: Proposed Land use area

Proposed Land Use	Area acre	Percentage
Public Administrative and Community Facilities	39	2
Agriculture	1089	55
Commercial	75	4
Education and Research	23	1
Health Facilities	2	0
Industrial	25	1
Open Space/green space	55	3
Public Services and Utilities	24	1
Residential	258	13
Road	116	6
Transportation Facilities	14	1
Waterbody	222	11

Commercial Facilities

Source: PKCP Project, UDD,2022

Commercial land use is the use of land for commercial purposes. The trading of goods and services at retail stores, the trading of goods and services at wholesale, the operation of financial institutions, and a wide range of services that are roughly categorized as "Business" are among these activities. Market-ready locations and existing markets are also included in commercial land. The business zone is designed to offer spaces that can operate without endangering nearby land uses. Despite the fact that only around 17.56 acres of the land are actually used for this purpose under the current land use, the zone represents about 0.89 % of the entire potential urban region. This zone has been proposed with an area of 74 acres up to 2031.

Determination of Standard

According to the standard for Wholesale Market/bazar, 3 to 5 acres' land is to be provided for every 10,000 populations and 0.5-acre land for every 10,000 populations for Retail market. An amount of 0.5-acre land for every 20,000 populations for future Paurashava shopping complex/ market, 1 to 1.25-acre land for cattle market and 1-acre land (per 25,000 population) for bank, hotel, garage and godown is recommended.

Recommendation / Forecast

The plan has proposed for a shopping complex/ market of 16.95 acres, Retail sale market of 98.75 acres and whole sale market of 26.39 acre. Necessary planning permission and design criteria will be provided by the Responsible Authority. Some lands may be allowed to use for other commercial purposes like bank, hotel and godown.

Residential Area

Rangabali Potential Urban area current residential areas include homestead gardens, courtyards, and unoccupied land of households. However, the proposed land use only includes residential land, accounting for 256 acres.

Determination of Standard

The standard recommended for residential development is 100-150 persons per acre (gross). It is recommended that 150-200 persons per acre for real estate or housing areas can be considered both for public and private sectors. No standard is being recommended for low-income group.

Recommendation/ Proposition

According to the standard (100 persons per acre), 256 acres' land will be needed up to the year 2031. Existing residential area (572 acres) is higher than the projected areas (256 acres) as homestead vacant lands and homestead gardens are included with the residential demarcation and calculation as well. Considering the scenario, an amount of 256 acres of land has been allocated for residential use only. The area proposed for such development should not exceed 20 acres. Rural environment should be maintained in the row housing areas. The Consultant also recommends and demarcates a public or private entrepreneurship housing area in the Urban Residential Zone.

Industrial and Manufacturing 1(IM-1)

General industries are the Green and Orange A categories as per the Environment Conservation Rules, 1997. The general industrial zone is intended to provide locations, where general industrial establishments can be set up and function without creating hazards to surrounding land uses. It is likely that major industrial establishments will be located in the near future. The industrial zone has been proposed with an area of 25.42 acres. Since there is no industrial agglomeration in the town, the action area plan has proposed for some area of general agro based industry and small scale industry.

Determination of Standard

According to the planning standard, 2.5 acres' land is being allocated for every 10,000 people in case of general agro based and small-scale industry. An amount of 10 to 20 acres per Upazila headquarters or Paurashava is recommended for heavy industry and service industry.

Recommendation / Forecast

The recommends of planned formation including grouping of industries on different locations. Under industrial zone, it has particularly proposed land for small scale and agro based industries.

Public Administrative

Government Office zone covers all kinds of government offices including existing and proposed uses (e.g. proposed ward office) in the town. The existing and proposed government offices are Upazila Tahsil Office, Upazila Agriculture Office, Police Station, Sub-registry Office, T & T Office, and Upazila Parisad Office. The proposed Government Offices are Paurashava complex and Ward Centers for nine wards. Total area under this use is proposed for 38.84 acres.

Determination of Standard

According to the standard for government office land, 15 acres of land is to be provided for the Upazila, 3 to 5 acres per future Paurashava Office, and 2 to 5 acres per Union. Total required land for administration stands at 8.90 acres. New government office land will be needed and it is being proposed.

Recommendation/ Forecast

The Potential Urban Area is lacking important government offices. Vertical expansion of the existing government offices is required

Road

In total, 13.7 acres or 0.7% of the Rangabali Urban Area (including existing circulation network) area has been proposed for circulation network for 2031. Road network including primary, secondary, tertiary and access road falls under this category in Rangabali Urban Area. It shows development proposal for Circulation Network.

Transportation Facilities

Under transportation facilities, both transport and communication services are considered. For Rangabali Urban Area, this category includes bus terminal/ stand, filling station, garage, passenger shed, ticket counter, transport office etc. At present, there is no bus and truck terminal in Rangabali Urban Area.

Determination of Standard

According to the standard for administrative land, 1 acre of land is to be provided for a bus stand which might serve 15,000-25,500 population, 1 acre of land is to be provided for a bus terminal/ stand which will serve 50,000 people. An amount of 0.25-acre land is required per motor cycle stand, rickshaw stand. Total required land for Transportation Facilities stands at 13.7 acres.

Recommendation/ Forecast

A bus terminal with an area of 5 acres is proposed in urban area.

Community Facilities

Community facilities include Community Centre, Graveyard/ Burial Site/ Cremation Ground, Electric Sub-station, Water Supply Pump, Post Office, T&T Office, Police Outpost, Public Library, Eidgah, Mosque/Church/Temple, Fire Service Station, Club, etc. The existing land area under such uses is 0.87 acres and proposal is made for new 26.1 acres of land for future use in community facilities.

Determination of Standard

The planning standard suggests for allocating 0.5 acre of land per 20,000 people for community centre, Graveyard/ Burial Site/ Cremation Ground and Eidgah. An area of 0.5-acre land per 20,000 people is prescribed for Mosque/ Church/ Temple, Post office and T&T Office. For Fire Service Station, 0.5-acre land per 20,000 people is recommended. For Upazila Administrative Headquarters, 1 acre per 20,000 people and an area of 3–5 acres for the Upazila Police Station are recommended. In total, an amount of 26.1 acres of land is required for fulfilling these demands up to 2031.

Recommendation/ Proposition

The plan recommends 1 new eidgah with 0.92 acres of land, 1 new graveyard with 1.33 acres. Areas for Mosque/Church/Temple, Post office and T&T Office are needed to be readjusted within the existing areas.

Education and Research

Educational and Institutional area refers to mainly educational institutions and other social service facilities and conditional uses. The total area under this use has been determined as 22.6 acres (1.14 % of the Urban Area) that include 15 acres of land uses. The plan also recommends for strengthening the existing institutional status through vertical expansion and conversion of non-government institutions.

Determination of Standard

According to the standard for nursery/ kindergarten, 1 unit with 0.5 acres of land is to be provided for every 10,000 populations and for primary school, 1 unit with 2 acres of land is to be provided for every 5,000 populations. The plan has estimated a population of 13,000 for the year 2031. Considering projected demand, 4.29 and 34.33 acres of land will be required respectively

for nursery/ kindergarten and primary school up to the year 2035. Thus, new nursery and primary schools are required.

According to standard, 5 acres of land may be provided for every 20,000 populations for one secondary school. Therefore, as per standard the planning area needs $(85,819 \times 5 \text{ acres} / 20,000)$ 21.45 acres' land for secondary school up to the year 2035. Thus, new high schools are required.

According to standard, 10 acres of land may be provided for every 20,000 populations for one college. Therefore, as per standard the planning area needs $(85,819 \times 10 \text{ acres} / 20,000)$ 21.45 acres' land for secondary school up to the year 2035. Thus, new college is required.

An important component for the urban area is vocational training as people living in the Upazila can be benefitted from its services. Multi-dimensional training may be offered through the centre. People are being benefitted directly and may prepare them as technical persons obtaining training from vocational centre. At present, there is no vocational training center in the urban center. The prescribed standard for vocational training center is 5 to 10 acres for Upazila.

Recommendation/ Proposition

According to the standard and considering different planning aspects, 5 new secondary/ high schools with an area of 11.01 acres are proposed for the planning area. Besides, with increasing enrollment, existing high schools may be expanded horizontally or vertically.

According to the standard and considering different planning aspects, 1 new colleges with an area of 14.676 acres are proposed for the planning area. Besides, with increasing enrollment, existing high schools may be expanded horizontally or vertically.

Health Facilities

The zone of health care facilities is intended to provide locations, where health facilities including Upazila Health Complex, maternity clinics, and other health facilities can be set up and function without creating hazards to surrounding land uses. This zone has been proposed with an area of 47.39 acres designated up to 2031, which is only 1.2% of the total urban area. Community Health Care Center will be available at each side of urban area with other facilities.

Determination of Standard

The prescribed standard for health facilities are 10 to 20 acres for Upazila Hospital and 1 acre per 5000 populations for Health center/ Maternity clinic. According to the standard, up to the year 2035, 6.36 acres of land will be needed for Health center/ Maternity clinic.

Recommendation/ Proposition

Considering different planning aspects, five Community clinics are proposed at ward no. 2, 6, 7 and 9 with an area of 7.33 acres

Public Services and Utilities

A number of utility establishments are required in a town to run services properly. Utility services include Overhead Tank, Power Office/ Control Room, Public Toilet, Sewerage Office, Waste Disposal Site, Water Pump House, Water Reservoir, Water Treatment Plant, Waste Transfer Station etc. The consultant has earmarked some area for utility services like, solid waste disposal site with an area of 13.36 acre. There will be 9 waste transfer stations for collection of solid waste located at suitable locations of different wards.

Open Space/ Green Space

Recreational and sport facilities without or with minimum building structure i.e. Playground, Botanical Garden, Stadium, Zoo etc. are listed and proposed in the Open Space zone. This zone has been provided to meet the active and passive recreational needs of the people and at the same time, conserve the resources as per Playfield, Open Space, Park and Natural Water Reservoir Conservation Act, 2000. Total area earmarked for this zone stands at 132.41 acres. The present land area under this category is insignificant to mention.

Determination of Standard

According to the standard for recreational facilities, 0.5 acre of land is to be provided for every 20,000 populations for cinema/theatre, 5 to 10 acres land for stadium/sports complex and 1 acre land per 10,000 population for a neighborhood/ community park. For the projected population, total 39.20 acres of land is required for neighborhood/ community parks up to the year 2035. The study team recommends 27.64 acres for Children Park/ Central Urban Park and 2.36 acres for community parks.

Recommendation/ Proposition

The study team recommends 2 play fields / grounds of 5.66 acres, a central park on 27.64 acres of land.

Residential and Commercial

Mainly existing land use consisting of dwelling units, kitchen, latrine, out-house, kitchen garden, cowshed and courtyard.

Table-07: Urban Proposed Facilities Land Schedule

Proposed Facilities	Mauza Name, J.L. No., Sheet No.	Area (acre)	Plot No.
Affordable Housing/Planned Residential Area	Chatlakhali_180_01	256.003892	292, 295, 296, 300, 303, 304, 307
Fecal Sludge Treatment Plant	Fulkhali_179_02	2.881426	831,832,861,862,863,
Waste Management Site	Fulkhali_179_02	3.8	826,827,828,829,830
Power Station	Fulkhali_179_02	5.632436	837,838,840,841,842,
Bus Terminal	Fulkhali_179_02	6.322845	848,849,850,853,910,
Graveyard	Baherchar_155_002	6.846699	125,312,541,255,126,
Public Library	Baherchar_155_002	3	1151
Health Center	Kazirhowla_153_002	2	406, 413, 416
IT Park	Baherchar_155_001	74	322, 323
Stadium	Fulkhali_179_02	7.5	711, 712, 721, 722
Community Transport Stand	Baherchar_155_001	2	342, 345, 346, 348, 349, 350
Community Commercial	Baherchar_155_001	5	227, 228, 234, 235
Fire Service Station	Baherchar_155_001	2.2	337, 338, 339, 340, 341
Orphanage	Baherchar_155_001	1	1347, 1346, 1345, 1348, 1344
Helipad	Baherchar_155_001	4	483, 485, 486

Water Treatment Plant	Baherchar_155_00 1	3.93	476, 477, 486
Community Center	Baherchar_155_00 1	1	58 , 68, 69, 70
Neighborhood Commercial	Baherchar_155_00 1	3	40, 41
Court	Baherchar_155_00 1	2.55	193 , 194 , 198, 200, 202, 204
Land Office	Baherchar_155_00 2	1	1288 1289
Open Space	Rangabali_155_01	7.5	518,511,510,509,508, 337, 338
Town Hall	Rangabali_155_02	0.75	1151
Park	Kazir hawla_155_01	55	32, 33, 40, 407, 426, 436, 437, 460, 461, 462, 463, 464, 465, 466, 47, 48, 49
Ashrayon Area	Kazir hawla_153_01	4.3	49
Health Center	Kazir hawla_153_02	1.6	406, 407, 413, 416, 421
CNG Stand	Kazir hawla_150_01	2	104, 105, 106, 172, 174, 176, 177, 178
Technical Training Center	Baherchar_155_01	0.53	339, 340
Public Toilet	Baherchar_155_01	0.18	322, 323

Source: PKCP Project, UDD,2022

CHAPTER-4: URBAN TRANSPORTATION AND TRAFFIC MANAGEMENT GUIDELINE

4.1 Introduction

Modern life places a high value on transportation. The improvement of transportation has a significant impact on all aspects of life. In order to create a systematic foundation for planning such infrastructure, the science of transport planning aims to investigate the issues that occur while providing transportation facilities in an urban, regional, or national context. Town and country planning is a branch of science that examines how the urban or rural "system" communicates.

Since it deals with the transportation network, a crucial conduit of communication, transport planning is a significant component of overall town and country planning. One of the components of the urban area plan is the transportation and traffic management plan. Transport planning is still not used in Bangladesh.

Better transportation accessibility to study area is needed dreadfully to improve its connectivity within the area and with the remaining parts of the country. Better accessibility within the tourist spots can enhance the tourism sector of the country which will have greater impact on tourism and economic sector in Bangladesh. In addition, improvement of walkability and other facilities like housing, tourist entertainment activities, restaurants etc. within the tourist spots is necessary to provide safety and comfort to the local and international tourists.

For this, it is necessary to understand the present state of the transportation system based on which a sustainable transportation system can be built for the future. Therefore, a thorough traffic study on the existing road network is imperative. This will shed light on the recent state of transportation as well as provide information about its pros and cons and possibilities for future development. Through this transportation survey and studies, an improved transport system will

4.2 Purpose and Objectives

The goal of the guideline for the transportation system should be to provide a balanced transportation system that meets the needs of the community by accommodating the movement of people, goods, and riches at an optimum level of safety, economy and efficiency.

4.3 Transportation Survey finding

The surveys to be conducted are characterized by the properties of the existing roads and traffic, and as follows:

Reconnaissance Survey

The reconnaissance survey encompassed several road intersections, small/large bazars, waterways ghats/terminals and ongoing development projects within the study area. There is no direct road connectivity to Galachipa and Rangabali as people have to cross a canal first and then the Golachipa River and Agunmukha River to reach the main town area. In addition, the condition of the road is below average in various sections therefore requires upgrading and widening; if motorized vehicles need to cross safely. The condition of existing internal connecting roads such as upazila roads, union roads, village roads are of average standard. Most of the road conditions are so bad that it becomes risky for the motorized vehicles to move on the roads. There are cracks on the pavement at many points with a lot of holes. Most of the roads are Katcha and Brick pavement roads which are not in good condition. During flood road goes under water and becomes muddy, hence local people are fully dependent on waterways for movement. Moreover, roads are also so narrow and condition of culvert is miserable. Condition of launch ghat is also not good. Moreover, it is observed that the chaotic and provisional stand for local buses; electric auto rickshaws and motorbikes create traffic congestion and its access road.

Household Interview Survey

Household Survey was done by the interview on households. The interviews concentrated on the daily trip behavior- average travel time, mode choice behavior, cost of travel, time of travel, purpose including the basic socio-economic information such as no. of family members, age, gender, income level etc. For household survey, the study area Rangabali Upazila was divided into six zones based on administrative boundaries (Union Boundary). Four (4) external zones were identified based on the national, regional road connectivity.

From the survey, it is observed that on an average, 5.32 trips per household are generated within the study area per day whereas, 6.79 trip from Galachipa and Rangabali generated 6.76 trips. Due to this aggregation, following the central limit theorem of statistics, 40 random samples per zone is expected to be sufficient. However, surveyors were instructed to follow the below criteria to select the households:

Table-08: Household Interview Survey

Maximum samples each Zone	45 in	HHS	Income Category			
			15,000 below	or	15,000 – 30,000	30,000 or above
		3 or below	5		5	5
		4 - 5	5		5	5
		Above 5	5		5	5

Source: PKCP Project, UDD,2022

Surveyors were instructed to collect data from these three income categories households and three types of household size. The variables that were selected: Number of members, Gender,

Age, Income level, Educational institution, Vehicle ownership, Origin, Destination, Start time, End time, Purpose, Mode, Cost etc.

Traffic Counts

To find out the volume of traffic both road and waterways Traffic count survey has been conducted both on road network and waterway.

Classified Traffic Volume Count Survey

To understand the base-year traffic volume of the study area it is necessary to execute traffic count surveys. Three locations were selected through which the picture of major traffic movements within the entire study area can be captured. Below is the list of the Survey Locations within the study area: Baher Char Bazar and Rangabali Bazar – Khalgora Bazar.

Motorized Vessel Count Survey

As the study area is accessible by water way, water transport development is very vital part for this project. Manual Counting method was used to conduct the survey. Six (6) types of river transport were considered for survey: Boat, Speed Boat, Trawler, Small Launch, Big Launch and Ferry. The list of the name of locations is in below: Koralia Kheya Ghat, Rangabali Launch Ghat–Khalgora.

Origin-Destination Survey

In a transportation model development, it is necessary to know the exact origin and destination of the trips and group these trips with reference to the zones of their origin and destination. Origin is the place where trip begins and destination is the place where trip ends. The data was collected stopping every 10th vehicle of each category which will enable the modeler to have access to information on the OD pair of 10% of the flow data which eventually is extrapolated to obtain the overall OD matrix of the study area contributed through motorized vehicles. As the study area is comprised with both road and waterways so OD survey has been conducted for both water and road transport.

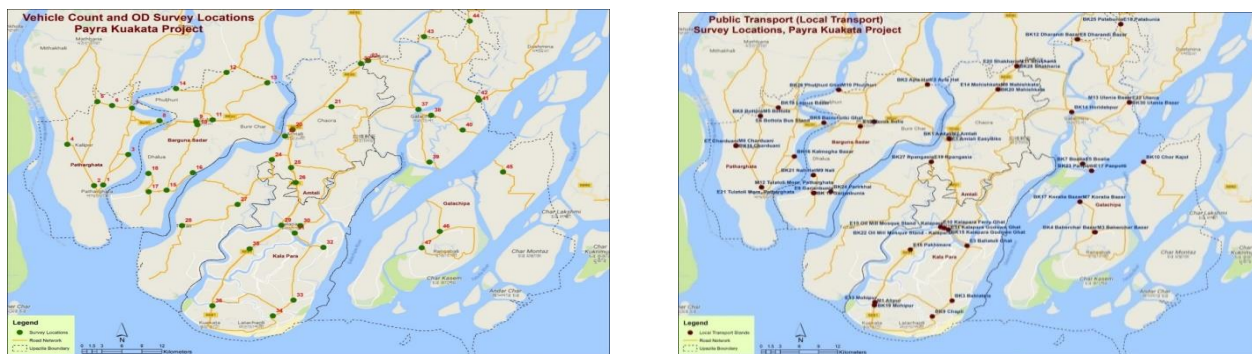


Fig-04: Vehicle Count and OD Survey Location

Waterways Ghats and Terminals

Overall ferry service in Patuakhali, Galachipa and Rangabali is in awful condition over the years. 10 ferries are already shutdown a long time ago.

4.4 Projected Travel and Traffic Demand

The purposes of trip categories as: Educational, Shopping (trips to bazar are also included), Work, Recreational and others (personal, treatment etc.). Other than these categories there is another category called Home Based Trip which includes all trips that destined to a household. Combining the results for each zone, the share of trips by different purposes as obtained from the household survey, can be represented by the following pie chart. It is seen that 18% of the trips are made for educational purpose; where 22% trips are made for work purposes and shopping trips share 6% of trips.

Source: PKCP Project, UDD,2022

Table-9: Mode of Transport

Zone ID	Union/ Zone	Educational	Work	Shopping	Recreation	Home Based	Others
51	Rangabali	14%	28%	5%	2%	50%	1%
52	Chhota Baisdia	13%	27%	5%	4%	49%	2%
53	Bara Baisdia	13%	26%	4%	6%	50%	1%
54	Chalitabunia	15%	24%	7%	4%	50%	0%

Source: PKCP Project, UDD,2022

4.5 Existing Road Network

Rangabali Upazila is located in the Patuakhali District of Bangladesh. The road network of Rangabali Upazila is primarily composed of rural roads and RHD roads that connect the area with other parts of the country.

The most significant road that passes through Rangabali Upazila, which runs from Kuakata to Kalapara via Patuakhali. This highway passes through the northern part of Rangabali Upazila and connects it with other nearby areas. These roads are typically unpaved and may not be well-maintained, making travel difficult during the rainy season.

Table-10: Road functional category

Functional Category	Length (Km)	Length (Sq.m)
Primary Road	0.002481	2480
Secondary Road	0.040733	40733
Tertiary Road	0.067125	67124

Source: PKCP Project, UDD,2022

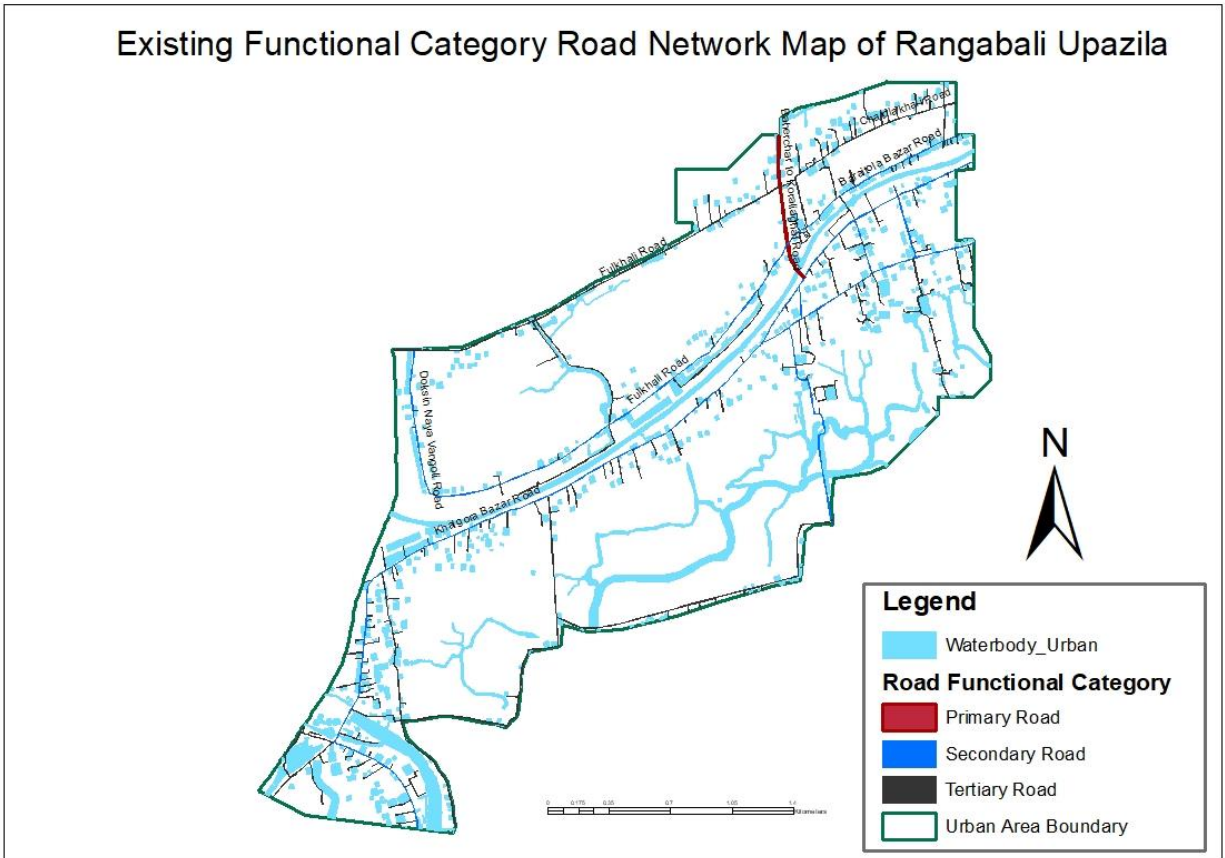
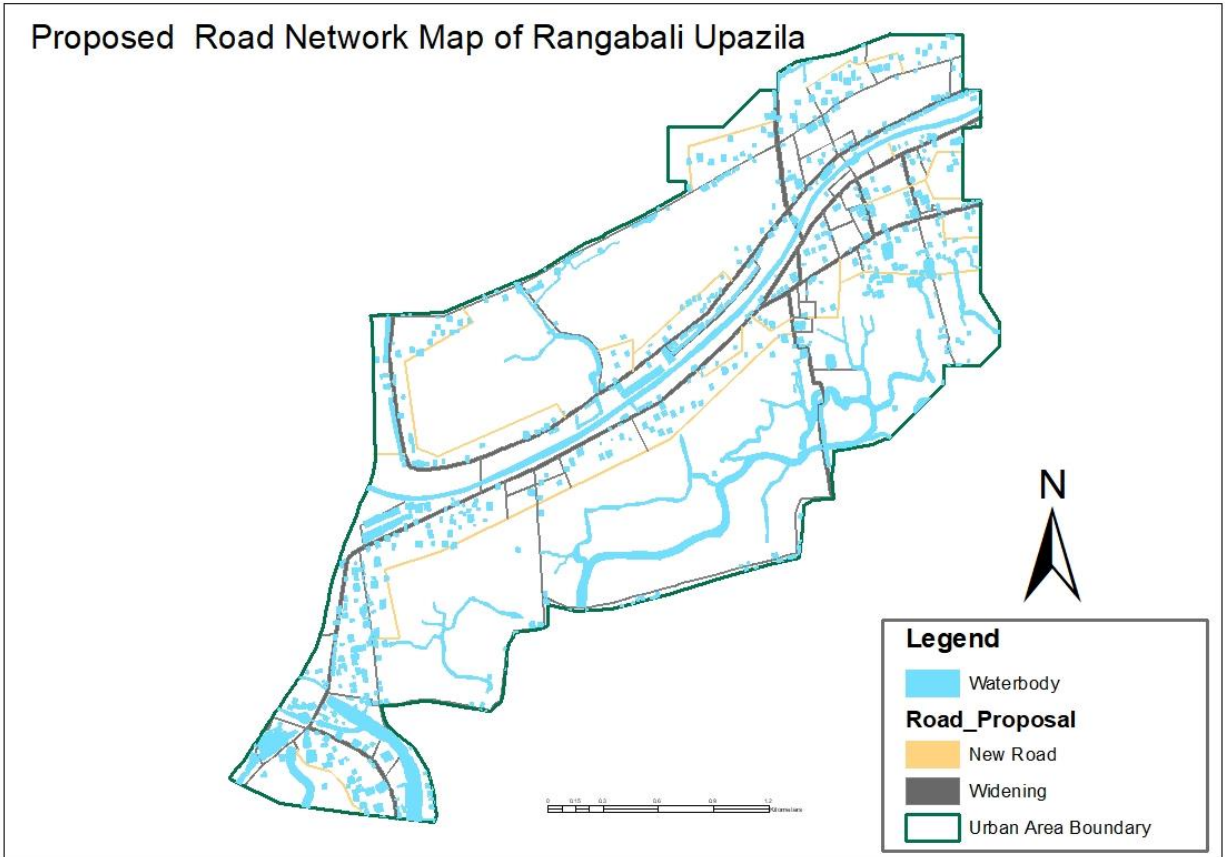


Fig-05: Existing Functional Category

Source: PKCP Project, UDD,2022

4.6 Proposed Road Network

Comprehensive and efficient transportation systems with good inter linkages are essential to ensure Rangabali Upazila Urban Area position as a modern city and to serve the administrative, financial and commercial center of the country. The city must be able to provide an efficient and equitable transport infrastructure which will allow all members of the community equal access so that everyone can enjoy the maximum benefits of urban life. Current inefficient transport system of the urban area is causing huge socio-economic losses which can become a major handicap to the national development by losing competitiveness in the world.



Source: PKCP Project, UDD,2022

Fig-06: Proposed Road Network Map

4.7 Proposal for Improvement of the Existing Road Networks

The improvement plan for existing road network has been prepared considering two categories, which are as follows:

- A. Roads connect urban area with Upazila Road Network
- B. Roads provide internal network of the Upazila

Table-11: Phase Wise Road Widening Proposal for Existing Road

Functional Category	Length_GIS	Road_ID	Rd_Type	Width_Pro	Road_Proposal	Phasing
Secondary Road	0.033	2	Katcha Road	60	Widening	2
Secondary Road	0.0005	6	Katcha Road	60	Widening	2
Primary Road	0.0006	7	Pucca Road	80	Widening	3
Tertiary Road	0.00007	8	Katcha Road	20	Widening	3
Tertiary Road	0.0006	11	Katcha Road	20	Widening	2

Tertiary Road	0.0010	12	Katcha Road2	20	Widening	3
Tertiary Road	0.005	13	Katcha Road	20	Widening	3
Tertiary Road	0.0005	14	Semi Pucca Road	20	Widening	2
Tertiary Road	0.00009	16	Katcha Road	20	Widening	3
Secondary Road	0.0069	17	Semi Pucca Road	60	Widening	2
Tertiary Road	0.0011	18	Katcha Road	20	Widening	2
Tertiary Road	0.0008	19	Katcha Road	20	Widening	3
Tertiary Road	0.0043	20	Semi Pucca Road	20	Widening	3
Secondary Road	0.0113	21	Katcha Road	60	Widening	2
Tertiary Road	0.00520	23	Semi Pucca Road	20	Widening	2
Tertiary Road	0.001020	24	Pucca Road	20	Widening	2
Tertiary Road	0.00687	25	Pucca Road	20	Widening	2
Tertiary Road	0.0115	26	Katcha Road	20	Widening	2
Secondary Road	0.0041	27	Katcha Road	60	Widening	1
Secondary Road	0.0060	28	Katcha Road	60	Widening	2
Tertiary Road	0.0003	29	Semi Pucca Road	20	Widening	2
Tertiary Road	0.00146	30	Katcha Road	20	Widening	3
Tertiary Road	0.00640	32	Katcha Road	20	Widening	2
Tertiary Road	0.00059	33	Semi Pucca Road	20	Widening	2
Secondary Road	0.0231	34	Pucca Road	60	Widening	1
Tertiary Road	0.0003	36	Katcha Road	20	Widening	3
Tertiary Road	0.00014	39	Semi Pucca Road	20	Widening	2
Tertiary Road	0.0008	40	Katcha Road	20	Widening	2
Secondary Road	0.0842	41	Semi Pucca Road	60	Widening	2
Tertiary Road	0.00010	42	Katcha Road	20	Widening	2
Tertiary Road	0.00124	44	Katcha Road	20	Widening	2
Tertiary Road	0.00054	47	Pucca Road	20	Widening	3
Tertiary Road	0.00840	48	Katcha Road	20	Widening	2
Tertiary Road	0.00255	49	Katcha Road	20	Widening	3
Tertiary Road	0.005130	54	Katcha Road	20	Widening	3
Primary Road	0.015445	55	Pucca Road	80	Widening	1
Secondary Road	0.01382	57	Pucca Road	60	Widening	2
Tertiary Road	0.00506	58	Katcha Road	20	Widening	2
Tertiary Road	0.00138	59	Katcha Road	20	Widening	2
Tertiary Road	0.00023	62	Pucca Road	20	Widening	2
Secondary Road	0.06242	63	Katcha Road	60	Widening	3
Tertiary Road	0.00303	64	Katcha Road	20	Widening	2
Tertiary Road	0.00187	66	Semi Pucca Road	20	Widening	2
Tertiary Road	0.00142	70	Pucca Road	20	Widening	2
Tertiary Road	0.001081	72	Katcha Road	20	Widening	3

Tertiary Road	0.00027	73	Semi Pucca Road	20	Widening	2
Tertiary Road	0.01485	74	Katcha Road	20	Widening	2
Tertiary Road	0.00148	80	Semi Pucca Road	20	Widening	2
Secondary Road	0.00372	81	Pucca Road	60	Widening	1
Tertiary Road	0.00073	82	Katcha Road	20	Widening	2
Tertiary Road	0.00167	83	Katcha Road	20	Widening	2
Secondary Road	0.01388	84	Katcha Road	60	Widening	2
Tertiary Road	0.00071	85	Katcha Road	20	Widening	2
Tertiary Road	0.00202	87		20	Widening	2
Tertiary Road	0.00127	89		20	Widening	2
Tertiary Road	0.00085	90		20	Widening	2
Tertiary Road	0.00085	93		20	Widening	3
Tertiary Road	0.00076	94		20	Widening	3
Tertiary Road	0.00119	99		20	Widening	3
Tertiary Road	0.00151	100		20	Widening	3
Tertiary Road	0.00241	102		20	Widening	3
Tertiary Road	0.00030	105		20	Widening	3
Tertiary Road	0.00125	106		20	Widening	3
Tertiary Road	0.00112	107		20	Widening	3
Tertiary Road	0.00086	109		20	Widening	3
Tertiary Road	0.00124	112		20	Widening	3
Tertiary Road	0.00212	113		20	Widening	3

Source: PKCP Project, UDD,2022

4.8 Proposals for New Roads

Phase Wise Newly Proposed Road

Table-12: Proposal for new road

Functional_C category	Len_GIS	Road ID	Width_Pr oposal	Road_Pro posal	Phas ing	Shape_ Leng	Shape_ Area	Lengt h_M
Tertiary Road	0.019116 78143	31	20	New Road	3	6279.90	19116.7 8	19.12
Tertiary Road	0.004549 14270	37	20	New Road	3	1501.75	4549.14	4.55
Tertiary Road	0.002308 04774	50	20	New Road	3	766.80	2308.05	2.31
Tertiary Road	0.003262 75284	79	20	New Road	3	1079.73	3262.75	3.26
Tertiary Road	0.004079 97714	86	20	New Road	3	1347.30	4079.98	4.08
Tertiary Road	0.003498 01057	88	20	New Road	2	1156.68	3498.01	3.50
Tertiary Road	0.001738 17933	91	20	New Road	3	578.18	1738.18	1.74
Tertiary Road	0.002162	92	20	New Road	3	718.52	2162.63	2.16

	63147								
Tertiary Road	0.002276 15740	95	20	New Road	3	755.05	2276.16	2.28	
Tertiary Road	0.004507 99789	96	20	New Road	3	1487.99	4508.00	4.51	
Tertiary Road	0.011617 55043	97	20	New Road	3	3819.30	11617.5 5	11.62	
Tertiary Road	0.001064 25046	98	20	New Road	3	358.74	1064.25	1.06	
Tertiary Road	0.002664 25089	101	20	New Road	3	883.34	2664.25	2.66	
Tertiary Road	0.002103 64039	103	20	New Road	2	699.12	2103.64	2.10	
Tertiary Road	0.001661 05159	104	20	New Road	3	554.54	1661.05	1.66	
Tertiary Road	0.001667 00918	108	20	New Road	3	556.25	1667.01	1.67	
Tertiary Road	0.002212 93598	110	20	New Road	2	735.60	2212.94	2.21	
Tertiary Road	0.000550 01850	111	20	New Road	2	190.03	550.02	0.55	

Source: PKCP Project, UDD,2022

Design Principles and Standards

PRA survey has been done throughout the Upazila. During the session and survey most of the people demanded for road network improvement. Road network hierarchy has been developed for the proposed roads of this Upazila according to the LGED and RHD. National highway and Regional highway has been proposed to upgrade into four lane roads. The significant roads inside the Upazila has been proposed to make pucca. The following cross section and proposed road width have to maintain during road construction. In **Table** description of the types, agencies who are responsible are given and in **Table** road cross-section standards have been presented. **Table** depicts the proposed roads according to width along with lane.

Table-13: Description of the Types, Definitions and Definitions and Agencies Responsible for various Roads of the Country (2003)

Sl. No.	Type	Definition	Ownership and Responsibility
1	National Highways	Highways connecting National Capital with Divisional HQ/s or seaports or land ports or Asian Highways.	RHD*
2	Regional Highways	Highways connecting District HQ/s or main river or land ports or with each other not connected by National Highways.	RHD

3	Zila Road	Roads connecting District HQ/s with Upazila HQ/s or connecting one Upazila HQ to another Upazila HQ by a single main connection with National/Regional Highway, through shortest distance/route.	RHD
4	Upazila Road	Roads connecting Upazila HQ/s with Growth Centers with another Growth Center by a single main connection or connecting Growth Center to Higher Road System**, through shortest distance / route.	LGED*/LGI*
5	Union Road	Roads connecting Union HQ/s with Upazila HQ/s, Growth Centers or Local Markets or with each other.	LGED*/LGI*
6	Village Road	a) Roads connecting Villages with Union HQ/s, local markets, farms and ghats or with each other. b) Roads within a Village.	LGED*/LGI*

Source: LGED, 2005

Design Classes

Roads in Bangladesh are divided into the following six design types. The figures of cross-sections are presented in **Figure**

Table-14: Road Cross-Section Standards

Design Type	Design year traffic volume PCU/peak hour (typical MV AADT)	Cross-section widths in metres			Indicative Road Classification		
		Crest Width(meter)	Carriageway (no. of lanes)	Paved shoulders			
1	4500 - 8500 (19,000-36,000)	36.2	2x 11 (6)	1.8	National	Regional	Feeder
2	2100-4500 (7,000- 19,000)	21.6	2x7.3 (4)	1.8			
3	1600-2100 (5,000-7,000)	16.3	7.3 (2)	1.5			
4	800- 1600 (1,000-5,000)	12.1	6.2 (2)	1.5			
5	400 - 800 (500 -1,000)	9.8	5.5 (2)	1.2			
6	<400 (<500)	9.8	3.7 (1)	1.2			

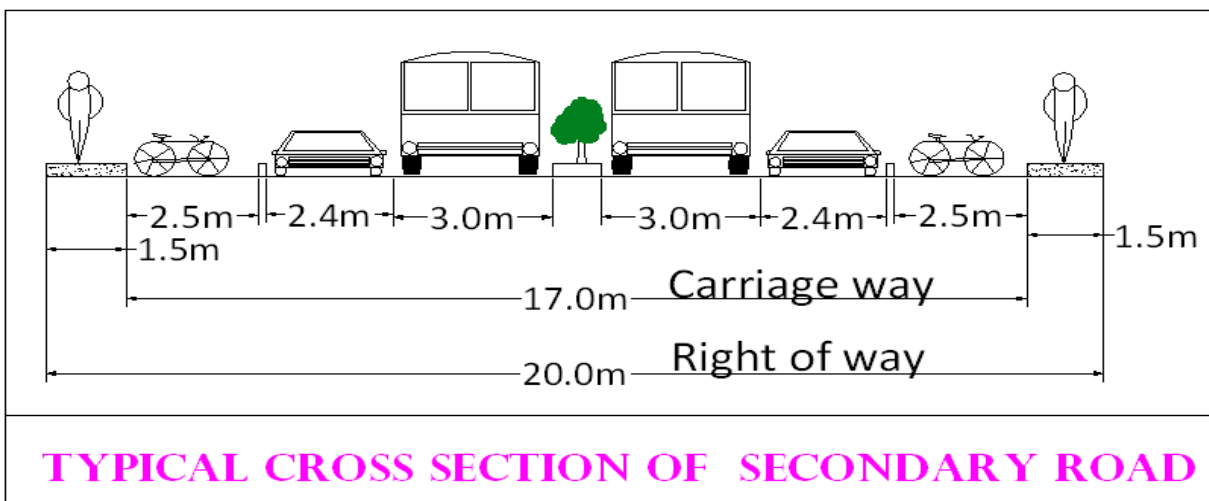
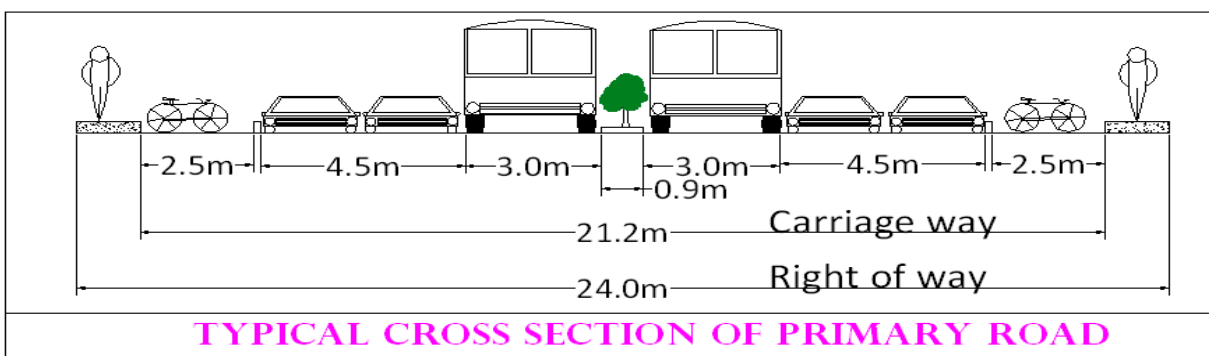
Source: RHD 2004

Table-15: Proposed Road Width

Sl. No.	Road Category	Buffer Width (meter)	Lane	Design Type
1	National Highways	21.6	4	Type 2
2	Regional Highways	16.3	2	Type 3
3	Zila Road	12.1	2	Type 4
4	Upazila Road	7.3	1	
5	Union Road	5.5	1	
6	Village Road	4.8	1	

Source: RHD 2004

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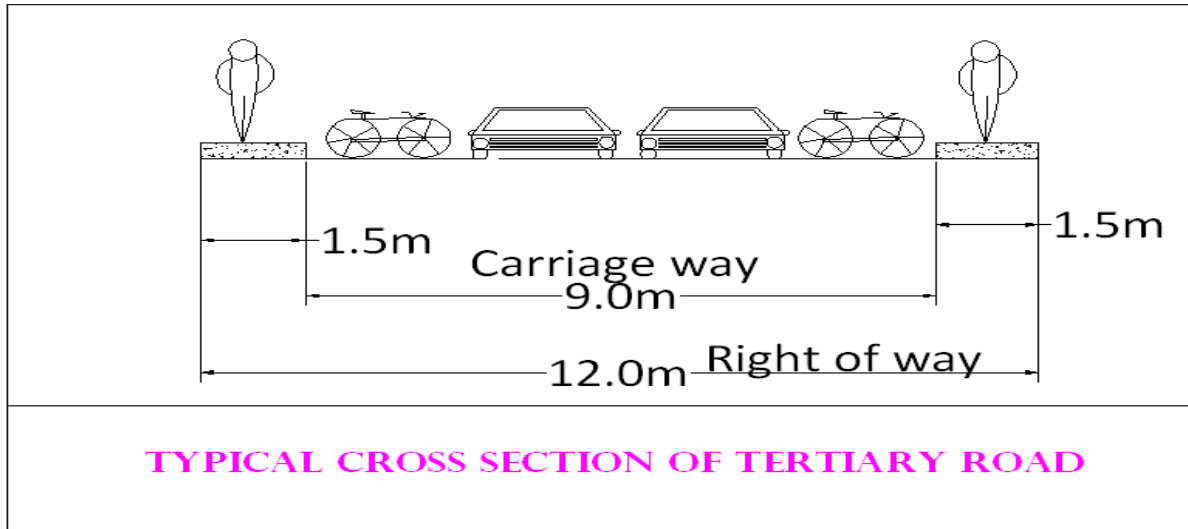
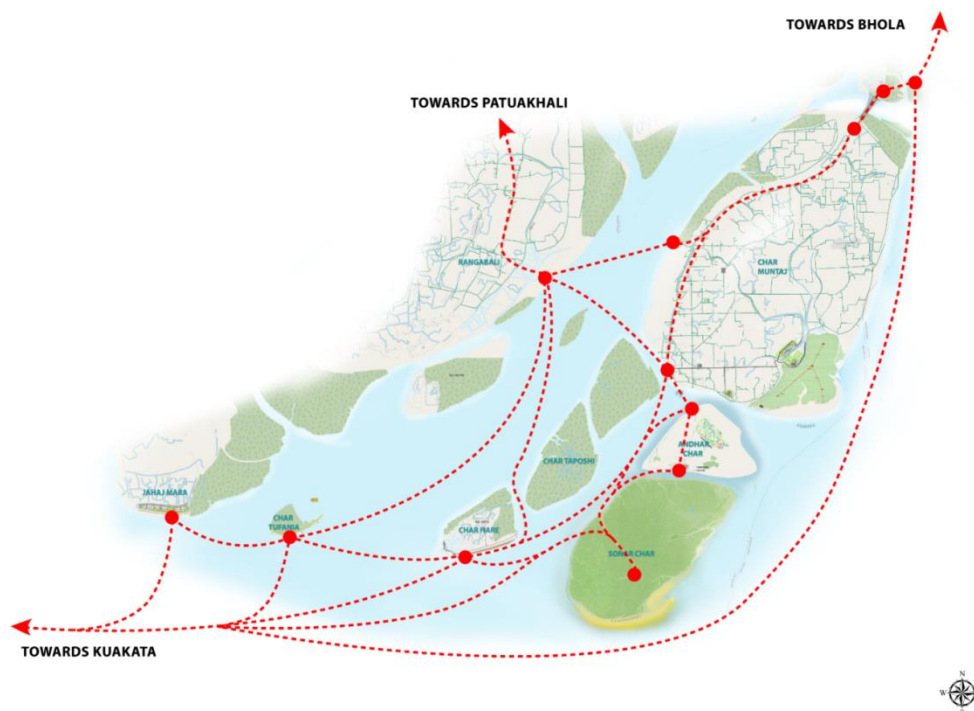


Fig-07: Typical Cross-Section of Various Types of Roads

Source: PKCP Project, UDD,2022

4.9 Proposed Waterways

- Water route from Char Fasson Upazila, Bhola to Char Montaz Union has been proposed in this plan.
- 7 Boat ghats have been proposed.
- Water route from Char Montaz to Proposed tourist site has been also proposed.



4.10 Future Plan and Direction

SAFE, AFFORDABLE, SUSTAINABLE AND CONNECTED COMMUNITIES

Communities will find better places to live, work and raise a family, with easy and safe access to social and economic opportunities. An effective network of connectivity will foster the safe, efficient movement of people and goods and contributes to Rangabali Upazila economy. Roads and highways and other mass transits directly connect to other transportation modes and are vital to moving of products to markets both within and outside the urban area. To achieve the goal following issues will have to be addressed:

- Providing a greater choice of travel modes (BUS/CAR/TRUCK)
- distributing goods and services more efficiently;
- Improving road safety and road widening;
- Reducing the environmental impacts of the transport system;
- Fostering medium density development;
- Utilization of water way transport network;

To attain the above goal the following objectives policies have been recommended.

CHAPTER-5: URBAN DRAINAGE AND ENVIRONMENT MANAGEMENT PLAN

5.1 Introduction

This chapter discusses the Drainage Development Plan's goals, objectives, and methodology. As part of the thorough topographical study that will be conducted as part of this project, an inventory of the current drainage system in Rangabali has been created. Serviceability, structural conditions, obstruction, siltation, and obstructions are taken into account when evaluating the drainage conditions. Finally, discuss the drainage and environmental management strategy and the methods used to carry it out.

5.2 Goals and Objectives

Provision of drainage facilities are important concern to human settlements to create better living environment. Failure to provide the adequate drainage facilities results in flooding and detrimental environmental quality. Drainage of high rainfall region particularly in the context of Patuakhali region is very important. The objectives of drainage planning are described as follows:

- To analyze drainage aspects in the planning of the Urban Area geographical location.
- To study the existing water development, flood protection and flood control project (if any) in the area
- To present planning options for drainage of the future urban area.
- To study conservation of the natural resources like parks, open space, water bodies, existing ponds etc.

5.3 Methodology and Approach to Planning

The main vision of this survey is explored the length, depth, flow direction, coverage area and satisfactory level of the inhabitants. The information of drainage network gathered from topographic, socioeconomic and physical feature survey. Major feature of drainage and environment survey are as follow:

Collect and analyze meteorological data over time in the area to determine the meteorological conditions and predict storm surges.

- Determine the efficiency of the present drainage systems and make recommendation to government.
- Organize a public enlightenment campaign to expose the adverse effects of dumping refuse in natural drainage channels, through a mass media meeting.
- Drainage channels were surveyed by leveling from the head of the channels to the outfall using a surveyor's level.

5.4 Existing Drainage Network

Rangabali Upazila is located in the Patuakhali district of Bangladesh, which is a low-lying region with extensive waterways, rivers, and wetlands. Due to its topography and climate, the region is prone to flooding during the monsoon season, which can cause significant damage to infrastructure and agriculture. To mitigate the impact of flooding, various drainage networks have been developed in the region over time. These networks include canals, drains, embankments, and flood control structures that help to manage water flow and reduce flood risks.

However, the effectiveness and maintenance of these drainage networks can vary depending on the specific location and local conditions. It is essential to regularly monitor and maintain these systems to ensure they are functioning correctly and continue to provide effective flood protection to the communities they serve.

5.5 Natural Canal & River

The existing natural canal network is spread like tree roots in total urban area. In some portion of the area the condition of the khal and irrigation canal are being encroached by the local people and also by local authority and the situation is deteriorating day by day. So, it should be given much concern to sustain the natural canal.

5.6 Proposed Drainage Network

The Potential urban area needs a hierarchical drainage system for easy and smooth discharge of storm and waste water comprising tertiary, secondary and primary drains. The existing natural khals will serve as primary drains.

Delineation of Drainage Sub-Watershed and Outlets for Rangabali Urban Area

Drainage catchments for Rangabali urban area are delineated using digital elevation model (DEM) with spatial resolution of 3 cm which is collected from CEGIS consulting firm. However, this DEM is resampled into 10m spatial resolution for the processing of drainage catchment delineation as shown in Figure-1. The Sub-watershed analysis has been conducted using ArcGIS spatial analysis and Arhydro extension tools.

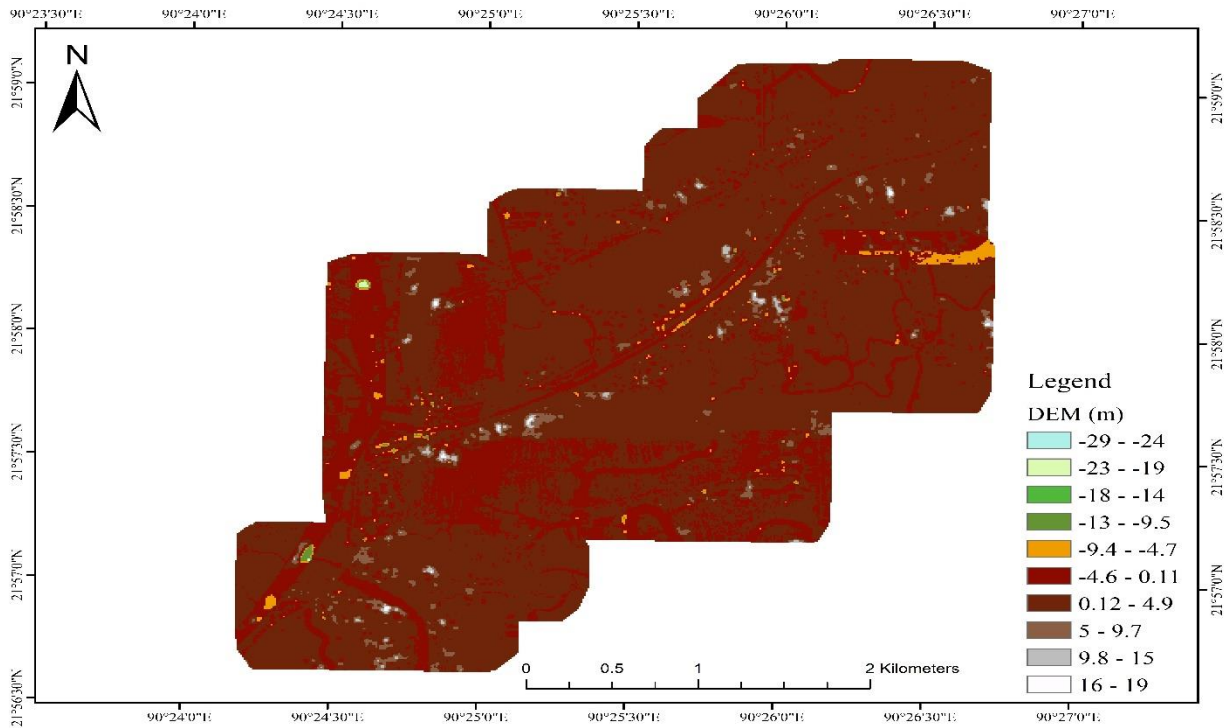


Fig-09: Digital Elevation Model (DEM) of Rangabali Urban Area

Source: PKCP Project, UDD,2022

Watershed analysis requires fill the sinks (depression) of the study area as first step. The sinks are low elevation areas in DEMs that are surrounded by higher terrain that disrupts the flow path. Filling sinks creates a hydrologically connected DEM for watershed analyses. The fill process helps to raising the value of a cell identified as a sink cell to match the elevation of its downhill neighbor.

Using Arc hydro tool extension of ArcGIS, flow direction has been determined for the study area from the processed DEM. The main concept of the model is that water from cell that would flow to the adjacent cell which has steepest gradient. It also assumes the catchment as depression less without any ponds or pits. After filling the DEM sinks, a flow direction was computed by calculating the steepest slope and by encoding into each cell eight possible flow directions towards the surrounding cells. This is called the 8-direction pour point model to determine flow path. Flow direction map of Rangabali urban area is shown in Figure-2.

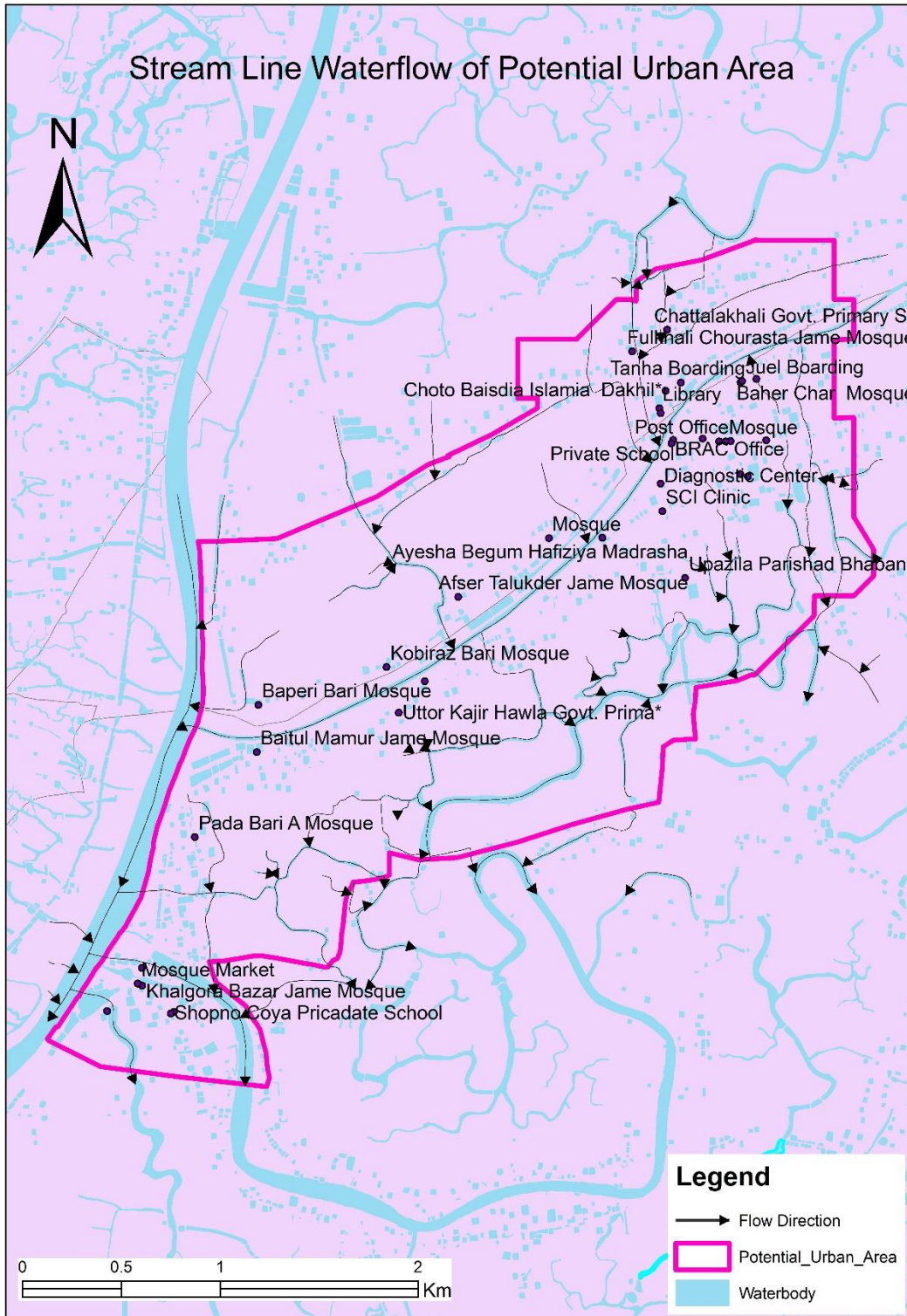


Fig-10: Flow direction map of Rangabali Urban Area

Source: PKCP Project, UDD,2022

Flow direction map is used for flow accumulation map. The flow accumulation is generated by addressing each cell of the DEM, counts how many upstream cells contribute to flow through the

given cell. Flow direction and accumulation map are then used to delineate the stream network. Figure-3 shows flow accumulation maps of Rangabali urban area.

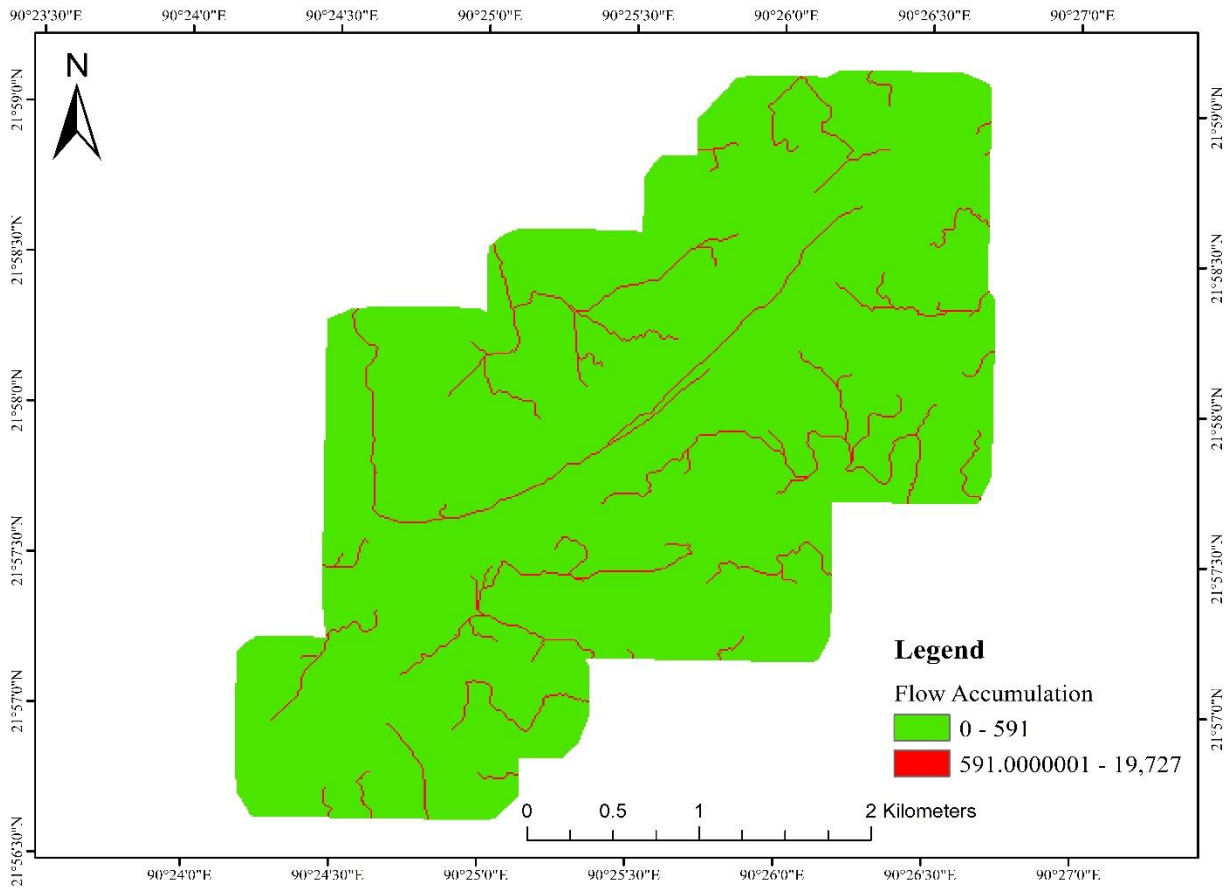


Fig-11: Flow Accumulation map of Rangabali Urban Area

Source: PKCP Project, UDD,2022

The stream network can be divided into segment which will determine the outlets of the basin. Watershed divide is assumed as a line whose flow accumulation value is zero and those cells, which have flow accumulation value greater than a threshold value provided by the user, is assumed as stream channel or river. After applying trial and error methods, the threshold value of 3% of the longest flow path was used to determine the drainage network. An extensive field survey in Rangabali urban area was done to check the accuracy of delineated drainage network. However, some major corrections of delineated drainage network are made on the basis of field report information. Figure-4 shows the drainage network Rangabali urban area.

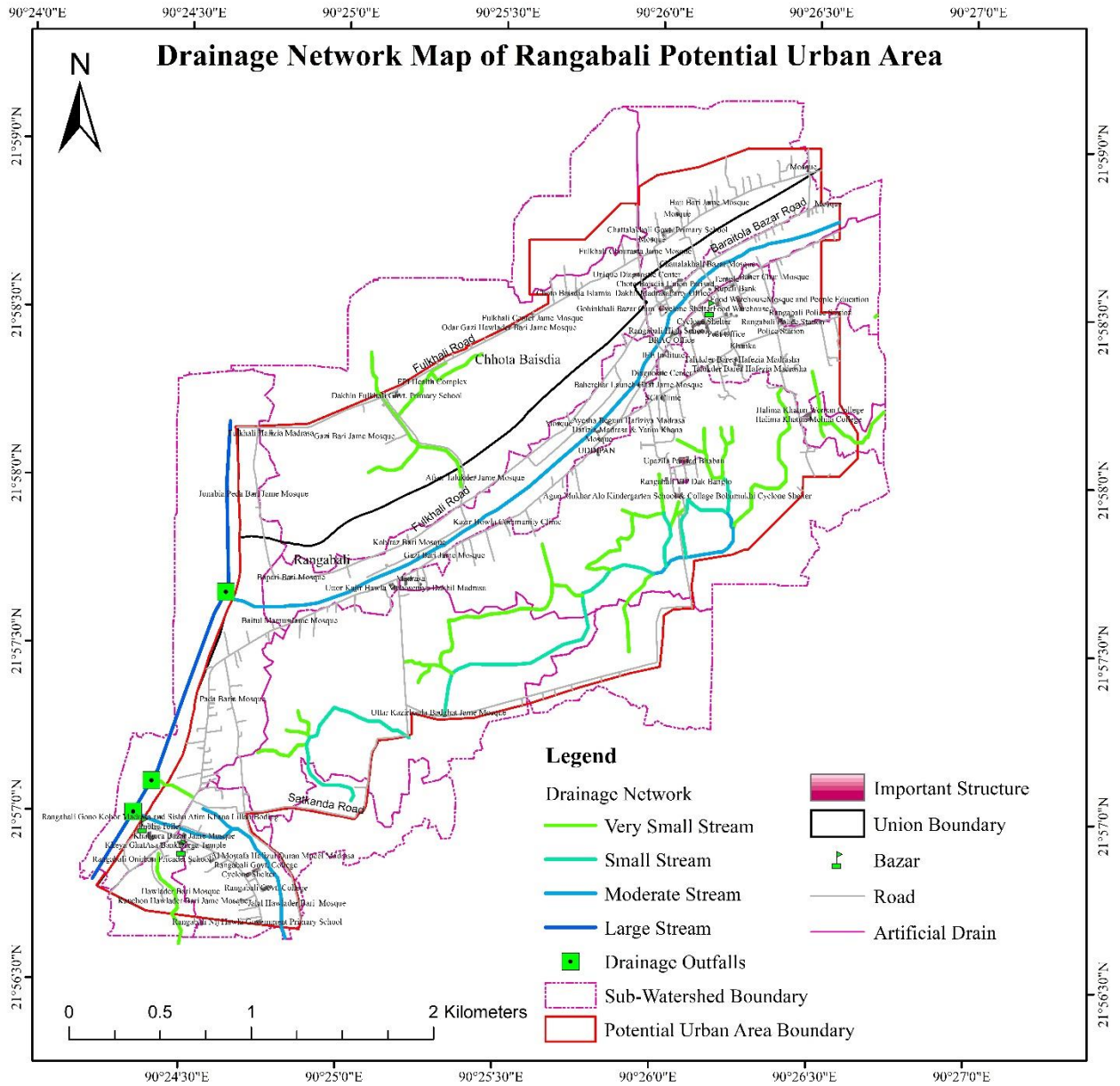


Fig-12: Drainage network map of Rangabali Urban Area

Source: PKCP Project, UDD,2022

Based on the above threshold value and field report information, there are 14 sub-watersheds and 3 outlets are found in Rangabali urban area. Sub-watershed map of Rangabali urban area is shown in Figure-5. Based on the sub-watershed map and the drainage pattern, the outlets of the drainage network have been identified as shown in Figure-6. Moreover, the location of two drainage outlets are near the sluice gate area of Khalgora Bazar.

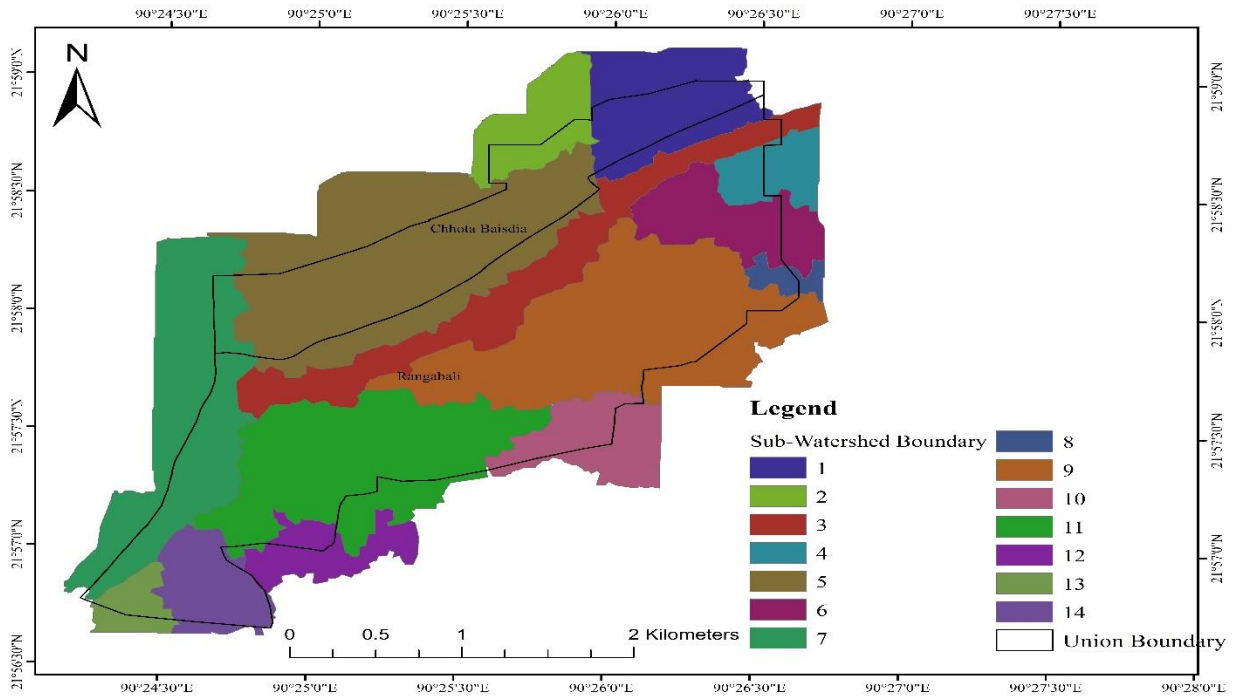


Fig-13: Sub-watershed map of Rangabali Urban Area

Source: PKCP Project, UDD, 2022

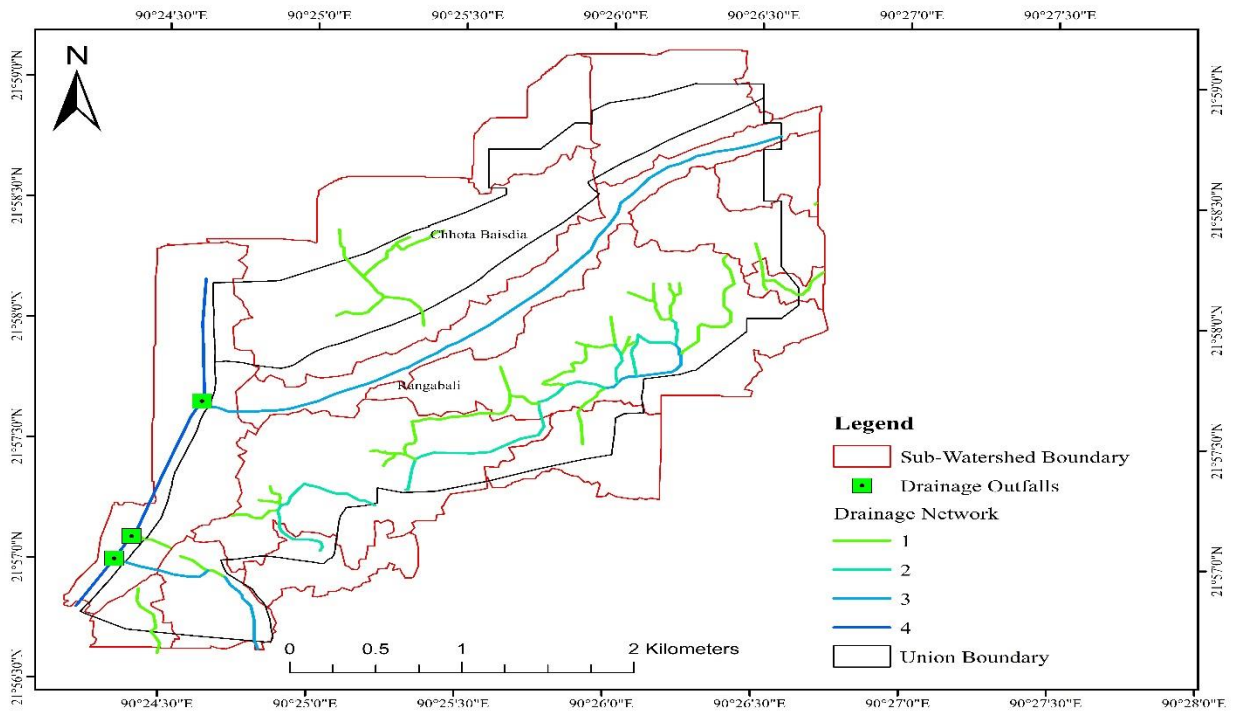


Fig-14: Map of sub-watersheds outlet in Rangabali Urban Area

Source: PKCP Project, UDD, 2022

CHAPTER-6: URBAN SERVICES PLAN

6.1 Introduction

This Chapter describes the urban basic services development proposals for future development of the urban area. The proposals have been made at the urban level, that is, the area under the urban area plan. The development proposals deal with the basic urban services, like, water supply, drainage, sanitation, solid waste, telecommunication, electricity and gas, community facilities, education and health.

6.2 Basic Urban Services Development Plan

6.2.1 Water Supply

The Rangabali potential urban area is yet to develop its own network based water supply system. Developing a network based supply system will depend on availability of fresh water aquifer. Detailed geological investigation is required to find out fresh water aquifers. Before that is done Upazila authority should take a programme to preserve and maintain all major ponds in the urban area as well as upazila area. This will require taking over passion of all major waters supply ponds in the urban area for the greater interest of the people at large. Currently available ponds of the urban area will be able to supply a significant amount of water in future, while the rest will be procured from tube wells or by the implementation of piped water supply system.

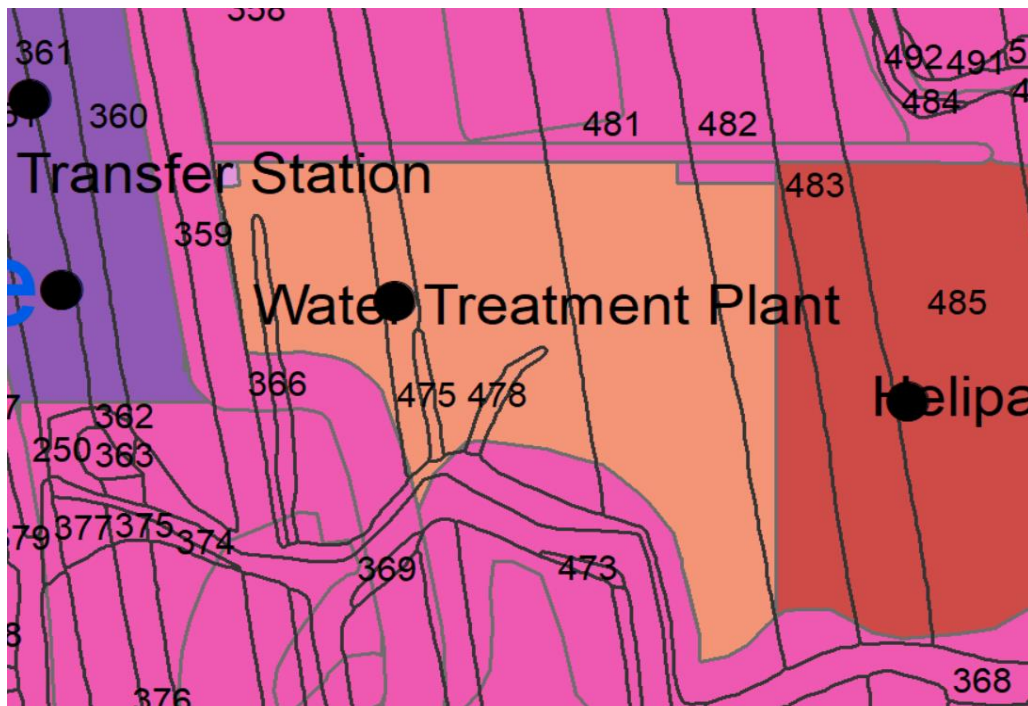


Fig-15: Proposed Water Treatment Plant

Source: PKCP Project, UDD,2022

As an alternative to drinking water supply harvesting of rain water may be explored. The idea of rainwater harvesting is not popular to the local people. NGOs working in rain water harvesting training

and motivation may be engaged for this purpose. The plan recommends a treatment plan beside the upazila parishad of Rangabali Upazila.

6.2.2 Sanitation

The present sanitation system of the urban area is composed of a variety of types, like, hanging latrine, pit latrine of different types, water sealed latrines and septic tank based sanitary latrine. Due to prohibitive expenditure one should not expect establishing network and treatment plant based sewerage system in the town by the upazila authority. So, for long the sanitary system of the Potential urban area will remain on site. To promote healthy sanitation, Potential urban area should promote low cost sanitary latrines in the town together with awareness building for healthy sanitation. It is proposed to set up public toilets in public gathering areas, like, existing and proposed bus stand, bazaar and the main town Centre.

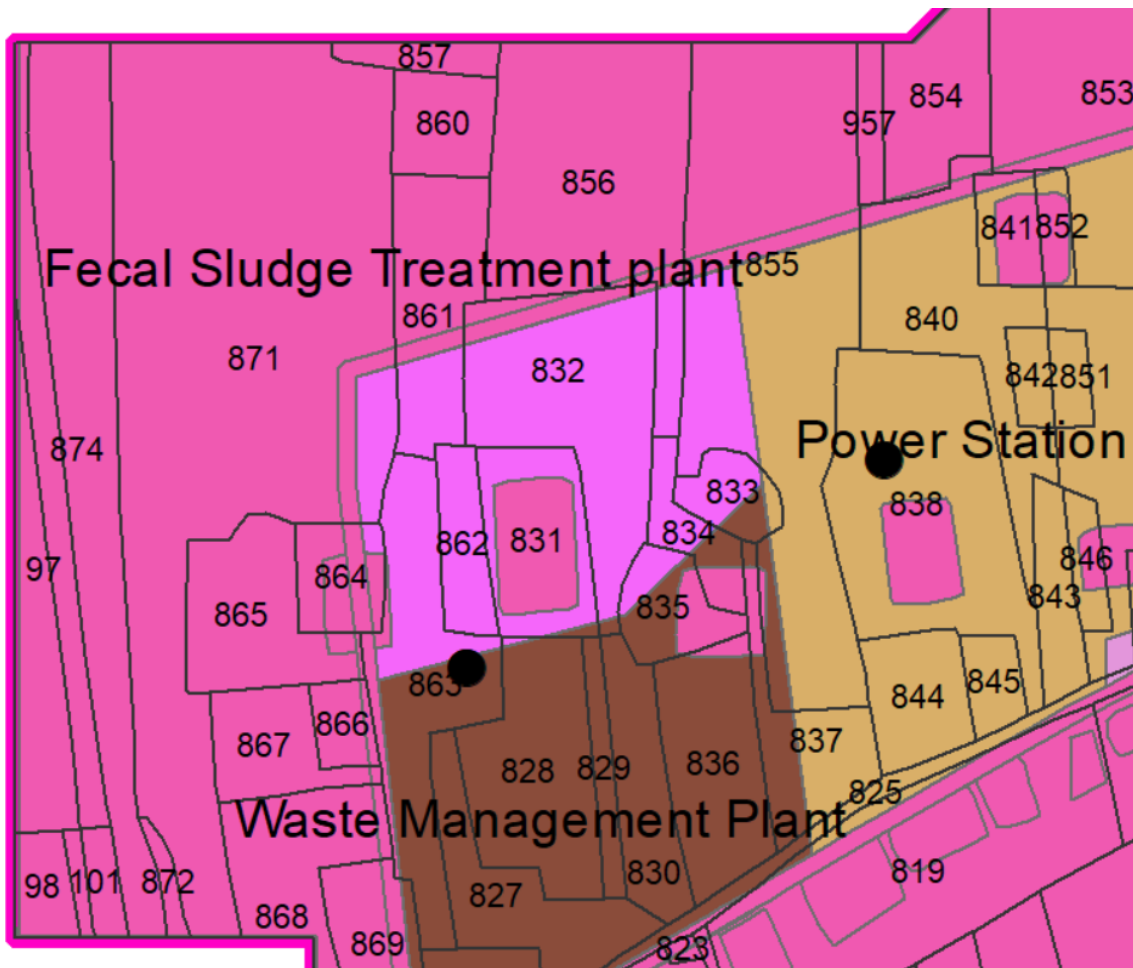


Fig-16: Faecal Sludge Treatment Plant

Source: PKCP Project, UDD, 2022

6.2.3 Waste Management Site

Owing to low density of population solid waste is yet to emerge as a major problem in the town as it happens in larger towns. The households dispose their kitchen waste in nearby ditches or low lands. A major share of solid waste is generated by kitchen markets. These wastes find their destination in local khals.

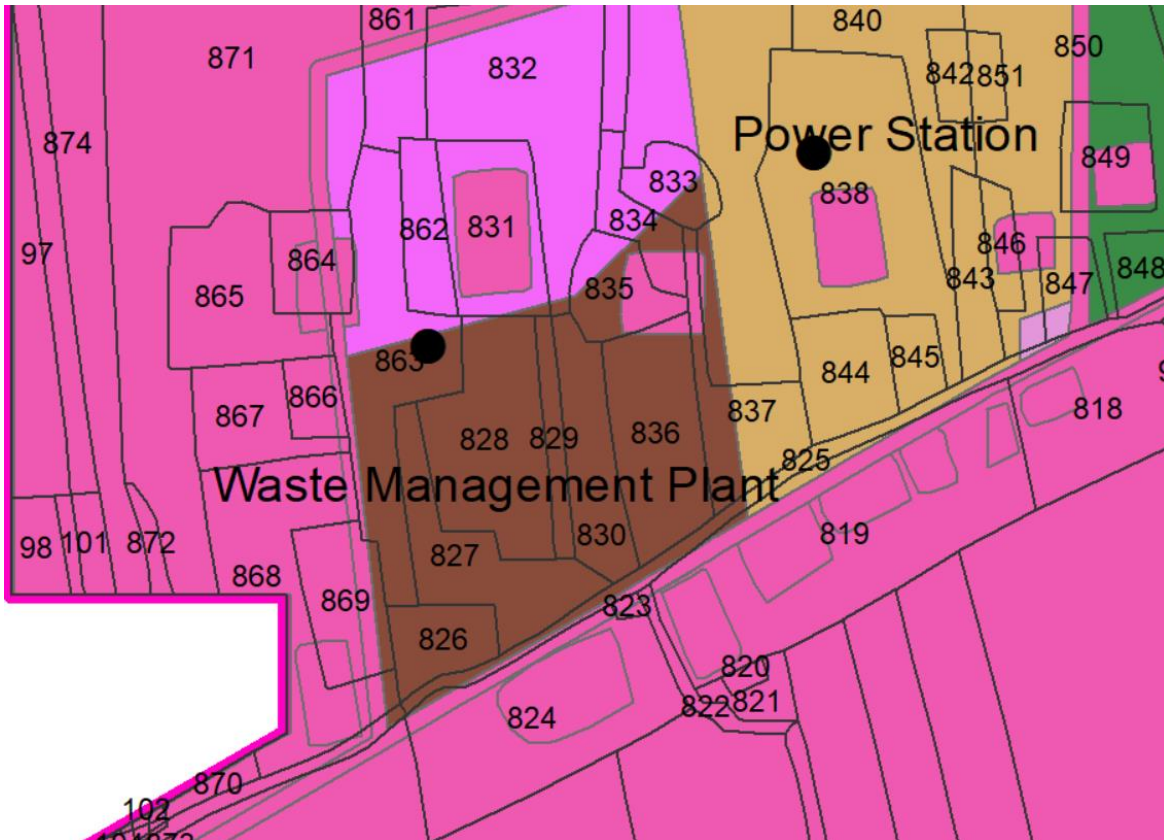


Fig-17: Waste Management Site

Source: PKCP Project, UDD, 2022

6.2.4 Electricity

Power Development Board (PDB) is mainly responsible for electricity supply in the Potential Urban area, supported by the Rural Electrification Board (REB). PDB works for power production and distribution, while REB is responsible for distribution only. Both, PDB and REB have their own plans for power supply in the town, which is executed in phases, depending on demand for power. In its infrastructure plan has shown the future power supply network of the town. But the greatest problem of power supply in the entire country remains to be handicapped by the shortage of supply due to low production.

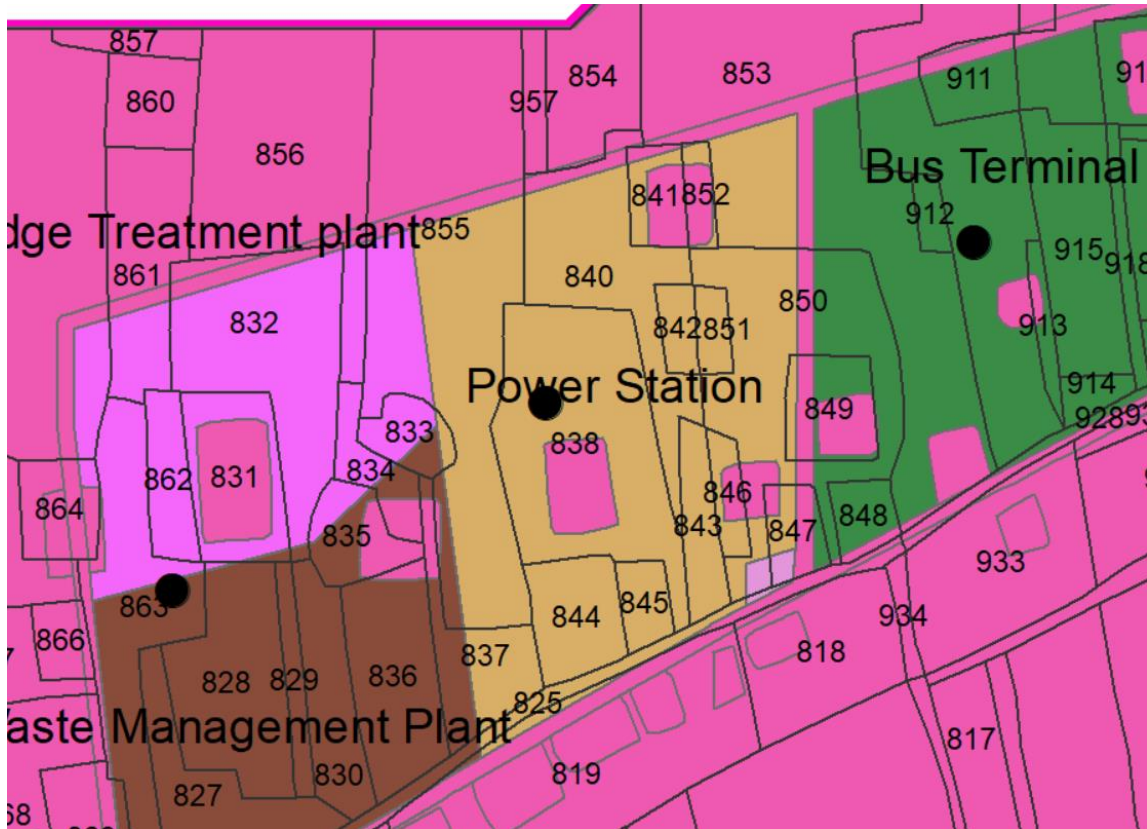


Fig-18: Power Station Site

Source: PKCP Project, UDD,2022

6.2.5 Community Facilities

Open Space Recreation

There is virtually no open space recreation facility in the potential urban area. So, all the proposals will be fresh proposals for open space development. The land will be distributed to various categories of open space to be provided. Space has been reserved for one stadium/sports complex on an area of 5 acres.

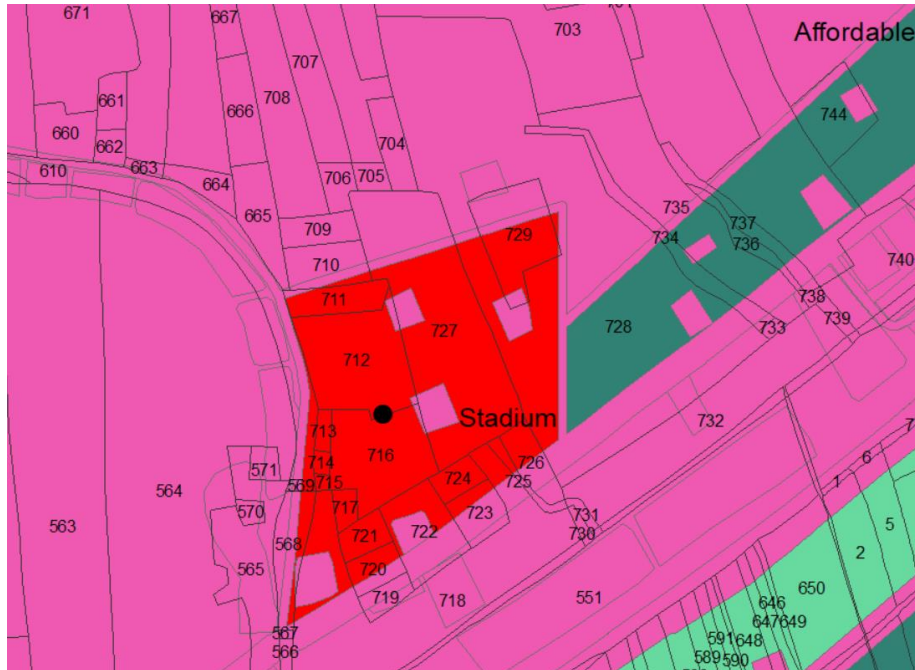


Fig-19: Proposed Stadium

Source: PKCP Project, UDD,2022

Mosque, Eidgah and Graveyard

Standard determined for mosque that the allocated land has already been covered by existing mosque. Yet there should one central mosque in the town. This mosque has to be developed to facilitate enable access to people living in different parts of the town.

The plan does not feel it necessary to provide space exclusively for eidgah. Eidgah is a land use that is used for two times a year. The space lies unused for rest of the year. Amid scanty supply of land there is no reason to spare this land. Instead play fields and the stadium should be used for Eid congregation. Existing eidgah, proposed stadium and playfield of potential urban area have to use as Eidgah.

The town already has no land under graveyard. However, these graveyards are mostly family graveyards.

Community Centre

There is no municipal community centre in the town; the plan proposes to set up one community centers. With even distribution of 2 acres of allotted land for this purpose and these center will serve for multipurpose use including cyclone shelter and small scale maternity clinic cum vaccination center.

Fire Station

The plan has proposed a fire service station for the safety of the inhabitant.



Fig-20: Proposed Fire Service Station

Source: PKCP Project, UDD,2022

Education

The plan suggested for education facilities including existing and proposal. The facilities include nursery, primary school, secondary school, college, vocational training institute and other education facilities.

- Primary School, Kindergarten School
- High School: One Govt. High School
- College: One Govt. College
- TTC: One technical training center

Health

There is one Upazila Health Complex besides Upazila Parishad. In future, as the population and density increases, demand for local health facilities will increase. All the proposed neighborhood centers will provide health services also. The plan proposed three community clinics.

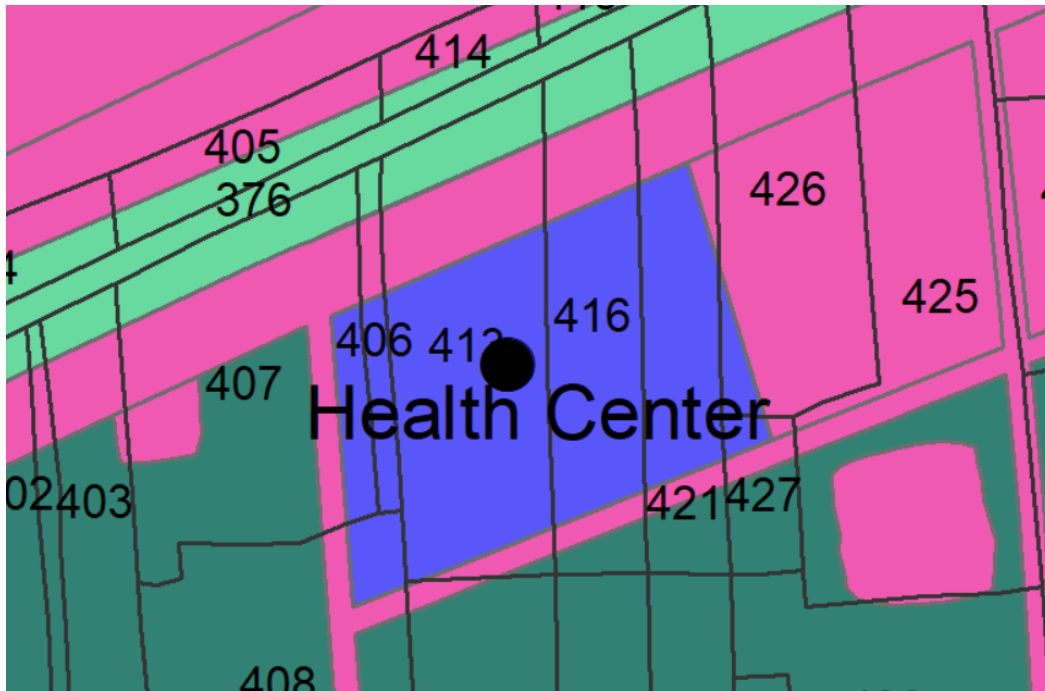


Fig-21: Proposed Health Centre

Source: PKCP Project, UDD,2022

6.2.6 Affordable Housing

Access to secure, comfortable and affordable housing influences a person's health and wellbeing, sense of belonging and ability to participate in society both socially and economically. The widening gap between household incomes and the rising cost of housing to buy or rent is emerging as a key issue in Rangabali Potential Urban Area. In the plan Map, there are several proposal for affordable housing and planned residential area.

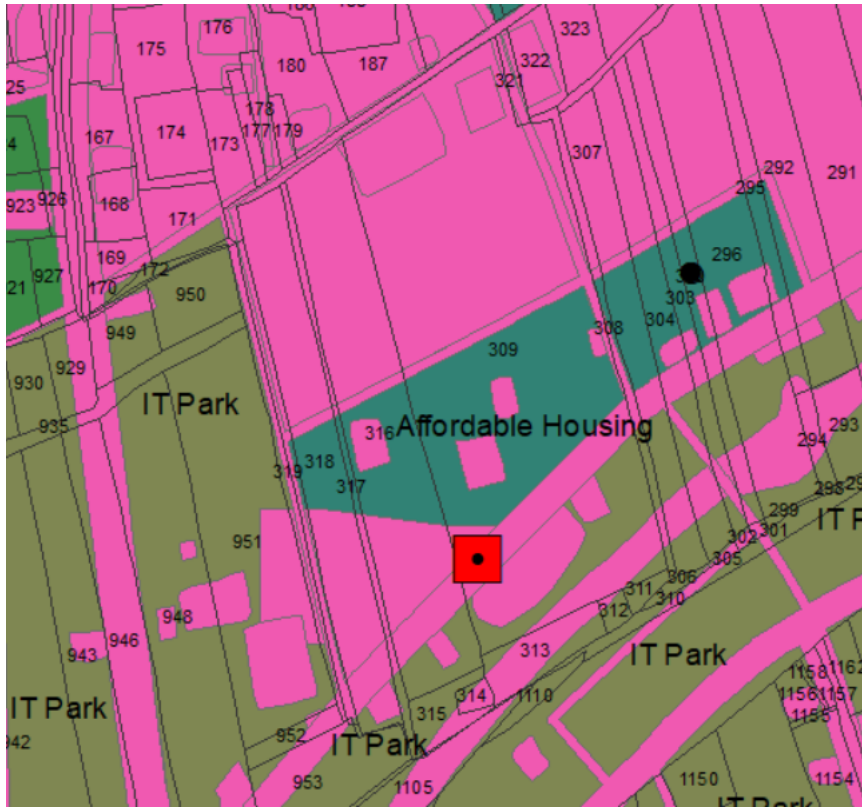


Fig-22: Proposed Affordable Housing

Source: PKCP Project, UDD,2022

CHAPTER- 7: CONCLUSION

Conclusion

Preparation of the urban area plan is not an end in itself, rather it is an attempt to the beginning of a phase of development of an undeveloped area aspiring for development. Planning is far easier than development. In a developing country like Bangladesh, execution of spatial development plan is really a challenging task for any local government that so vastly rely on the central government for development budget allocation. Amid a host of other priority problems, the central government is often helpless in providing resources for small town's development, where problems are considered less important than those in larger cities. Keeping this constraint in view the local urban governments in smaller towns should emphasize on enhancing the capacity of generating their own resources. Besides, avenues must be searched to recover costs of development from the beneficiaries either directly or indirectly. Direct recovery can be charging development charges or taxes in various forms. Indirectly people can be involved project planning and implementation. This approach of development will benefit in two ways, first, it will create belongingness among people about development of their own areas and second, it will save public money required for development. Land can be procured from land owners for construction of local standard roads. This kind of participatory approach to development would directly benefit the land owner. Without a strong planning section, the plans will never come true. There must be someone to take care of the plans and development control effectively. Finally, the potential urban area must give due importance to this plan document to streamline its future development. It must follow the plan for any development, otherwise the plan will lose its credibility and one day it will turn into waste paper which will simply accentuate the urban problems.

ANNEXURE-A

Table-A1: Public Hearing Opinion

ক্র. নং	নাম ও মোবাইল	ঠিকানা	মন্তব্য	স্বাক্ষর
১।	ইকবাল আহমেদ, 01712839388	উপজেলা কৃষি অফিসার, রাঙ্গাবালী, পটুয়াখালী	কৃষিকে সমুন্নত রেখে পর্যটন শীল্লের উন্নয়ন ও এলাকাকে সমৃদ্ধের পথে নিয়ে যাবে বলে আমার দূর বিশ্বাস	
২।	মুহাম্মদ বায়েজীদ ইসলাম 01712926287	উপজেলা শিক্ষা অফিসার (ভারপ্রাপ্ত) রাঙ্গাবালী, পটুয়াখালী	লেখাপড়ার পাশাপাশি পর্যটন শীল্লের উন্নয়নে এ অঞ্চলের শিক্ষক শিক্ষার্থীদের সম্পৃক্তকরলে এ উদ্যোগটি আরো সফল হবে বলে আমার বিশ্বাস	
৩।	মোঃ মাসুদ মুখা 01724525510	রাঙ্গাবালী	আমরা উন্নয়ন চাই।	
৪।	লিটন চকিদার	রাঙ্গাবালী	উন্নয়ন হলে এলাকার জন্য ভালো।	
৫।	জাহির	রাঙ্গাবালী	হাসপাতাল ও রাস্তাঘাট প্রয়োজন।	
৬।	মোঃ রাসেল গাজী 01875920878	চালিতা বুনিয়া	ভেরিবাদ, হাসপাতাল প্রয়োজন।	
৭।	মোঃ খোকন 01724805391	রাঙ্গাবালী	হাসপাতাল রোড, লোন, স্কুল কলেজ প্রয়োজন।	
৮।	মোঃ সিয়াম 01327942804 01779623751	রাঙ্গাবালী উত্তরিপাড়া মাদ্রাসায়	আমাদের মাদ্রাসায় টিউবল দরকার ও মসজিদ দরকার	
৯।	সৈয়দ আলী		মাদ্রাসা প্রয়োজন। শিক্ষা প্রতিষ্ঠান প্রয়োজন।	
১০।	আঃ রহমান মুন্সী	যুগির হাওলা, রাঙ্গাবালী	গভীর নলকূপ দরকার, রাস্তা মেরামত খুবই দরকার। যুগির হাওলা রনিতাল নেকে খন্দকার বাড়ী জামে মসজিদ টাওয়ার দরকার। প্রা: বিদ্যালয় দরকার।	
১১।	মোঃ আব্দুর রব হাওলাদার 01718002104	বাহরচর/রাঙ্গাবালী	<ul style="list-style-type: none"> • বিশুদ্ধ পানি প্রয়োজন। • বালিকা বিদ্যালয় একান্ত দরকার • পানি সরবরাহ করা • রাস্তা পাকা করন • নতুন রাস্তার দরকার • চরনজীর দরকার 	

			<ul style="list-style-type: none"> • ফেরীর দরকার • বরফকল প্রয়োজন। • ব্রীজ দরকার • পাবলিক টয়লেট দরকার • কারিগড়ি স্কুল এন্ড কলেজ দরকার। 	
১২।	মোঃ জামাল গাজী 01731960490		রাস্তা চওড়া করা প্রয়োজন। দারচিরা নদীতে ব্রিজ সেচের প্রয়োজন।	
১৩।	মো জসিম উদ্দিন 01713953427		কোড়ালিয়া থেকে পানপাটী পর্যন্ত ব্রিজ প্রয়োজন	
১৪।	সুরভী 01760744880	ছোট বাইশদিয়া ইউনিয়ন, গোইনখালী গ্রাম	রাস্তা পাকা করা প্রয়োজন।	
১৫।	আল-আমিন 01710512441	রাঙ্গাবালী ইউনিয়ন, আমলী বাড়ীয়া 09	শিক্ষা প্রতিষ্ঠান, গার্লসস্কুল, রাস্তা পাকা করা প্রয়োজন।	

“পায়রা বন্দর নগরী ও কুয়াকাটা উপকূলীয় অঞ্চলের পরিবেশ পর্যটন ভিত্তিক সমন্বিত পরিকল্পনা প্রণয়ন”
প্রকল্প রাঙ্গাবালী উপজেলা

ক্র. নং	নাম ও মোবাইল	ঠিকানা	মন্তব্য	স্বাক্ষর
১৬।	মোঃ সুজন 01872965127	রাঙ্গাবালী, আলবাড়ীয়া 09	রসুলবাড়ীয়া পাকা রাস্তা দরকার।	
১৭।	মোঃ লিমন 01609659962	বাহেরচর	আমাদের একটা খেলার মাঠ প্রয়োজন।	
১৮।	মোঃ মামুন 01709904643	বাহেরচর	ফুটবল খেলার মাঠ প্রয়োজন	
১৯।	নওয়াব মল্লিক	১ নং ওয়ার্ড বাহেরচর	কলকারখানা প্রয়োজন। টিউবওয়েল/পানির প্রয়োজন।	
২০।	সানু শিকদার		রাস্তাঘাট প্রয়োজন।	
২১।	রেজাউল কাজী		রাস্তাঘাট, শিল্পকারখানা প্রয়োজন।	
২২।	তানজিম 01618774658		খেলার মাঠ, পার্ক , টিউবওয়েল প্রয়োজন	
২৩।	মোঃ নেছার দর্জি 01710199086	ছোট বাউশদিয়া ইউনিয়ন	শিক্ষা প্রতিষ্ঠান প্রয়োজন, রাস্তা মেরামত প্রয়োজন	

২৪।	হালিদা বেগম 01747998898		প্রতিবন্দীদের জন্য ঘর প্রয়োজন	
২৫।	মোঃ হারুন অর রশিদ মোল্লা 01772815738	কাউখালী	মধ্যচতলাখালী মৃধাবাড়ী জামে মসজিদের প্রয়োজন। রাস্তাটি পাকা করা প্রয়োজন। কাউখালি বেড়িবাধ থেকে সাজিরহওলা তিল্লা হয়ে বাহেরচর বাজারা পর্যন্ত কাউখালী স্লইজ খাট হাফিজিয়া মাদ্রাসা বিন্দিও করা প্রয়োজন। পূর্ব কাউখালী রাস্তা পাকা করার প্রয়োজন। আদআলী হাং এর বাড়ীর পূর্ব পার্শ্বের রাস্তা পাকা বড় রাস্তা প্রয়োজন চতলাখালীর মাঝের রাস্তা ও বেড়িবাধের পাকা রাস্তা মাথা বরাবর বাহেরচর বাজার পর্যন্ত রাস্তা পাকা করা দরকার।	
২৬।	মোঃ সহিদ 01786392040	সেনের হাওলা	ডিগ্রি কলেজ প্রয়োজন। হাসপাতাল প্রয়োজন শিল্প কারখানা প্রয়োজন।	
২৭।	মোঃ সিয়াম 01734383975		আমার এলাকাই ব্রিজ প্রয়োজন	
২৮।	মোঃ মিজান হাং 01755777132	ছোট বাইশদিয়া ১ নং ওয়ার্ড	খালগোর বাজার রাস্তা মেরামত দরকার, কাচিবুনিয়া বাজার টলঘরছোটবাইশদিয়া ১ নং ওয়ার্ড কাউখালী পর্যন্ত কাচা রাস্তা পাকা করা দরকার। কোড়ালিয়া লঞ্চঘাটের কিছু ব্লোক দরকার। ছোট বাইশদিয়া হাসপাতাল দরকার।	
২৯।	আলমগীর 01710045324	গন্ডধুলা	ফেরিঘাট প্রয়োজন। আদালত, রেজিস্ট্রি অফিস, রাস্তাঘাট প্রয়োজন।	
৩০।	খোকন মাহমুদ 01961657142	ফুলখালী	১। রাস্তা ২। ফেরি ৩। পর্যটন ৪। হাসপিটাল	

ক্র. নং	নাম ও মোবাইল	ঠিকানা	মন্তব্য	স্বাক্ষর
৩১।	রাজিব 0171701058	আমলিবাড়িয়া	পলিকেটনিক কলেজ। বিশ্ববিদ্যালয় কলেজ, পাকা সড়ক, ফেরিঘাট,	

			হসপিটাল ক্লিনিক, আদালত, নারসিং কলেজ।	
৩২।	গোলাম মোস্তফা 01783288626		রেজিস্ট্রি অফিস ও আদালত দরকার	
৩৩।	মোঃ শাহ আলম গাজী 01782927297		বেড়িবাধ দরকার	
৩৪।	মোঃ হাসান 01722444990		পাকা রাস্তা দরকার	
৩৫।	মোঃ বাশু হাং	কলেজ দরকার		
৩৬।	মুহাঃ মুরশিয়া 01715548008	সেনের হাওলা	সামুদাবাদ হতে সোনারচর পর্যন্ত সরাসরি যোগাযোগ ব্যবস্থা ও রোড এন্ড হাই এর রাস্তাটি সামুদাবাদ নদী পর্যন্ত সম্প্রসারণ করা দরকার।	
৩৭।	মোঃ বেলায়েত হোসেন		সামুদাবাদ হতে সোনারচর পর্যন্ত সরাসরি যোগাযোগ ব্যবস্থা ও রোড এন্ড হাই এর রাস্তাটি সামুদাবাদ নদী পর্যন্ত সম্প্রসারণ করা দরকার। সাইক্লোন সেন্টার, মুজিব কেলা	
৩৮।	তছির হাওলাদার 01747371241		সাইক্লোন সেন্টার ৩ টি, রাজা বাজার, মুজিব কেলা	
৩৯।	মোতাহার মির্জা	কানকুনির চর	রাঙ্গাবালি সরকারি কলেজের পাশে ব্রিজ ও রাস্তা প্রয়োজন। উপজেলা পরিষদের সাথে রাস্তা দ্বারা সরাসরি সংযুক্ত	
৪০।	সাইফুল ইসলাম 01775986620		বিশুদ্ধ পানির দরকার	
৪১।	আব্দুল খালেক	গংগীপাড়া	বেড়িবাধ প্রয়োজন ও রাস্তা প্রয়োজন।	
৪২।	আব্দুল লতিফ মাসুম, জাহাঙ্গীর নগর বিশ্ববিদ্যালয়, সাবেক উপাচার্জ, পটুয়াখালী বিজ্ঞান ও প্রযুক্তি বিষয় বিদ্যালয়।		প্রদর্শিত পরিকল্পনা উত্তম, পর্যটন, কুটির শিল্প, শিক্ষা, স্বাস্থ্য, মৎস্য সম্পর্কিত প্রস্তাবনা বাস্তব ভিত্তিক। তবে গলাচিপা মূল ভ্যখন্ডের সাথে সংযোগ সড়ক নির্মিত হলে তা অভাবনীয় উন্নয়নের উৎস হবে।	

Table-A2: SPZ Land Schedule

SPZ_Cat		Mouza_ Name	JL_No	Sheet_ No	Plot No
North Urban Fringe	Agric ultur e	Fulkhali	180	1	101,102,103,104,105,106,108,109,110,111,117,118,124,125,126,127,128,132,133,134,135,136,137,143,144,145,146,154,156,157,209,211,212,213,214,215,379,380,381,382,383,384,385,386,387,388,389,390,391,392,394,395,397,450,451,457,468,97,98
		Chatkhali	179	2	1496,1497,1498,1499,1500,1501,1502,1641,1642,1643,1644,1645,1646,1647,1651,1652,491,492,493,494,495,496,497,498,499,500,501,502,503,505,506,507,508,509,510,511,512,513,514,515,516,517,518,519,520,521,522,523,524,525,526,527,528,529,530,531,532,534,538
South Urban Fringe	Agric ultur e	Kazir Howla	153	1	112,113,114,119,126,127,128,290,291,295,296,299,300,301,302,303,304,305,306,307,308,309,310,311,312,313,314,315,316,317,318,319,320,321,322,323,324,327,328,345,346,347,348,349,350,351,61,62,64,65,87,88,528,529,530,531,532,534,538
		Baherchar	155		0,10,1008,1010,1011,1013,1055,1057,1059,1061,1062,112,113,114,115,116,117,118,119,12,120,121,122,123,124,125,126,127,128,129,130,131,132,133,134,135,136,137,138,139,140,142,143,144,145,146,147,148,149,150,151,152,153,154,155,156,157,176,177
		Kazirhowla	153	2	1130,1136,1205,1206,1207,1208,1209,1210,1212,1213,1219,1220,1221,1229,1230,1231,1232,1233,1234,1236,1237,1238,1239,1240,1241,1242,378,379,380,381,382,383,393,394,395,396,397,399,411,412,417,418,419,420,431,432,433,434,435,436,449,450,451,452,453,476,477,478,497
		Kazirhowla	153	4	1001,1002,1003,1004,1005,1006,1007,1008,1011,1013,1014,1015,1016,1020,1021,1022,1023,1024,1025,1026,1027,1028,1029,1030,1031,1032,1033,1034,1045,1046,1255,1256,1258,1259,1260,1261,1262,1263,1264,564,565,566,567,568,569,570,571,581,583,584,585,604,605,606,607,608,609,610,611
Upazila Town Center		Baherchar	155	1	1055,1057,1060,1062,1063,152,159,160,161,163,164,165,166,167,168,169,170,171,172,173,174,176,195,196,197,198,200,201,202,219,222,223,224,225,226,227,228,229,230,231,232,233,234,235,236,237,238,239,240,241,242,243,244,245,247,248,250,251,252
		Fulkhali	179	2	1101,1102,1103,1104,1105,1106,1107,1108,1109,1110,1111,1112,1113,1114,1115,1116,1117,1118,1119,1120,1121,1122,1123,1124,1125,1126,1127,1128,1129,1130,1131,1132,1133,1134,1135,1136,1137,1138,1139,1140,1141,1142,1143,1144,1145,1146,1147,1148,1149,1150,1151,1152,1153,1154,1155,1156,1157,1158,1159

Urban Area	Rangabali	179	1	1,10,100,101,102,103,104,105,1055,1056,106,1066,107,108,109,11,110,111,112,113,114,115,116,117,118,119,12,120,121,122,123,124,125,126,127,128,129,13,130,131,132,133,134,135,136,137,138,139,14,140,141,142,143,144,145,146,147,148,149
	Fulkhali	179	2	375,376,377,378,383,384,385,387,388,389,390,391,392,393,397,398,399,400,401,402,403,404,405,406,407,408,411,412,413,414,415,416,417,420,421,422,423,424,425,426,427,430,431,434,435,436,437,438,439,440,441,442,443,444,445,446,447,448,449
	Kazirhowla	153	3,4	1294,1298,1299,1300,1301,1302,1303,1304,1305,1306,1307,1308,1309,1310,1311,1312,1313,1314,1315,1316,1317,1318,1319,1320,1321,1322,1323,1324,1325,1326,1327,1351,1352,1353,1354,1355,1356,1357,1358,551,552,553,554,555,556,557,558,559,560,561,562,563,564,571,572,573,574,575,576

ANNEXURE-B

Land use Permission

a. Residential

Land Use Permitted

The following uses in the tables are proposed to be applicable for this zone only.

Table A.1: Land Use Permitted

Permitted Urban Residential Uses	
Artisan's Shop	Project Identification Signs
Assisted Living or Elderly Home	Property Management Signs
Confectionery Shop	Public Transport Facility
Barber Shop	Satellite Dish Antenna
Child Daycare \ Preschool	Shelter (Passers By)
Cleaning \ Laundry Shop	Shoe Repair or Shoeshine Shop (Small)
Communication Service Facilities	CBO Office
Communication Tower Within Permitted Height	Special Dwelling
Condominium or Apartment	Temporary Tent
Cottage	Temporary tent for Permitted Function
Cyber Café	Newspaper Stand
Daycare Center (Commercial or Nonprofit)	Specialized School: Dance, Art, Music, Physically Challenged & Others
Drug Store or Pharmacy	Transmission Lines
Employee Housing (Guards \ Drivers) \ Ancillary Use	Urban-Nature Reserve
General Store	Utility Lines
Grocery Store	Woodlot
High School	Children's Park (Must Have Parking)
Household Appliance and Furniture Repair Service (No Outside Storage)	ATM Booth
Housing For Seasonal Firm Labor	Water Pump \ Reservoir
Landscape and Horticultural Services	Monument (Neighborhood Scale)
Mosque, Place Of Worship	Bill Payment Booth
Newspaper Stand	Boarding and Rooming House

Nursery School	Dormitory
Orphanage	Memorial Structure (Ancillary)
Eidgah	Neighborhood Center* (Where Neighborhood Center exists)
Photocopying and Duplicating Services (No Outside Storage)	Community Center
Pipelines and Utility Lines	Doctor \ Dentist Chamber
Playing Field	Cultural Exhibits and Libraries
Primary School	Fast Food Establishment \ Food Kiosk
Cyclone Shelter	Flowers, Nursery Stock and Florist Supplies
Private Garages (Ancillary Use)	Fitness Centre
Departmental Stores	Gaming Clubs
Retail Shops \ Facilities	

Source: Compiled by the Consultants

*Permission of Neighborhood Center Facilities in absence of formal neighborhood should be subject to Land use Permit Committee

Land Use Conditionally Permitted

The following uses may be permitted or disallowed in this zone after review and approval by the authority/committee following appropriate procedure while the application meets the criteria mentioned in the requirement.

Table A.2: Land Use Conditionally Permitted

Conditionally Permitted Urban Residential Uses	
Addiction Treatment Center	Flood Management Structure
Amusement and Recreation (Indoors)	Telephone Sub Station
Funeral Services	Electrical Sub Station
Art Gallery, Art Studio \ Workshop	Postal Facilities
Automobile Driving Academy	Sports and Recreation Club
Beauty and Body Service	Photofinishing Laboratory
Billiard Parlor \ Pool Hall	Post Office
Book or Stationery Store or Newsstand	Temporary Rescue Shed
Building Maintenance \ Cleaning Services, No Outside Storage	Tennis Club

Bus Passenger Shelter	Guest House
Graveyard \ Cemetery	Slaughter House
Coffee Shop \ Tea Stall	Static Transformer Stations
Correctional Institution	Tourist Home or Resort
Courier Service	Market (Bazar)
Crematorium	Optical Goods Sales
Plantation (Except Narcotic Plant)	Outdoor Café
Furniture & Variety Stores	Outdoor Fruit and Vegetable Markets
Emergency Shelter	Community Hall
Energy Installation	Neighborhood Co-Operative Office
Garages	Overhead Water Storage Tanks
Garden Center or Retail Nursery	Row House
Fire Brigade Station	Paints and Varnishes Store
Police Station	Parking Lot

Source: Compiled by the Consultants

Restricted Uses

All uses except permitted and conditionally permitted uses are restricted in this zone.

b. Industrial and Manufacturing 1(IM-1)

General Industry land use category approve only Green and Orange-A category industry mentioned in *The Environmental Conservation Rule, 1997*.The following uses in the tables are proposed to be applicable for this zone only.

Table A.3: Land Use Permitted

Permitted General Industrial Activities	
Confectionery Shop	Restaurant
Bank & Financial Institution	Retail Shops \ Facilities
Bicycle Assembly, Parts and Accessories	Salvage Processing
Blacksmith	Salvage Yards
Bus Passenger Shelter	Satellite Dish Antenna
Communication Tower Within Permitted Height	Sawmill, Chipping and Pallet Mill

Freight Transport Facility	Shelter (Passers By)
Police Box \ Barrack	Television, Radio or Electronics Repair (No Outside Storage)
Fire \ Rescue Station	Transmission Lines
Grocery Store	Truck Stop & Washing or Freight Terminal
Household Appliance and Furniture Repair Service	Utility Lines
Machine Sheds	Wood Products
Meat and Poultry (Packing & Processing)	Woodlot
Mosque, Place Of Worship	ATM Booth
Newspaper Stand	Water Pump \ Reservoir
Photocopying and Duplicating Services	Effluent Treatment Plant
Pipelines and Utility Lines	Social Forestry
Printing, Publishing and Distributing Services	Public Transport Facility

Source: Compiled by the Consultants

Land Use Conditionally Permitted

The following uses may be permitted or denied in this zone after review and approval by the authority/committee following appropriate procedure.

Table A.4: Land Use Conditionally Permitted

Conditionally Permitted General Industrial Land Uses	
Amusement and Recreation (Indoors)	Super Store
Appliance Store	Lithographic or Print Shop
Plantation (Except Narcotic Plant)	Motor Vehicle Fueling Station \ Gas Station
Cyber Café	Motorcycle Sales Outlet
Daycare Center (Commercial or Nonprofit)	Outdoor Fruit and Vegetable Markets
Doctor \ Dentist Chamber	Outside Bulk Storage
Electrical and Electronic Equipment and Instruments Sales	Overhead Water Storage Tanks
Employee Housing	Painting and Wallpaper Sales
Energy Installation	Paints and Varnishes
Fast Food Establishment \ Food Kiosk	Parking Lot
Garages	Parking Lot (Commercial)

Grain & Feed Mills	Private Garages
Incineration Facility	Retail Shops Ancillary To Studio \ Workshop

Source: Compiled by the Consultants

Restricted Uses

All other uses; except the permitted and conditionally permitted uses.

c. Commercial Zone/ Commercial and Residential Zone

Land Use Permitted

Commercial zone is mainly intended for supporting the office and business works. There are several functions that are permitted in this zone.

Table A.5: Land Use Permitted

Permitted Commercial Activity	
Accounting, Auditing or Bookkeeping Services	Market (Bazar)
Billboards, Advertisements & Advertising	Mosque, Place Of Worship
Agri-Business	Motorcycle Sales Outlet
Agricultural Sales and Services	Multi-Storey Car Park
Ambulance Service	Newspaper Stand
Antique Shop	Outdoor Fruit and Vegetable Markets
Appliance Store	Outdoor Recreation, Commercial
Auction Market	Parking Lot (Commercial)
Auditorium, Coliseum, Meeting Halls, and	Pet Store
Conference Facilities, Convention	Photocopying and Duplicating Services
Auto Leasing or Rental Office	Photofinishing Laboratory & Studio
Auto Paint Shop	Pipelines and Utility Lines
Auto Parts and Accessory Sales (Indoors)	Post Office
Auto Repair Shop (With Garage)	Preserved Fruits and Vegetables Facility \
Automobile Wash	Cold Storage
Automobile Sales	Printing, Publishing and Distributing
Confectionery Shop	Project Identification Signs
Bakery or Confectionery Retail	Property Management Signs

Bank & Financial Institution	Public Transport Facility
Barber Shop	Refrigerator or Large Appliance Repair
Beauty and Body Service	Resort
Bicycle Shop	Restaurant
Billiard Parlor \ Pool Hall	Retail Shops \ Facilities
Book or Stationery Store or Newsstand	Salvage Processing
Building Material Sales or Storage (Indoors)	Salvage Yards
Bulk Mail and Packaging	Satellite Dish Antenna
Bus Passenger Shelter	Sawmill, Chipping and Pallet Mill
Cinema Hall	Shelter (Passers By)
Communication Service Facilities	Shopping Mall \ Plaza
Communication Tower Within Permitted Height	Slaughter House
Computer Maintenance and Repair	Software Development
Computer Sales & Services	Sporting Goods and Toys Sales
Conference Center	Taxi Stand
Construction Company	Telephone Exchanges
Courier Service	Television, Radio or Electronics Repair (No Outside Storage)
Cyber Café	Theater (Indoor)
Daycare Center (Commercial or Nonprofit)	Transmission Lines
Department Stores, Furniture & Variety Stores	Utility Lines
Doctor \ Dentist Chamber	Vehicle Sales & Service, Leasing or Rental
Drug Store or Pharmacy	Veterinarian Clinics, Animal Hospitals, Kennels and Boarding Facilities
Electrical and Electronic Equipment and	Warehousing
Instruments Sales	Wood Products
Fast Food Establishment \ Food Kiosk	Woodlot
Freight Handling, Storage & Distribution	ATM Booth
Freight Transport Facility	Water Pump \ Reservoir
Freight Yard	Agro-Based Industry (Rice Mill, Saw Mill, Cold Storage)
General Store	Social Forestry

Grocery Store	Inter-City Bus Terminal
Guest House	Jewelry and Silverware Sales
Hotel or Motel	Junk \ Salvage Yard
Flat/House	Super Store

Source: Compiled by the Consultants

Land Use Conditionally Permitted

Some functions are permitted with some condition in this zone.

Table A.6: Land Use Conditionally Permitted

Conditionally permitted	commercial activities
Amusement and Recreation (Indoors)	Fire \ Rescue Station
Bicycle Assembly, Parts and Accessories	Grain & Feed Mills
Broadcast Studio \ Recording Studio (No Audience)	Household Appliance and Furniture Repair Service
Coffee Shop \ Tea Stall	Incineration Facility
Concert Hall, Stage Shows	Indoor Amusement Centers, Game Arcades
Construction, Survey, Soil Testing Firms	Indoor Theatre
Trade Shows	Lithographic or Print Shop
Craft Workshop	Motor Vehicle Fuelling Station \ Gas Station
Plantation (Except Narcotic Plant)	Musical Instrument Sales or Repair
Energy Installation	Optical Goods Sales
Firm Equipment Sales & Service	Painting and Wallpaper Sales
Agricultural Chemicals, Pesticides or Fertilizers Shop	Paints and Varnishes
Fitness Centre	Parking Lot
Flowers, Nursery Stock and Florist Supplies	Patio Homes
Forest Products Sales	Postal Facilities
Fuel and Ice Dealers	Poultry
Garages	Private Garages
Garden Center or Retail Nursery	Professional Office
Police Box \ Barrack	Retail Shops Ancillary To Studio \ Workshop
	Stone \ Cut Stone Products Sales

Source: Compiled by the Consultants

Restricted Uses

All other uses except; the permitted and conditionally permitted uses.

d. Residential

Land Use Permitted

The following uses in the tables are proposed to be applicable for this zone only.

Table A.7: Land Use Permitted

Permitted Rural Settlement	
Agricultural Dwellings	Playing Field
Animal Husbandry	Satellite Dish Antenna
Animal Shelter	NGO \ CBO Facilities
Graveyard \ Cemetery	Special Dwelling (E.G. Dorm For Physically Challenged Etc.)
Child Daycare \ Preschool	Temporary Shed \ Tent
Primary School	Specialized School: Dance, Art, Music, Physically Challenged & Others
Communication Tower Within Permitted Height	Static Electrical Sub Stations
Cottage	Transmission Lines
Crematorium	Utility Lines
Dairy Farming	Woodlot
General Store	Plantation (Except Narcotic Plant)
Grocery Store	Social Forestry
Handloom (Cottage Industry)	Memorial Structure
Housing For Seasonal Firm Labor	orphanage
Mosque, Place Of Worship	Outdoor Religious Events (Eidgah)
Newspaper Stand	Nursery School

Source: Compiled by the Consultants

Land Use Conditionally Permitted

The following uses may be permitted or disallowed in this zone after review and approval by the authority/committee following appropriate procedure while the application meets the criteria mentioned in the requirement.

Table No. A.8: Land Use Conditionally Permitted

Conditionally permitted uses under Rural Settlement	
Artisan's Shop (Potter, Blacksmith and Goldsmith Etc.)	Garden Center or Retail Nursery
Research organization (Agriculture \ Fisheries)	Emergency Shelter
Energy Installation	Sports and Recreation Club, Firing Range: Indoor
Fish Hatchery	

Source: Compiled by the Consultants

Restricted Uses

All uses except permitted and conditionally permitted uses are restricted in this zone.

e. Residential and Commercial

Land Use Permitted

The following uses in the tables are proposed to be applicable for this zone only.

Table A.11: Land Use Permitted

Permitted uses in Mixed Use Zone	
Accounting, Auditing or Bookkeeping Services	Fast Food Establishment \ Food Kiosk
Residential Structure(Flat/Apartment/Row House)	Funeral Services
Addiction Treatment Center	General Store
Billboards, Advertisements & Advertising Structure	Grocery Store
	Guest House
Agricultural Sales and Services	Hospital
Antique Store	Jewelry and Silverware Sales
Appliance Store	Landscape and Horticultural Services
Art Gallery, Art Studio \ Workshop	Mosque, Place Of Worship
Artisan's Shop	Newspaper Stand
Assisted Living or Elderly Home	Nursery School

Auditorium, Coliseum, Meeting Halls, and Conference Facilities, Convention	Photocopying and Duplicating Services
	Pipelines and Utility Lines
Auto Leasing or Rental Office	Primary School
Automobile Wash	Project Identification Signs
Automobile Driving Academy	Property Management Signs
Confectionery Shop	Public Transport Facility
Bakery or Confectionery Retail	Resort
Bank & Financial Institution	Satellite Dish Antenna
Barber Shop	Shelter (Passers By)
Bicycle Shop	Shoe Repair or Shoeshine Shop (Small)
Billiard Parlor \ Pool Hall	Slaughter House
Blacksmith	Social organization
Boarding and Rooming House	Software Development
Book or Stationery Store or Newsstand	Special Dwelling
Bus Passenger Shelter	Toys and Hobby Goods Processing and Supplies
Child Daycare \ Preschool	Training Centre
Cleaning \ Laundry Shop	Transmission Lines
Commercial Recreational Buildings	Utility Lines
Communication Service Facilities	Vehicle Sales & Service, Leasing or Rental
Communication Tower Within Permitted Height	Warehousing
Community Center	Woodlot
Condominium or Apartment	Children's Park
Correctional Institution	ATM Booth
Courier Service	Water Pump \ Reservoir
Cyber Café	Social Forestry
Daycare Center (Commercial or Nonprofit)	Dormitory
Doctor \ Dentist Chamber	Rickshaw \ Auto Rickshaw Stand
Employee Housing	
Fabric Store	

Source: Compiled by the Consultants

Land Use Conditionally Permitted

The following uses may be permitted or disallowed in this zone after review and approval by the authority/committee.

Table A.9: Land Use Conditionally Permitted

Conditionally permitted uses in Mixed Use Zone	
Agricultural Chemicals, Pesticides or Fertilizers Shop	Freight Transport Facility
Amusement and Recreation (Indoors)	Gaming Clubs
Beauty and Body Service	Garages
Broadcast Studio \ Recording Studio (No Audience)	Garden Center or Retail Nursery
Building Maintenance \ Cleaning Services, No Outside Storage	Commercial Office
Building Material Sales or Storage (Indoors)	Project Office
Graveyard \ Cemetery	Government Office
Coffee Shop \ Tea Stall	Hotel or Motel
Computer Maintenance and Repair	Household Appliance and Furniture Repair Service
Computer Sales & Services	Indoor Amusement Centers, Game Arcades
Concert Hall, Stage Shows	Indoor Theatre
Conference Center	Lithographic or Print Shop
Construction Company	Market (Bazar)
Construction, Survey, Soil Testing Firms	Health Office, Dental Laboratory, Clinic or Lab
Cottage	Musical Instrument Sales or Repair
Counseling Services	Optical Goods Sales
Craft Workshop	Outdoor Café
Crematorium	Outdoor Fruit and Vegetable Markets
Plantation (Except Narcotic Plant)	Painting and Wallpaper Sales
Cultural Exhibits and Libraries	Paints and Varnishes
Department Stores, Furniture & Variety Stores	Patio Homes
Drug Store or Pharmacy	Photofinishing Laboratory & Studio
	Poultry

Energy Installation	Printing, Publishing and Distributing
Fitness Centre	Psychiatric Hospital
Flowers, Nursery Stock and Florist Supplies	Retail Shops Ancillary To Studio \ Workshop
Freight Handling, Storage & Distribution	Radio\Television or T&T Station <i>With</i>
Sporting Goods and Toys Sales	Refrigerator or Large Appliance Repair
Sports and Recreation Club, Firing <i>Range: Indoor</i>	Restaurant
Telephone Exchanges	Retail Shops \ Facilities
Television, Radio or Electronics Repair (No out Outside Storage)	

Source: Compiled by the Consultants

Restricted Uses

All uses except permitted and conditionally permitted uses are restricted in this zone.

f. Education and Research

Land Use Permitted

The following uses in the tables are proposed to be applicable for this zone only.

Table A.10: Land Use Permitted

Permitted uses under Education & Research Zone	
Addiction Treatment Center	Cyber Café
Billboards, Advertisements & Advertising Structure	Freight Transport Facility
Art Gallery, Art Studio \ Workshop	General Store
Automobile Driving Academy	Grocery Store
Confectionery Shop	High School
Bus Passenger Shelter	Hospital
Child Daycare \ Preschool	Lithographic or Print Shop
College, University, Technical Institute	Mosque, Place Of Worship
Communication Service Facilities	Multi-Storey Car Park
Communication Tower Within Permitted Height	Newspaper Stand
Conference Center	Nursery School

Correctional Institution	Outdoor Religious Events
Cultural Exhibits and Libraries	Photocopying and Duplicating Services
Transmission Lines	Post Office
Utility Lines	Primary School
Vocational, Business, Secretarial School	Professional Office
Woodlot	Project Identification Signs
ATM Booth	Property Management Signs
Water Pump \ Reservoir	Public Transport Facility
Social Forestry	Satellite Dish Antenna
Dormitory	School (Retarded)
Veterinary School \ College and Hospital	Scientific Research Establishment
Training Centre	Shelter (Passers By)
	Specialized School: Dance, Art, Music & Others

Source: Compiled by the Consultants

Land Use Conditionally Permitted

The following uses may be permitted or denied in this zone after review and approval by the authority/committee.

Table A.11: Land Use Conditionally Permitted

Conditionally permitted uses under Education and Research Zone	
Auditorium, Coliseum, Meeting Halls, and Conference Facilities, Convention	Flowers, Nursery Stock and Florist Supplies
Bank & Financial Institution	Gallery \ Museum
Barber Shop	Garages
Boarding and Rooming House	Indoor Theatre
Book or Stationery Store or Newsstand	orphanage
Coffee Shop \ Tea Stall	Outdoor Café
Counseling Services	Parking Lot
Courier Service	Pipelines and Utility Lines
Plantation (Except Narcotic Plant)	Postal Facilities
Daycare Center (Commercial or Nonprofit)	Psychiatric Hospital

Doctor \ Dentist Chamber	Fast Food Establishment \ Food Kiosk
Drug Store or Pharmacy	

Source: Compiled by the Consultants

Restricted Uses

All uses except permitted and conditionally permitted uses are restricted in this zone.

g. Public Administrative and Community Facilities/Public Services and Utilities

Land Use Permitted

The following uses in the tables are proposed to be applicable for this zone only.

Table A.15: Land Use Permitted

Permitted uses under Government Office Zone	
Accounting, Auditing or Bookkeeping Services	Outdoor Religious Events
Billboards, Advertisements & Advertising Structure	Photocopying and Duplicating Services
	Post Office
Confectionery Shop	Professional Office
Bus Passenger Shelter	Public Transport Facility
Civic Administration	Satellite Dish Antenna
Communication Service Facilities	Scientific Research Establishment
Communication Tower Within Permitted Height	Shelter (Passers By)
	Training Centre
Construction, Survey, Soil Testing Firms	Transmission Lines
Cultural Exhibits and Libraries	Utility Lines
Cyber Café	Woodlot
Emergency Shelter	ATM Booth
Freight Transport Facility	Water Pump \ Reservoir
General Store	Social Forestry
Project Office	Multi-Storey Car Park
Government Office	Newspaper Stand
Grocery Store	

Guest House	
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Source: Compiled by the Consultants

Land Use Conditionally Permitted

The following uses may be permitted or denied in this zone after review and approval by the authority/committee.

Table A.16: Land Use Conditionally Permitted

Conditionally permitted	uses under Government office
Amusement and Recreation (Indoors)	Gallery \ Museum
Auditorium, Coliseum, Meeting Halls, and Conference Facilities, Convention	Garages
Bank & Financial Institution	Police Box \ Barrack
Boarding and Rooming House	Fire \ Rescue Station
Book or Stationery Store or Newsstand	Lithographic or Print Shop
Coffee Shop \ Tea Stall	Mosque, Place Of Worship
Conference Center	Outdoor Café
Courier Service	Parking Lot
Plantation (Except Narcotic Plant)	Parking Lot (Commercial)
Daycare Center (Commercial or Nonprofit)	Pipelines and Utility Lines
Detention Facilities	Postal Facilities
Doctor \ Dentist Chamber	Flowers, Nursery Stock and Florist Supplies
Energy Installation	Freight Handling, Storage & Distribution
Fast Food Establishment \ Food Kiosk	Freight Yard

Source: Compiled by the Consultants

Restricted Uses

All uses except permitted and conditionally permitted uses are restricted in this zone.

h. Agriculture

Land Use Permitted

The following uses in the tables are proposed to be applicable for this zone only.

Table A17: Land Use Permitted

Permitted uses under Agricultural Zone	
Food Grain Cultivation	Duckery
Vegetable Cultivation	Aquatic Recreation Facility (Without Structure)
Cash Crop Cultivation	Tree Plantation (Except Narcotic Plant)
Horticulture	Aquaculture
Arboriculture	Static Transformer Stations
Dairy Farming	Transmission Lines
Deep Tube Well	Utility Lines
Shallow Tube Well	Woodlot
Irrigation Facilities (Irrigation Canal, Culvert, Flood Wall etc)	Social Forestry
Temporary Structure (Agricultural)	
Animal Shelter	

Source: Compiled by the Consultants

Land Use Conditionally Permitted

Table A18: Land Use Conditionally Permitted

Conditionally permitted uses under Agricultural Zone
Graveyard \ Cemetery
Communication Tower Within Permitted Height
Crematorium
Fish Hatchery
Garden Center or Retail Nursery
Poultry

Source: Compiled by the Consultants

Restricted Uses

All uses except permitted and conditionally permitted uses are restricted in this zone.

i. Open Space/ Green Space

Land Use Permitted

The following uses in the tables are proposed to be applicable for this zone only.

Table A.19: Land Use Permitted

Permitted uses under Open Space	
Botanical Garden & Arboretum	Pipelines and Utility Lines
Bus Passenger Shelter	Playing Field
Caravan Park \ Camping Ground	Special Function Tent
Carnivals and Fairs	Tennis Club
Circus	Transmission Lines
Plantation (Except Narcotic Plant)	Urban-Nature Reserve
Landscape and Horticultural Services	Utility Lines
Open Theater	Woodlot
Park and Recreation Facilities (General)	Zoo
Social Forestry	Roadside Parking
Memorial Structure	

Source: Compiled by the Consultants

Landuse Conditionally Permitted

Table A 20: Land Use Conditionally Permitted

Conditionally permitted uses under open space	
Communication Tower Within Permitted Height	Outdoor Recreation, Commercial
Trade Shows	Outdoor Sports and Recreation
Fitness Centre	Park Maintenance Facility
Flowers, Nursery Stock and Florist Supplies	Retreat Center
Golf Course	Sports and Recreation Club, Firing Range: Indoor
Motorized Recreation	Outdoor Recreation Facilities

Source: Compiled by the Consultants

Restricted Uses

All uses except permitted and conditionally permitted uses are restricted.

j. Water Body

Retaining water is the main purpose of this type of Landuse.

Land Use Permitted

The following uses in the tables are proposed to be applicable for this zone only.

Table A.21: Land Use Permitted

Permitted uses under Water Body
Aquatic Recreation Facility (Without Structure)
Fishing Club
Utility Lines
Water Parks
Memorial Structure

Source: Compiled by the Consultants

Land Use Conditionally Permitted

The following uses may be permitted or denied in this zone after review and approval by the authority/committee.

Table A.22: Land Use Conditionally Permitted

Conditionally permitted uses under water body
Plantation (Except Narcotic Plant)
Marina \ Boating Facility
Motorized Recreation

Source: Compiled by the Consultants

Restricted Uses

All uses except permitted and conditionally permitted uses are restricted.

ANNEXURE -C: PROJECT TEAM

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