

# **Preparation of Development Plan for Fourteen Upazilas**

## **Package-02**

(Ishwarganj, Mymensingh; Raipura Upazila and Raipura Upazila, Narsingdi)

## **Raipura Upazila, Narsingdi 2013-2033**

**June, 2018**



**Urban Development Directorate (UDD)**  
Ministry of Housing and Public Works  
**Government of the People's Republic of Bangladesh**  
[www.udd.gov.bd](http://www.udd.gov.bd) [www.14upzilaidd.gov.bd](http://www.14upzilaidd.gov.bd)

## Published by



### Urban Development Directorate

82, Shegun Bagicha, Dhaka 1000

Bangladesh

### Consultant

Joint Venture of

Sheltech Consultants (Pvt.) Ltd.

And

Arc Bangladesh Ltd.

Dhaka, Bangladesh.

**First Edition:** June, 2018

### Price

Taka: 3000

US\$: 37

### Printed By

Grayscale

Mohakhali Wireless Gate

T&T Road J.P.G-37/2, Dhaka-1213

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Urban Development Directorate

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বাংলাদেশ



গেজেট

অতিরিক্ত সংখ্যা  
কর্তৃপক্ষ কর্তৃক প্রকাশিত

, ২০১৯

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গৃহায়ন ও গণপূর্ত মন্ত্রণালয়  
পরিকল্পনা শাখা-৩

প্রজ্ঞাপন

তারিখ, ১৪২৫ বঙ্গাব্দ/ ২০১৯ খ্রিস্টাব্দ

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(.....)

মূল্যঃ টাকা .....

## **Preface**

This is a great pleasure for all concerned that the **“Preparation of Development Plan for Raipura Upazila”** has been successfully completed jointly by Sheltech Consultants (Pvt.) Ltd. and Arc Bangladesh Ltd. under the supervision of Urban Development Directorate (UDD), Ministry of Housing and Public Works, Government of the People’s Republic of Bangladesh. This Development Plan for the period of 20 years (2013-2033) will serve as a guideline for the future Infrastructure Development together with land use control, effective development and management of the Upazila. This Development Plan comprises of Five-tier in a hierarchical order. These are Sub-Regional Plan for 20 years, Structure Plan for 20 years, Urban Area Plan for 10 years, Rural Area Plan for 10 years and selected Action Area Plan for 5 Years.

The Consultants have successfully completed the most essential tasks such as PRA survey, Socio-economic survey, transportation survey, formal-informal economic survey, agriculture survey, Physical feature survey, land use survey, hydrological survey, geological survey, building vulnerability assessment survey and series of consultation meetings with stakeholders for the preparation of the Plan. And based on the survey data, different thematic maps have been prepared and then land suitability analysis have been done through ArcGIS planning tools. Moreover, Engineering geological data has been interfaced with land use data to prepare risk sensitive land use plan. After preparing the draft plan, local level stakeholder consultation and workshop have been completed. Finally, formal public hearing has been made to register public complaints and awareness through participatory planning approach with the Upazila and related stake-holders. During implementation period if needed any change of the development plan may be allowed with the approval of the appropriate authority.

Urban Development Directorate (UDD) acknowledge the full support and cooperation of Raipura Upazila Authority, Member of Parliament, Stake-holders and Member of Civil Societies and the Common Peopole of Locality with the deepest gratitude.

**Dr. K. Z. Hossain Taufique**  
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Government of the People’s Republic of  
Bangladesh



## EXECUTIVE SUMMARY

Raipura Upazila has an area of 291.50 square kilometers consisting of 24 Union Parishad. According to survey findings, Density of this area is about 1713 per square kilometer which is greater than the national density 976 per square kilometer and population projection indicates that by the year 2033, considering medium growth rate, the population will increase by 2.60 % and 1.58% for Urban and Rural area respectively.

The plan includes a series of development plan strategies, plan proposals, action plans, and implementation strategies in order to fulfill the requirements. This Project has dimensional objectives to formulate Conservation plan, Development plan and to set up provisional plans for growth of the economy, employment, social, and environmental conditions at sub-region level. This settles the effort to have an aim which should have the experience of advancing lives of Raipura Upazila. Suitability assessment has been taken into account for agriculture, hydrology, geology, infrastructure and urban and rural area in order to apprehend areas for identifying preserving for future agricultural development, flooded area, main flood and sub flood flow zone as well as asking which area is suitable for micro-zonation map and also land suitability for future urban extension.

The Plan for Raipura Upazila endeavors to generate development plan in order to improve provisions for better transport network, housing, social and community under the project titled Preparation of Development Plan for Fourteen Upazila. Development Plan is presented in segments of five-tier Plans for 20 years and knitting these sections will make up the image of developed Raipura Upazila. Prior to the preparation of the plan, consultants had gone through background study, surveys, and analysis.

Sub-Regional Plan has an overall vision to make Raipura Upazila a well-linked and integrated part through linkages, physical, economic and social connections. It includes the clear goal of envisioning the future growth and developments which will be directed with the country's development activities and different policies of the country. The sub-regional plan will promote and guide Raipura Upazila becoming integrated with Dhaka and Narsingdi as their economy which will aggravate development through linkages, physical, economic and social connections. For the development of Raipura Upazila and its paurashava area, it will definitely need resource mobilization which is reflected in two policies suggested in the study. As of common concept, mobilization demands communication or linkage which is predominantly advised in these two policies. The plans counted under these policies have embraced ideas of Physical linkage for increased available public transportation which in turn will encourage productive resource and capital distribution by the medium of economic and social animations. Raipura Upazila Corridor development is encouraged in these plans under the policies, along with the share of Dhaka Sylhet Highway. Development of transportation concerned facilities such as motor garage, fueling station, hotels, and restaurants is stated an immediate response. Raipura Upazila is important due to its surplus agriculture production and fish farming that is exported to other Upazilas and Capital City of the country thus establishing an economic linkage with those areas. Raipura Upazila has the considerable accessibility of road networks both in regional and national context and 27 kilometers of railway lines which is met with six stations. This makes Raipura a prepared hub for a development plan to start with and offers doors to opportunities.

The Structure Plan suggests land resources for proper utilization into residential, commercial, and industrial districts. Better physical linkage with capital city and Narsingdi district through rapid public transport for easy transportation of resources. About 64.09% of land has kept as agriculture area of which most area has been found to be suitable for agriculture. In order to sustain economic activity and

economic development, 0.43 % of the land area is kept as the new growth center of which consultants have been proposed eight agro-based industries on 49.20 acres of land and Cold Storage has been proposed in several unions. Industrial zones have been proposed at Amirganj, Musapur union for industrial development which consists of 0.12 % of land area. The land has been kept for rural settlement and vegetation as well. Waste disposal site and waste transfer stations have also been proposed in Amirganj, Adiabadd, Alipura, Amirganj, Harimara and other unions along with High school and primary school in Alipura, Chanderkandi, Chanderkandi, Daukar Char as well as other unions. Keeping sustainability in mind renewable energy motives has been included as solar power technologies been introduced in Mirzarchar, Nilakhya, Paratali, Sreenagar, Chandpur, Char Madhua unions. Almost every union has been proposed with Community clinic except Chanderkandi, Marjal, Mirzanagar, Musapur and park with residential use which been proposed under land use plan.

Urban Area Plan is constructed to guide the physical development of Raipura Paurashava including all the economic and social activities. Land use planning was one of the significant sectors to discuss and discern into this segment of the planning phase. 31.88% of existing urban land area has been allocated to future development and growth of domestic agriculture practices which comprises 9 wards under urban area which are segmented into five urban areas. More land has been proposed than existing land use as; 4.05 acres of land has been proposed for Planning, Shopping Complex, Pauro Market, Kitchen Market etc. 112.20 acres of land has been proposed for circulation network. 619.21 acre in total has been proposed to protect agriculture from unplanned development and total 2.49 acre land has been proposed for administration. 7.62 acres of land proposed for Community and Religious Facilities as Masjid Complex along with 15.71 acres of Education & Health facilities as School and Hospital cum Medical College. Solar Park in 5.65 acres of area has been introduced to the plan. A huge portion of Recreational and Open Space or Playground has been proposed over 31 acres of land.

Rural Area Plan aims to guide the physical development of Raipura Upazila (except Paurashava area) including all the economic and social activities. Many of the proposed facilities discussed under the rural area plan would group as the institutions which are more pertaining to the objective of the plan and necessary as the social study has unveiled. This Upazila holds an important area in Narsingdi District with its natural resources and ecosystem making it dominant in agriculture. Total 24 unions are considered under Rural Area Plan. Moreover, about 62.68% of existing area has been proposed for increased agricultural activity. Maximum agriculture land is double cropped which contains about 60.44 % of the double-cropped area followed by triple cropped area (25.87 %), single crop area (13.68 %). In order to reduce the irrigation water wastage, proper utilization needs to be converted into the pucca drainage system or by introducing underground pipe irrigation systems. Agriculture Training Institutes have been proposed for development of agriculture practices over 2.67 acres in Maheshpur, Marjal, Radhanagar and Raipura union. The agro-based industry is also on the proposed list with a plan for 47.18 acres of land.

The Action Area Plan is the fifth stage of the current plan package where identification of prioritization based projects are taken into account on existing development pattern and based on the need for development. According to a priority list of Action Area Plan, all the development proposals have been arranged according to four phases on the basis of allotted time. These phases are as followed; first phase (2013-2018), the second phase (2018-2023), the third phase (2023-2028), fourth phase (2028-2033). Out of these phases, three of the mentioned proposals has been taken into account with a proper objective. The first proposal would be to develop Youth Center at Shrirampur Uttar Para at Ward

Number 08 which covers an area of 1.65 acres which will open the opportunity to grow and a hub for youth in Paurashava area. The second proposal is to develop a Growth Center at Matiur Nagar at Musapur Union covering an area of 42 acres with an objective of Commercial and Agriculture development by adding value to the farmer's productions, generating employment opportunities, and increasing the farmer's net income.

The Development Plan of Raipura Upazila is prepared in the light of local people including other stakeholders have been duly consulted during the preparing the development plan. The implementation of the plan will help to stop haphazard and sprawl development. In order to make it an instrument of development and development control of the planning area it should be operative through necessary ratification without any delay. Planning is a continuous process. It will need periodic review and upgrade of the plan. The implementing agencies of this project at different levels are Paurashava, DC Office, BEZA, BADC, UNION Office, DOE, DPHE, RHD etc. However, the role of UDD should expand to monitor and evaluate the development plans of Upazilas directly in order to make it more practical and fruitful. The plan will be legally guided by Local Government (Upazila Parishad) Act, 2009; Local Government (Paurashava) Act, 2009 and Local Government (Union Parishad) Act, 2009.

On the other hand, being inclined with the legal aspects of the study, the planning has been made in the light of sustainability and also inclined with Sustainable Development Goals. Most of the goals are intertwined with proposals and physical interventions. One of the crucial goals of the guidelines is 'End hunger, achieve food security and improved nutrition and promote sustainable agriculture' or as goal number 2 that has a significant role to motivate the planning process as Raipura was any different than being greatly dependent on agriculture production and its relevant market. Making an inclusive image of the Upazila with the capital city Dhaka was one of many lenses we considered to see through and as for the goal to 'Make cities and human settlements inclusive, safe, resilient and sustainable' is on the same page.

Risk factors that need proper attention as it may cause the whole initiative to lose its purpose and effort. Risk assessment was not left untouched as it is necessary than anything to identify risks related issues which has unparalleled importance and thinking for the future. Raipura Paurashava core area is realized to have 154 structures which are risky pucca structure. Every major structure usage has been analyzed and cross referenced with a degree of risk. Risks of both natural and anthropogenic sources have been considered as Raipura Upazila is less sensitive to the hazardous threat to an earthquake. Contingency plans for operational constraints as Disruption in the communication system or key supplies have been taken into account.

Proposals were followed by strategies and policies to support development plans. Policies such as; developing efficient inter Upazila communication with the justification of creating easy traffic movement for intensive development through communication, development of public park and open spaces as justified by creating recreational facilities by the by preserving ecological balance and promoting physical and mental wellbeing, ensuring best possible use of land as looked at to have proper economic growth and employment generation, development of agriculture justified as to have raised income and savings to employment with increased production of food grains to promote agro-based industry and developing growth center markets. However, policies have guided the main ideas which also directed strategies as needed per actions.

## **Preparation of Development Plan for Raipura Upazila**

### **Table of Contents**

Preface.....	iv
Executive Summary.....	v
Table of Contents.....	viii
List of Tables.....	xi
List of Figures.....	xiii
List of Maps.....	xiv
Annexure.....	xvi
List of Abbreviations.....	xvii
Glossary of Terms.....	xviii
Unit of Equivalence.....	xxiv

### **PART-I: INTRODUCTION**

<b>Chapter 01: Introduction .....</b>	<b>xviii</b>
<b>1.1 General.....</b>	<b>1</b>
<b>1.2 Project Background.....</b>	<b>1</b>
<b>1.3 Vision and Objectives of the Plan Packages .....</b>	<b>4</b>
<b>1.5 Approach to Plan Preparation.....</b>	<b>5</b>

### **PART-II: SUB REGIONAL PLAN**

<b>Chapter 02: Sub-Regional Plan .....</b>	<b>9</b>
<b>2.1 Introduction.....</b>	<b>9</b>
<b>2.2 Goals and Objectives of the Sub-Regional Plan.....</b>	<b>9</b>
<b>2.3 Nature of the Sub-Regional Plan.....</b>	<b>9</b>
<b>2.4 Linkage with National and Regional Context .....</b>	<b>9</b>
<b>2.5 Sub-Regional Plan of the Raipura Upazila.....</b>	<b>12</b>

### **PART-III:STRUCTURE PLAN**

<b>Chapter 3: Structure Plan and Landuse Zoning.....</b>	<b>14</b>
<b>3.1 Introduction.....</b>	<b>14</b>
<b>3.2 Objectives of Structure Plan .....</b>	<b>14</b>
<b>3.3 Structure Plan Area.....</b>	<b>14</b>
<b>3.4 Broad Land use Zoning .....</b>	<b>17</b>

<b>Chapter 4: Development Planning Issues .....</b>	<b>22</b>
<b>4.1 Introduction.....</b>	<b>22</b>
<b>4.2 Physical infrastructure .....</b>	<b>22</b>
<b>4.3 Socio-Economic .....</b>	<b>23</b>
<b>4.4 Existing Landuse.....</b>	<b>23</b>
<b>4.5 Transportation .....</b>	<b>33</b>
<b>4.6 Participatory Rural Appraisal (PRA) .....</b>	<b>33</b>
<b>4.7 Population Growth and Projection .....</b>	<b>38</b>
<b>4.9 Geological Analysis .....</b>	<b>41</b>
<b>4.9 Hydrological Analysis.....</b>	<b>49</b>
<b>4.10 Agricultural Suitability .....</b>	<b>55</b>
<b>4.11 Human Settlement Suitability.....</b>	<b>57</b>
<b>4.12 Urban Suitability.....</b>	<b>59</b>
<b>Chapter 5: Strategies and Policies for Sectoral Development .....</b>	<b>61</b>
<b>5.1 Introduction.....</b>	<b>61</b>
<b>5.2 Agriculture Development. ....</b>	<b>61</b>
<b>5.3 Economic Development .....</b>	<b>61</b>
<b>5.4 Open Space and Recreation .....</b>	<b>62</b>
<b>5.5 Infrastructure Development .....</b>	<b>63</b>
<b>5.6 Housing Development.....</b>	<b>64</b>
<b>5.7 Ecology and Environment.....</b>	<b>64</b>
<b>5.8 Utility Services.....</b>	<b>66</b>
<b>5.9 Heritage Development .....</b>	<b>66</b>
<b>Chapter 6: Vulnerability Analysis and Contingency Plan .....</b>	<b>67</b>
<b>6.1 Introduction.....</b>	<b>67</b>
<b>6.2 Existing Risk Scenario.....</b>	<b>67</b>
<b>6.3 Contingency Plan for Minimizing Earthquake Risk .....</b>	<b>71</b>

#### **PART-IV: URBAN AREA PLAN**

<b>Chapter 7: Urban Area Plan.....</b>	<b>76</b>
<b>7.1 Introduction.....</b>	<b>76</b>
<b>7.2 Demarcation of the Planning Area .....</b>	<b>76</b>
<b>7.3 Structure Plan and Landuse Proposals.....</b>	<b>76</b>

<b>7.4 Transportation and Traffic Plan .....</b>	<b>94</b>
<b>7.4.1 Existing Conditions of Road Network.....</b>	<b>94</b>
<b>7.4.2 Transportation Network Plan.....</b>	<b>98</b>
<b>7.4.3 Plan for Transportation Facilities .....</b>	<b>101</b>
<b>7.5 Drainage &amp; Environmental Management Plan.....</b>	<b>103</b>
<b>Existing Drainage Condition.....</b>	<b>103</b>

## **PART-V: RURAL AREA PLAN**

<b>Chapter 8: Rural Area Plan.....</b>	<b>108</b>
<b>8.1 Introduction.....</b>	<b>108</b>
<b>8.2 Existing and Proposed Land use .....</b>	<b>108</b>
<b>8.2.1 Agriculture.....</b>	<b>108</b>
<b>8.2.2 Circulation Network .....</b>	<b>118</b>
<b>Transport Facilities.....</b>	<b>125</b>
<b>8.2.3 Growth Center and Hat Bazar .....</b>	<b>129</b>
<b>8.3 Union wise Existing and Proposed Land Uses .....</b>	<b>137</b>
<b>8.4 Drainage and Environmental Management Plan .....</b>	<b>185</b>

## **PART-VI: ACTION AREA PLAN**

<b>Chapter 9: Action Area Plan .....</b>	<b>193</b>
<b>9.1 Introduction.....</b>	<b>193</b>
<b>9.2 Purpose of Action Area Plan.....</b>	<b>193</b>
<b>9.3 Duration and Phasing of Development .....</b>	<b>193</b>
<b>9.4 Phasing of Action Area Plan. ....</b>	<b>193</b>
<b>9.5 Action Area Plan-Project Description.....</b>	<b>194</b>
<b>9.5.1 Development of Youth center.....</b>	<b>194</b>

## **PART-VII: PLAN IMPLEMENTATION**

<b>Chapter 10: Plan Implementation.....</b>	<b>198</b>
<b>10.1 Introduction.....</b>	<b>198</b>
<b>10.2 Plan Custodians.....</b>	<b>198</b>
<b>10.3 Periodic Review and Updating .....</b>	<b>198</b>
<b>10.4 Legal Aspects.....</b>	<b>198</b>
<b>10.5 Resource Mobilization .....</b>	<b>198</b>

<b>10.6 Capacity building.....</b>	<b>199</b>
<b>10.7 Role of Urban Development Directorate (UDD) .....</b>	<b>199</b>
<b>10.8 Good Governance in Legal Provisions.....</b>	<b>199</b>
<b>10.9 Lack of Automation .....</b>	<b>199</b>
<b>10.10 Staffing and Training .....</b>	<b>199</b>
<b>10.11 Monitoring and Evaluation.....</b>	<b>200</b>
<b>10.12 Implementation Modalities.....</b>	<b>200</b>
<b>Chapter-11: Conclusion.....</b>	<b>201</b>

## **LIST OF TABLES**

### **Structure Plan**

Table 3.1: Planning Area of Raipura Upazila .....	15
Table 3.2: Structure Plan of Raipura Upazila.....	17
Table 3.3: Land use of Raipura Upazila.....	18
Table 3.4: Area coverage of waterbody in Raipura Upazila.....	21

### **Development Planning issues**

Table 4.1: Existing Structure Type of Raipura Upazila.....	23
Table 4.2: Existing Land use of Raipura Upazila .....	24
Table 4. 3.1: Short term development priorities in PRA Demand Analysis.....	36
Table 4.3.2 : Mid term development priorities in PRA Demand Analysis.....	37
Table 4.3.3: Long term development priorities in PRA Demand Analysis.....	37
Table 4.4: Projected Population During the Year (2013-2033) .....	39
Table 4.5: Surface Geological Map Units and Lithological Characteristics .....	42
Table 4.6: Landuse Classification for Infrastructure Development .....	45
Table 4.7: Land area according to Geological suitability .....	47
Table 4.8 : Weightage Criteria for Agricultural Suitability Analysis .....	55
Table 4.9: Agricultural land Suitability .....	55
Table 4.10: Weightage Criteria for Agricultural Suitability .....	57
Table 4.11: Human Settlement Suitability .....	57
Table 4.12: Weightage Criteria for Urban Suitability Analysis.....	59
Table 4.13: Urban Land Suitability of Raipura .....	59
Table 4.15: Urban Land Suitable Area.....	59

### **Vulnerability Analysis and Contingency Plan**

Table 6.1: Important Structure of Paurashava .....	68
Table 6.2: Sector Wise Contingency Action Plan.....	74
Table 6.3: Affected Structure due to Road Widening.....	75

### **Urban Area Plan**

Table 7.1: Planning Area of Raipura Paurashava .....	76
Table 7.2: Structure Plan of Urban Area.....	77

Table 7.3: Existing and Proposed Landuse.....	79
Table 7.4: Proposals for Administrative Facilities.....	79
Table 7.5: Proposals for Commercial Activities.....	82
Table 7.6: Proposals for Community and Religious Facilities .....	82
Table 7.7: Proposals for Education and Health Facility .....	85
Table 7.8: Proposals for Open Space and Recreational Facilities .....	85
Table 7.9: Proposals for Transportaion Facilities.....	88
Table 7.10: Proposals for Utility Facilities.....	88
Table 7.11: Road Category.....	94
Table 7.12: Road Category According to Function.....	99
Table 7.13: Proposed Roads in Urban Area.....	99
Table 7.14: Existing Drainage of Pourashava Area.....	105
Table 7.15: Proposed Drainage for Raipura Pourashava .....	105

## **Rural Area Plan**

Table 8.1: Existing and Proposed Land use.....	108
Table 8.2: Crop type according to area .....	112
Table 8.3: List of Proposed Agriculture Facilities.....	115
Table 8.4: Major Roads of Raipura Upazila.....	118
Table 8.5: Road Types of Raipura Upazila.....	119
Table 8.6: Union wise proposed extension of existing roads .....	122
Table 8.7: Existing Road Category .....	125
Table 8.8: Conflicted Structures with their respective use.....	125
Table 8.9: List of Proposed Transport Facilities.....	126
Table 8.10: Existing and Proposed Growth Center and Hat Bazar.....	130
Table 8.11: Proposed Market.....	131
Table 8.12: Proposed Facilities in Rural Area.....	133
Table 8.13.1: Existing and Proposed Land Uses of Adiabab Union.....	138
Table 8.13.2: Existing and Proposed Land Uses of Alipura Union.....	140
Table 8.13.3: Existing and Proposed Land Uses of Amirganj Union.....	142
Table 8.13.4: Existing and Proposed Land Uses of Bansgari Union.....	144
Table 8.13.5: Existing and Proposed Land Uses of Chanderkandi Union.....	146
Table 8.13.6: Existing and Proposed Land Uses of Chandpur Union.....	148
Table 8.13.7: Existing and Proposed Land Uses of Char Aralia Union.....	150
Table 8.13.8: Existing and Proposed Land Uses of Char Madhua Union.....	152
Table 8.13.9: Existing and Proposed Land Uses of Char Subudhi Union.....	154
Table 8.13.10: Existing and Proposed Land Uses of Daukar Char Union.....	156
Table 8.13.11: Existing and Proposed Land Uses of Hairmara Union.....	158
Table 8.13.12: Existing and Proposed Land Uses of Mahespur Union.....	160
Table 8.13.13: Existing and Proposed Land Uses of Marjal Union.....	162
Table 8.13.14: Existing and Proposed Land Uses of Mirzanagar Union.....	164
Table 8.13.15: Existing and Proposed Land Uses of Mirzapur Union.....	166
Table 8.13.16: Existing and Proposed Land Uses of Mirzar Char Union.....	168
Table 8.13.17: Existing and Proposed Land Uses of Musapur Union.....	170
Table 8.13.18: Existing and Proposed Land Uses of Nilakhaya Union.....	172
Table 8.13.19: Existing and Proposed Land Uses of Palashtali Union.....	174
Table 8.13.20: Existing and Proposed Land Uses of Paratali Union.....	176
Table 8.13.21: Existing and Proposed Land Uses of Radhanagar Union.....	178



Table 8.13.22: Existing and Proposed Land Uses of Raipura Union.....	180
Table 8.13.23: Existing and Proposed Land Uses of Sreenagar Union.....	182
Table 8.13.24: Existing and Proposed Land Uses of Bakharnagar Union.....	184
Table 8.14: Main Drainage of Raipura Upazila.....	189

### **Action Area Plan**

Table 9.1: Duration and Phases of Action Area Plan.....	194
Table 9.2: Priority Projects of Raipura Upazila.....	194
Table 9.3.1: Costing for Development of Youth Center.....	195
Table 9.3.2: Costing for Development of Growth Center.....	197

## **LIST OF FIGURES**

### **Introduction**

Figure 1.1: Development Plan Tier.....	1
Figure 1.2: Overall Methodology.....	6
Figure 1.3: Planning Approach.....	8

### **Structure Plan**

Figure 3.1: Land use zone according to area.....	17
Figure 4.1: Existing Road Type.....	22
Figure 4.2: Preparing Social Map.....	33
Figure 4.3: Social Map of Raipura.....	35

### **Vulnerability Analysis and Contingency Plan**

Figure 6.1: Percentage of Risky Structures in Raipura Upazila.....	71
--	----

### **Urban Area Plan**

Figure 7.1: Road Type.....	94
Figure 7.2: Mode of Communication and Mode of Choice.....	96
Figure 7.3: Corner Plot Widening at Intersection.....	97
Figure 7.4: Typical Cross Section of Primary Road.....	97
Figure 7.5: Typical Cross Section of Secondary Road.....	98
Figure 7.6: Typical Cross Section of Tertiary Road.....	98
Figure 7.7: Typical Cross Section of Footpath.....	101
Figure 7.8: Fire Fighter Accessible Road.....	103

### **Rural Area Plan**

Figure 8.1: Percentage of Cropland Type.....	112
Figure 8.2: Cropping Intensity.....	114
Figure 8.3: Effected Structure due to Road Widening.....	125

### **Action Area Plan**

Figure 9.1: Action Area Plan for Youth Center.....	196
Figure 9.2: Action Area Plan for Growth Center in Musapur Union.....	198

## **LIST OF MAPS**

### **Introduction**

Map 1. 1: Location Map of Raipura Upazila .....	3
---	---

### **Sub-Regional Plan**

Map 2. 1: Regional Linkage of Raipura Upazila .....	11
---	----

### **Structure Plan**

Map 3.1: Planning Area of Raipura Upazila.....	16
Map 3.2: Structure Plan of Raipura Upazila.....	20
Map 4.1: Existing Landuse of Raipura Upazila .....	25
Map 4.2: Existing Educational Institute of Raipura Upazila .....	27
Map 4.3: Existing Health Facilities of Raipura Upazila .....	28
Map 4.4: Growth Center and Hat/Bazar of Raipura Upazila .....	29
Map 4.5: Existing Industries of Raipura Upazila.....	30
Map 4.6: Existing Waterbodies of Raipura Upazila.....	31
Map 4.7: Existing Drainage of Raipura Upazila.....	32
Map 4.8: PRA Analysis Map of Raipura Upazila.....	34
Map 4.9: Population Density of Raipura Upazila.....	40
Map 4.10: Geotechnical and Geophysucal Test location of Raipura Upazila .....	43
Map 4.11: Surface Geology Map of Raipura Upazila.....	44
Map 4.12: Geological Land Suitability of Raipura Upazila.....	46
Map 4.13: Foundation Layer type of Raipura Upazila .....	48
Map 4.14: Spectral acceleration (SA): for short period (0.2s): of ground surface at Raipura .....	49
Map 4.15.1 : Flood Level in 2.3 Year Return Period in Raipura Upazila.....	50
Map 4.15.2: Flood Level in 5 Year Return Period in Raipura Upazila .....	51
Map 4.15.3: Flood Level in 10 Year Return Period in Raipura Upazila .....	52
Map 4.15.4: Flood Level in 30 Year Return Period in Raipura Upazila.....	53
Map 4.15.5: Flood Level in 50 Year Return Period in Raipura Upazila.....	54
Map 4.16: Agricultural Land Suitability of Raipura.....	56
Map 4.17: Land Suitability for Human Settlement.....	58
Map 4.18: Urban Land Suitability of Raipura.....	60
Map 6.1: Risky Structures of Raiipura Upazila .....	72
Map 6.2: Contingency Plan of Raipura.....	73

### **Urban Area Plan**

Map 7. 1: Structure Plan of Raipura Paurashva .....	78
Map 7. 2: Existing Landuse of Urban Area .....	80
Map 7. 3: Proposed Landuse Plan of Raipura Paurashva .....	81
Map 7. 4: Proposed Commercial Zone of Raipura Paurashva .....	83
Map 7. 5: Proposed Community and Religious Facilities of Raipura Paurashava .....	84
Map 7. 6: Proposed Education and Health Facilities of Raipura Paurashava .....	86
Map 7. 7: Proposed open space Recreational Facilities of Raipura Paurashava.....	87

Map 7. 8: Proposed Utility Facilities of Raipura Paurashava .....	90
Map 7.9: Propsoed Housing Area of Raipura Upazila.....	91
Map 7.10: Proposed Housing Area of Raipura Paurashava.....	92
Map 7.11:Proposed Transport Facilities of Raipura Paurashava .....	93
Map 7.12: Exisitng Road Network of Raipura Paurashava.....	95
Map 7.13: Road Network Plan of Raipura Paurashava.....	100
Map 7.14: Road Network Plan of Urban Area.....	102
Map 7.15 Existing Drainage of Raipura Paurashava.....	104
Map 7.16: Proposed Drainage Map.....	107

## **Rural Area Plan**

Map 8.1: Exisitng Landuse of Rural Area .....	109
Map 8.2: Landuse Plan of Rural Area.....	110
Map 8.3: Cropping Pattern of Raipura Upazila .....	111
Map 8.4: Propsoed Agriculture Facilities .....	117
Map 8.5: Proposed Commercial Facilities.....	121
Map 8.6: Road Network Plan .....	124
Map 8.7: Prposed Commercial Facilities of Rural Area.....	132
Map 8.8.1:Land use Plan of Adiabad Union .....	139
Map 8.8.2: Land use plan of Alipura Union.....	141
Map 8.8.3: Land use plan of Amirganj Union.....	143
Map 8.8.4: Land use plan of Banshgari Union.....	145
Map 8.8.5: Land use plan of Chanderkandi Union.....	147
Map 8.8.6: Land use plan of Chadpur Union.....	149
Map 8.8.7: Land use plan of Char Aralia Union.....	151
Map 8.8.8: Land use plan of Char Madhua Union.....	153
Map 8.8.9: Land use plan of Char Subudhi Union.....	155
Map 8.8.10: Land use plan of Daukar Char Union.....	157
Map 8.8.11: Land use plan of Hairmara Union.....	159
Map 8.8.12: Land use plan of Mahespur Union.....	161
Map 8.8.13: Land use plan of Marjal Union.....	163
Map 8.8.14: Land use plan of Mirzanagar Union.....	165
Map 8.8.15: Land use plan of Mirzapur Union.....	167
Map 8.8.16: Land use plan of Mirzar Char Union.....	169
Map 8.8.17: Land use plan of Musapur Union.....	171
Map 8.8.18: Land use plan of Nilakhaya Union.....	173
Map 8.8.19: Land use plan of Palashtali Union.....	175
Map 8.8.20: Land use plan of Paratali Union.....	177
Map 8.8.21: Land use plan of Radhanagar Union.....	179
Map 8.8.22: Land use plan of Raipura Union.....	181
Map 8.8.23: Land use plan of Sreenagar Union.....	183
Map8.8.24: Land use plan of Bakharnagar Union.....	185
Map 8.9: Digital Elevation Model of Raipura Upazila .....	186
Map 8.10: Contour Map of Raipura Upazila .....	187
Map 8.11: Drainage Management of Raipura Upazila.....	190

## **ANNEXURES**

Annex – A: Development Project of Shibpur Upazila.....	203
Annex – B: Comments on Final Plan in the Public Hearing.....	205
Annex – C: Permitted Landuse.....	208
Annex – D: Planning Standard for Development.....	213
Annex – E: Sustainable Development Goals and Proposed Plan.....	215
Annex – F: Vulnerability Risk Analysis Survey.....	222
Annex – G: Geological Test Location of Shibpur Upazila.....	236
Annex – H: RTK Survey of Shibpur Upazila.....	237
Annex – I: Mauza List of Shibpur Upazila.....	241
Annex – J: Sample Mauza Plot Schedule of Shibpur Upazila.....	245
Annex – K: Urban Area Calculation.....	247
Annex – L: Meeting Minutes of Draft Final Workshop.....	248
Annex – M: Meeting Minutes of TMC.....	254

<b>References.....</b>	<b>259</b>
------------------------	------------

## List of Abbreviations

AEZ	Agro-Ecological Zone
BBS	Bangladesh Bureau of Statistics
BDT	Bangladeshi Taka (Currency)
BM	Bench Mark
BWDB	Bangladesh Water Development Board
CBO	Community Based Organization
CS	Cadastral Survey
DOE	Department of Environment
DPHE	Department of Public Health Engineering
EMP	Environmental Management Plan
GCP	Ground Control Points
GIS	Geographic Information System
GPS	Global Positioning System
LGED	Local Government Engineering Department
MF	Ministry of Finance
MP	Ministry of Planning
MV	Motor Vehicle
NGO	Non-Government Organizations
NH	National Highway
NMV	Non-Motorized Vehicle
O-D	Origin-Destination
PCU	Passenger Car Unit
PD	Project Director
PMO	Project Management Office
PRA	Participatory Rural Appraisal
PT	Public Transport
RF	Representative Fraction
RHD	Roads and Highway Department
ROW	Right of Way
RS	Revenue Survey
RSSC	Rural Sells & Service Center
RTK-GPS	Real time Kinematics Global Positioning System
SoB	Survey of Bangladesh
SPSS	Statistical package for Social Science
TOR	Terms of Reference
UDD	Urban Development Directorate

## GLOSSARY OF TERMS

Action Area Plan	: The Action Area Plan guides land use and infrastructure within the area potential for immediate intervention based on public demand and necessity. It is prepared on 5 years interval.
Bazar	: Bazar is a market place almost synonym of hat with some advanced facilities in comparison to hat. Generally, in a hat, there may not be any permanent business/trading house, shops. But in a bazaar there are some permanent trading houses, shops and these shops are open every day and buyers and sellers attend the bazaar from morning till late evening.
Buffer	: A zone of user - specified distance around a point, line or area.
Building Code	: Regulations established describing design, building procedures and construction details for new homes or homes undergoing rehabilitation.
Catchment (Drainage) Area	: The area contributing surface water to a point on a drainage or river system, which may be divided in to sub-catchments.
Climate Change	: The slow variations of climatic characteristics over time at a given place. Usually refers to the change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is, in addition to natural climate variability, observed over comparable periods.
Community Service:	Community service covers a wide range of urban basic services, like, park, play field, eidgah, health and education services.
Contour	: The form of the land. Contour lines are map lines connecting points of the same ground elevation and are used to depict and measure slope and drainage. Spot elevations are points of a specific elevation.
Contour Interval	: Difference in elevation between two successive Contour lines. The interval at which contours are drawn on a map depends on the amount of the relief depicted and the scale of the map.
Coordinates	: Pairs of numbers expressing horizontal distances along orthogonal axes, or triplets of numbers measuring horizontal and vertical distances.
Detailed Area Plan	: Detailed Area Plan is the last tier of the present plan package (Structure Plan, Master /Urban Area Plan and Detailed Area Plan) adopted in Bangladesh which gives detailed development plan of an area at

plot to plot level. It also provides a land use zoning plan superimposed on mouza map.

A detailed area plan is prepared for approximately three to five years, that is, the plan must be implemented during this period. Because, spatial changes in urban areas, particularly, in large cities takes place very rapidly. If the DAP is not implemented within five years it would turn obsolete, and a new plan will have to be prepared to accommodate new changes. So it should be executed as soon as possible.

A detailed area plan can be both, participatory or non-participatory. Participatory plans are those plans when it is prepared with direct participation of the local people.

**Development Control** : The process whereby a local planning authority decides whether a planning application meets the requirements of planning policy, particularly as set out in development plans. The prime function of the Development Control section is to determine planning applications in the public interest, in accordance with planning legislation and the local plan that has been adopted by the plan approving authority.

**Digital Elevation Model- DEM**: The representation of continuous elevation values over a topographic surface by a regular array of z-values, referenced to a common datum. DEMs are typically used to represent terrain relief

**Dispersed Urban Development** : Large plots of land situated in the countryside, often Green Belt, in proximity to an urban area and occupied by land uses that are urban in character and depend upon the nearby settlement. These may form the distal or outer advance zone of a fringe belt. They may also form a detached part of an arterial ribbon.

**Drainage Basin**: The area of land that drains water to a common outlet at some point along a stream channel.

**Encroachments**: A structure that extends over the legal property line of other People or public land.

**EIA** : It is a detailed study based on Environmental Assessment (EA) to determine the type and level of effects an existing facility is having, or a proposed project would have, on its natural environment.

**Façade** : Any front of a building given architectural treatment.

**Flash Flood** : A rapid and short-lived increase in the amount of runoff water Entering a stream resulting in a flood.

**Geographic Information System —GIS**: A geographic information system merges information in a computer database with spatial coordinates on a digital map.

**Global Positioning System - GPS :** System used to determine latitude, longitude, and elevation anywhere on or above the Earth's surface. This system involves the transmission of radio signals from a number of specialized satellites to a hand held receiving unit. The receiving unit uses triangulation to calculate altitude and spatial position on the Earth's surface.

**Ground Water Table :** Surface of a body of underground water below which the soil or rocks are permanently saturated with water. It also is affected by withdrawing excessive amounts of water from wells or by recharging them artificially.

**Growth Centre Market :** Hats and bazaars are the trading centers of the rural Bangladesh. Considering the importance of their economic role in national economy, government has decided to develop infrastructure facilities of some selected hats and bazaars in every upazila through LGED. The markets which are already provided with such extra infrastructure facilities are called growth center market.

**Hat:** The term 'hat' is very much known to all from time immemorial throughout the country which is a temporary rural market place. In rural Bangladesh farmers and other producers/manufactures used to sit with their surplus products in a suitable place having comparatively better communication system with surrounding villages to exchange these goods. This suitable place is called hat where generally on fixed days sellers and buyers get together and exchange goods and services. This gathering place is developed gradually by the local people at the beginning. The Hat is a rural trading center.

**Hazard Area :** A geographically identifiable area in which a specific hazard presents a potential threat to life and property.

**Hazardous Waste :** A solid waste, or combination of solid wastes, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may: 1. cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible or incapacitating reversible serious illness, or 2. pose a substantial presence or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed.

**Highway Corridor:** A path through which certain types of traffic are permitted or a path enhance the flow of traffic, both commuter and commercial, along this increasingly congested highway system.

**Household:** Describes group of people who live in the same house and share food from the same kitchen. Household is similar to a family, except that household members may not have blood relationship.

**Human-made Disaster:** A disasters or emergency in which the major direct cause or causes are intentional or unintentional human actions that result in civilian populations suffering casualties, loss of property, basic services, and means of livelihood as a result of war, genocide, or civil strife.

**Kutch:** Impermanent structure/ building materials.

**Land Use Zoning:** Land use zoning plan can be a single plan or it can be devised as a part of master plan. In land use zoning plan the entire area under planning is sub-divided into suitable use zones



according to their potentiality for that particular use. Accordingly planning permits are given to developers. Land use helps a city grow maintaining environmental sanctity ensuring livability.

**Land Hari:** Local Leasing System of Land for Shrimp Cultivation.

**Land Development:** Re-shaping land to make better use of it. All planned and unplanned development on land is called land development. This term is usually used for housing development in urban areas.

**Line Services:** Urban services that are provided in lines, like, water, gas, electricity, drain.

**Local Level Road:** Those Roads are provided at local level to give access to houses and other establishments. It is the lowest level of road hierarchy.

**Land Suitability Analysis:** The land suitability is a GIS based process for evaluating the suitability of land for development.

**Mahalla:** Smallest identified area in municipalities with settlements of homogeneous group of people. For operational convenience statistical mahallas are delineated within wards.

**Master Plan:** It is the 2nd tier of the three level urban plans. It is prepare for the main city and its surroundings. Its development proposals are more detailed and prepared in map and report forms. It also contains a land use zoning map.

**Mouza:** Mouza is the smallest unit of Land Survey System with a unique number called Jurisdiction List Number (J.L.No).

**Mode of Transport:** Four ways are included in the mode of transport. They are Roadway or Highway, Railway, Waterway, and Airway.

**Nasimon:** It is a vehicle locally developed by modifying diesel motors used by low lift irrigation pumps mostly used for both passengers and goods for short distance.

**National Highway:** Highway is a public road, especially a more major road connecting two or more destinations. National Highways are the primary long- distance roadways. Connect national capital with state capital, major port towns, border areas etc. Most are maintained by the Government. Connecting the neighboring countries is also called the National Highway.

**Node :**Node is a hub or centre of activity where two or more systems intersect. Transportation nodes are points where several transport systems converge.

**O-D Survey:** This survey is carried out to collect information about desired lanes to provide the most efficient transportation system for the traffic. The purpose of this study is to get the information on the purpose, time, destination and mode of travel.

**On Street Parking:** In this system vehicles are parked on the road sides, designed for this purpose. This type of parking is very convenient for the people who could find suitable place to park near the place of their business. It may lead to traffic congestion which may cause of several accidents. So adequate capacity should be needed while planning.

**Pourashava :** Pourashava is the local name of the municipality. The incorporated area administered by the government as urban area under the Pourashava Ordinance 2008 is considered as the pourashava.

**PCU:** It stands for Passenger Car Unit. It is the method of expressing various types of vehicles having different characteristics in a common equivalent unit. Different vehicles having different vehicular and operational characteristics are also expressed in terms of standard unit is called Passenger Car Unit.

**Planning Permit:** Initial permit for development given before submission of the actual building plan. This also called land use permission given to an applicant intending to develop a structure for housing or other purpose in a certain land. This permission is based on land use zoning prepared as a part of the master plan. After getting this permission the applicant can proceed for designing the structure and submit it for approval. Part of the master plan. After getting this permission the applicant can proceed for designing the structure and submit it for approval.

**Population Projection:** Make future estimation of population using well established and scientifically developed formula.

**Provider to Facilitator:** When town authority provides serviced land (land with services) it is a housing provider, though directly housing. But when it develops road, drain school, bazaar, etc. In any area it helps the land owners to develop their own houses. So town authority is facilitating people's housing.

**Pucca:** Permanent construction/structure using bricks, cement etc.

**Right of Way:** The entire space reserved for use of road. Initially road is developed in a part of the space, but gradually with the pace of urbanization the entire reserved space is used for road and footpath.

**Road Hierarchy:** The hierarchy of roads categorizes roads according to their functions and capacities.

**Rural Area Plan:** Rural Area Plan (RAP) provides a mid-term strategy for 10 years and covers for the development of rural areas within the project area. Generally, RAP contains an explanatory report, resource maps, conservation and management report, planning rules, rural area plan and a multi-sectoral investment program etc.

**Structure Plan:** Structure plan develops broad strategies for managing and promoting efficient medium-to long-term urban development. The structure plan integrates economic, physical and environmental planning objectives, providing a framework for development activities in the area. It also indicates the direction and extent of urban growth over a period of next 20 years.

**Sub-Regional Plan:** It is the document of plan package which determines a long term vision for the development of an area

**Site and Services Project:** A housing project where site and services are provided. Site is the plot and services include road, drain, water supply, etc.

**Shoulder:** Shoulders are strips provided on both the sides of the carriage way. It serves as parking place for vehicles which have developed some defect and need parking.

**Skyline:** Outline of building, hills, etc. against the sky.

**Sluggish Economic Growth:** Slow economic growth.

**Solid Waste:** Non-liquid waste materials that have been discarded. It may be classified by point of origin (such as agricultural waste, industrial waste, domestic waste or construction waste) or by the kind of waste involved (such as rubbish, ashes, garbage, special waste).

**Spontaneously Developed Area:** An area that develops naturally with public and community intervention. Almost all our settlements developed spontaneously. The opposite of Spontaneously Developed Area is planned developed area.

**Structure Plan:** Structure Plan is the 1st tier plan of the three level plan currently prepared for urban centres in Bangladesh. It is a policy plan and not a plan in maps. Future urban development policies are written down in the plan report that serve as the framework for subsequent lower level plans, like, master plan/urban area plan and detailed area plan. Major development locations may be symbolically indicated in structure plan.

**Traffic Volume:** Number of vehicles passing a particular road per unit time at a specified time is called Traffic volume.

**Thematic Map:** A thematic map is a type of map specifically designed to show a particular theme connected with a specific geographic area.

**UNCHS:** United Nations Centre for Housing and Settlement.

**Upazilla/Thana:** Sub - District administrative area.

**Union:** Smallest local administrative unit of rural area which is composed of Mauzas and villages. A union has a union parishad.

**Urban Fringe Area:** Outskirt areas of an urban center. These areas are usually being developed. They low density of population and structure and lack physical infrastructure, particularly road.

**Upper Level Plan:** Upper level plan is the higher-level plan, like, structure plan or master plan/urban area plan that serve as framework of the lower level plan.

**Urban Area Plan:** It provides an interim mid-term strategy for 10 years and covers for the development of urban areas within the project area. Generally, Urban Area Plan contains an explanatory report, resource maps, interim management report, planning rules, urban area plan and a multi-sectoral investment program.

**Village:** Smallest geographic area of rural area. A village may be same as mouza or there may be more than one village in a mouza.

**Ward:** Smallest local administrative unit of urban area. For the operational convenience, Municipalities are divided into three or more wards. The ward boundaries are specified by gazette notification.

**Zila/District:** District administrative area.

**Unit of Equivalence**

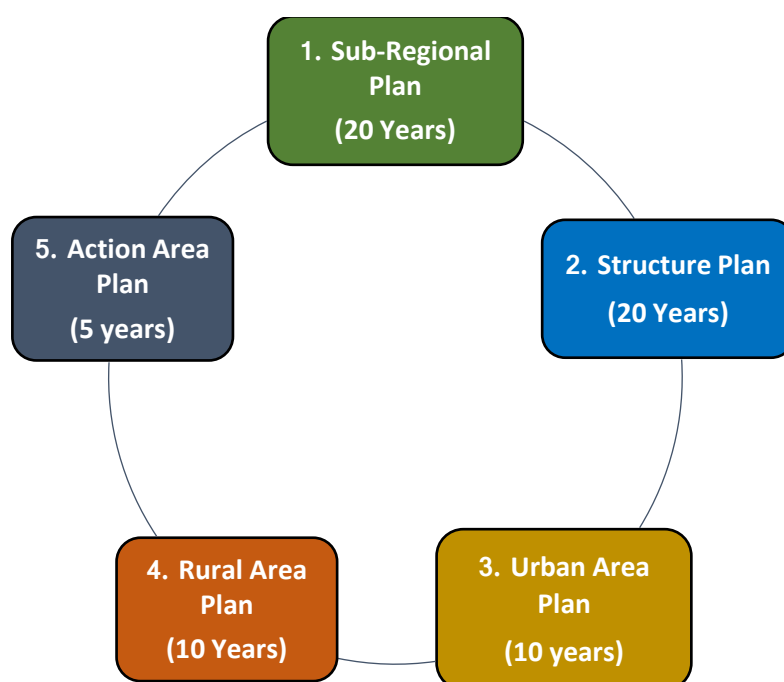
1 lakh	= 1,00,000
1 million	= 10,00,000
1 crore	= 1,00,00,000
1 katha	= 0.05 bighas = 1.65 dec. = 66.9 sq.m. = 720 sq. ft.
1 bigha	= 20 kathas = 33 dec = 0.33 ac.
1 acre (ac)	= 3 bighas = 4000 sq.m. = 60.50 kathas = 100 dec
1 hectare (ha)	= 2.47 ac. = 7.5 bighas = 10,000 sq. m.
1 square metre (sq. m.)	= 1.20 sq. yards = 10.76 sq. ft.
1 square kilometre (sq. km.)	= 247.1 ac. = 100 ha.
1 square mile (sq. mile)	= 259 ha. = 640 ac. = 2.59 sq. km.
1 yard	= 3 feet = 0.9m
1 metre	= 3.281 feet
1 kilometre	= 1000m. = 0.62 miles
1 mile	= 1760 yards = 1.61 km.
1MW	= 1000 KW = 106 watts
1 Nautical mile	= 1.854 mile

## Chapter 01: Introduction

### 1.1 General

The project titled “Preparation of Development Plan for Fourteen Upazilas” funded by the Government of Bangladesh envisages preparation of development plan for some specific Upazilas such as Raipura and Raipura Upazila of Narsingdi District and Ishwarganj Upazila of Mymensingh District. This Plan along with report includes development strategies plan proposals, action plans and plan implementation strategies in order to fulfill the requirements specified the Terms of Reference (TOR)

The aim of preparing this plan is to identify the infrastructural facilities needed for overall socio-economic and physical development of the people as well as the society. The Development Plan contains a Five-tier Plan which has been mentioned below:



**Figure 1. 1:** Development Plan Tier

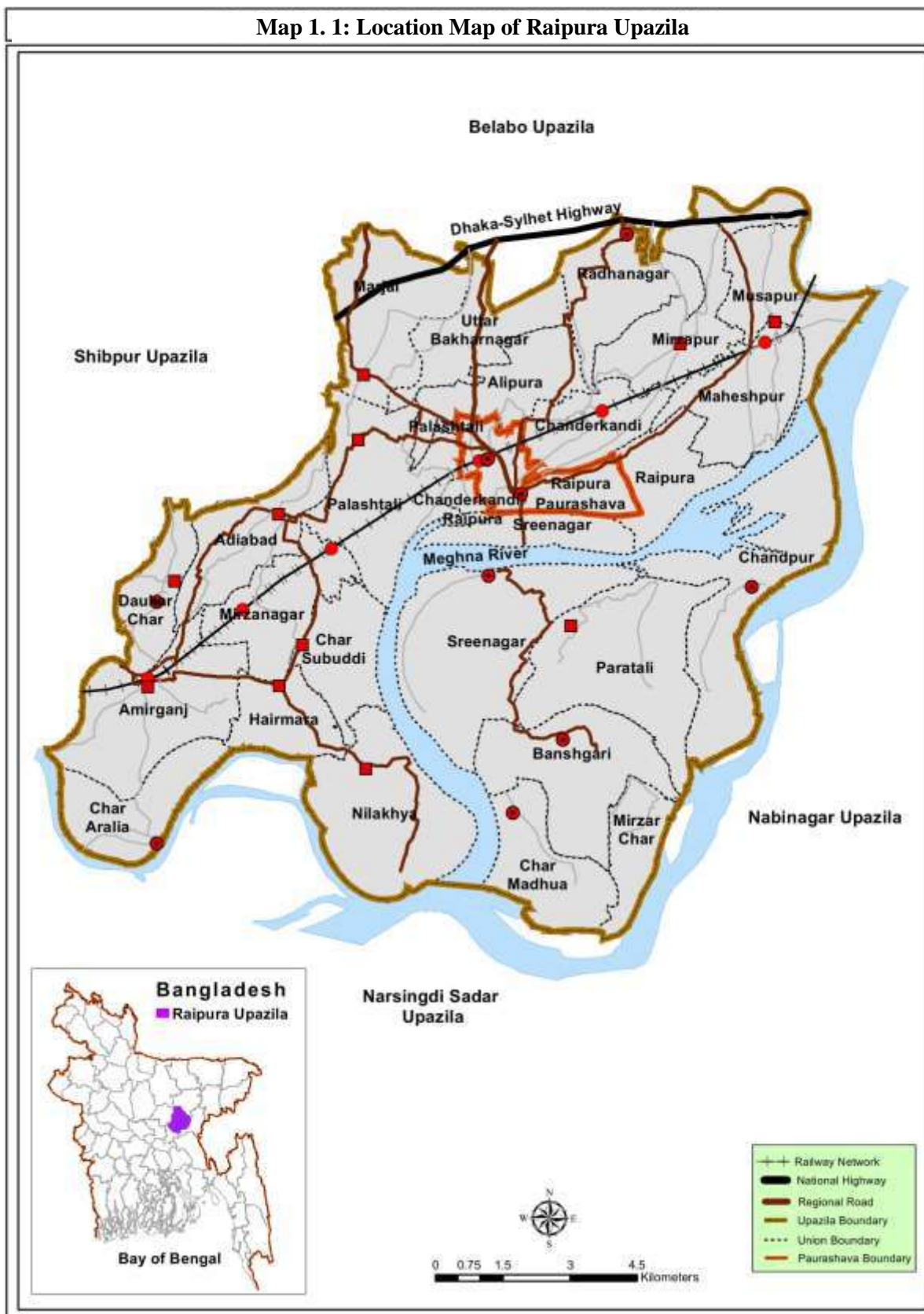
### 1.2 Project Background

Raipura Upazila having an area of 291.50 square kilometers, this upazila is bounded on the north by Belabo upazila on the east by Nabinagar and Brahmanbaria on the south by Narsingdisadar upazila, Nabinagar, and Bancharampur Upazilas and to the west by Raipura and Narsingdi Sadar Upazila. The Raipura Upazila consists of 24 Union Parishad. The planning area is demonstrated in **Map1.1** where overall location is manifested. The location map of Raipura Upazila is presented with major road connectivity along with the primary railway network alongside the river Meghna flowing to the south of the Upazila location. The detailed area description featuring topographic features and attributes will be discussed in further chapters to come in this report.

Urban Development Directorate (UDD), Under Ministry of Housing and Public operate as the executing agency. The project is merged to monitor and to be evaluated by UDD at the field level. The joint

venture of Sheltech Consultants (Pvt) Ltd and Arc Bangladesh Ltd is the consultants of the project. Bangladesh has been showing the rapid growth of urban population since the partition of India in 1947, especially since the independence of Bangladesh in 1971. The average growth rate of urban population has been fluctuating in different census decades. Between 1961 and 1980, the growth rates marked roughly 8 percent. Between 1991 and 2001, the rate has been declined to 3.5 percent. At present (2011) about 28.40 percent of the total population of Bangladesh lived in urban areas. This, in fact, indicates that Bangladesh is a low urbanized country, even if compared with even the Asian Context (50% urban). In absolute terms, however, the country has a huge number of urban populations. In 1971, the urban population of Bangladesh was 5.5 million while in 2001 the size of urban population rose to about 30 million. These simple statistics represent the clear picture of urban population growth. With the increase of urban population, cities' physical limits are expanding; many suburban and rural areas are becoming urban. With such expansion, the urban built environment is increasing. But in the context of Bangladesh, such expansions are not being taken place in a planned manner. Haphazard and disorderly development is observed which cost the inhabitants too much in social and economic terms. The malpractice of indulging development practices with little to no proper management has been one of the greatest impediments in our development regimes. On the contrary development in this modern age is focusing on the optimistic side of the planning sector in Bangladesh as of the project stamped for this Upazila is dedicated to perform as such.

**Map 1. 1: Location Map of Raipura Upazila**



Due to lack of effective urban and regional planning, these secondary towns have been failed to put in order especially the most valuable resource i.e., the land in view of the citizens' socio-economic and cultural needs. The land is used most haphazardly. As such, the developments are taking place in an unplanned and unregulated manner resulting in a low living standard of the people living in the cities and towns. This situation depressingly influences the investment patterns in the secondary towns resulting in lack of employment opportunities for the urban dwellers and generating funds for development. Better maintenance of urban infrastructure such as roads, water supply, drainage, waste disposal and sanitation, electricity within their boundaries. Thus, the role of the secondary towns in the overall socio-economic development both at the local and the national levels are much noteworthy. Further, it is to be agreed that the issues concerning urbanization and practicing urban planning at the secondary town level have not been duly addressed as far as the national policies and strategies are concerned.

In this regard, a comprehensive development plan is required to address the required land use transformation which will allow any unauthorized and unplanned-development, either in an urban area or in a rural area. Due to lack of such a plan, it is generally found that most of the Upazilas in Bangladesh have developed with least coordinated manner possessing very little development control. Measures for the adequate provision of infrastructure, service, utility and modern amenities for maintaining a minimum standard of life, considering the environment and sustainability has to be taken into account. Moreover, in preparing such a plan, development constraints and local development potentials are to be identified clearly, and plans should be formulated addressing such development constraints and potentials of the area to make the plan practicable.

Considering the preparatory points described previously, the project entitled “Preparation of Development Plan for Fourteen Upazilas” has been initiated with a view to prepare for a period of next 20 years (2013-2033).

### **1.3 Vision and Objectives of the Plan Packages**

The vision of the plan is the creation of an urban livable environment where people, irrespective of age-sex and income or cast-creed and religion, can live and enjoy today within affordable means without sacrificing interests of tomorrow. However, the overall vision of the Master Plan is to make the Upazila by revitalizing its growth and make it a poverty-free, livable and economically vibrant Upazila. Bangladesh Government has an agenda to develop its standard as a middle-income country in the year of 2021. Moreover, the rate of this development is uniform all over the country. Bangladesh has gone towards achieving the rank in the list of developed countries in the world and this plan will help to meet the Sustainable Development Goals (SDG) in Upazila stage in order to make the development uniform all over the country.

It contains a comprehensive package of social, economic and physical policies which deals in principles only with all aspects of development (urban/rural) over a given period of time. The predominant policy areas include employment, land, infrastructure housing, transport, and social services. It explains the general principles to be followed in order to guide the “general content, form and locations of development and the methods by financial interventions and implementations.”



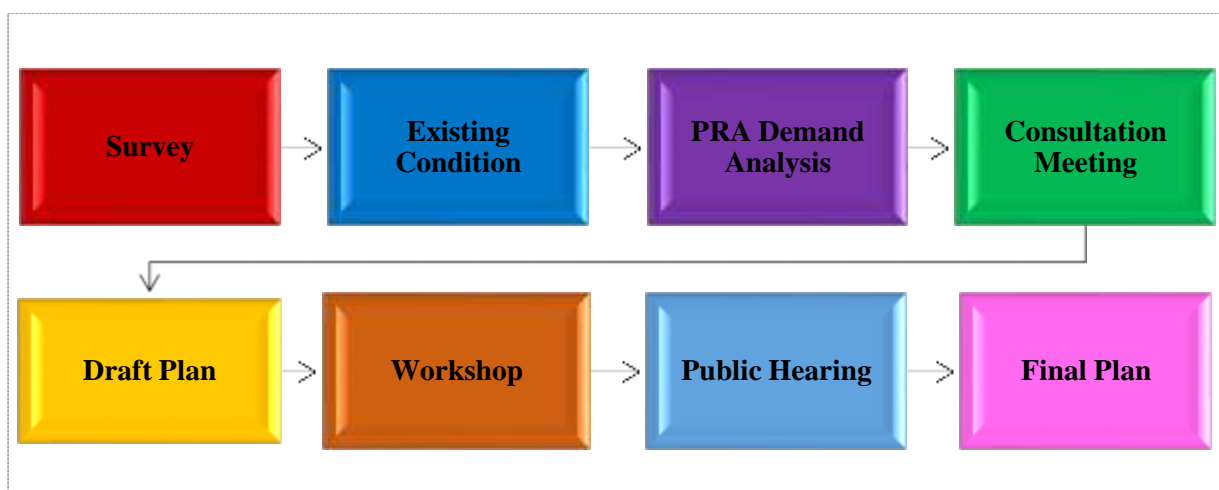
#### **1.4 Objectives**

- To find the development issues and potential of the Upazila and make a 20 year development vision
- To develop, improve and update provisions for better transport network, housing, social and community needs of the poor and the disadvantaged groups for a better quality of life.
- To prepare a multi-sector short and long term investment plan through participatory process for better living standards by identifying area based priority
- To provide controlled provisions for private sector development, clarity and security with regard to future development
- To provide guide-line for development considering the opportunity and constraints of future development of Upazila town.

#### **1.5 Approach to Plan Preparation**

The Preparation of Development Plan of Raipura Upazila is following a participatory method which incorporates down to top planning process where the planning recognizes the opinions, ideas, and needs of stakeholders. As these points are absolutely necessary in order to formulate the plans that will contemplate being a fundamentalist in the context of beneficiaries. After signing the agreement, the Reconnaissance survey has been carried out followed by an Inception Report. Detailed survey maneuvers have been entitled into methods with the motives to learn the existing conditions and layouts of the project area. Different techniques were considered for that segment of the study. Techniques included surveys as Physical Feature, Geological, Hydrological, Agricultural, Socio-Economic, and Transportation survey. Participatory Rural Appraisal (PRA) has been conducted at different points of the study to harness local attributes and different thematic maps have been prepared based on these applications.

Total five type of suitability analysis has been conducted such as Geological Land Suitability, Hydrological Land Suitability, Agricultural Land Suitability, Human Settlement Land Suitability and Urban Land Suitability. Vulnerability Risk Analysis survey was also taken into account for risk free plan preparation and Contingency Plans for zones defined risky. Before proposing any facilities multi criteria analysis has been conducted to discern whether the land has suitability. A draft plan has been prepared through Stakeholder Consultation meetings at Upazila and Union level where administrative representatives, Civil Society, Political Leaders and local people were present and stated their opinion or suggestions on the focused draft plan. Day long workshop was organized where the draft plan of Raipura Upazila was arranged to present, in order to ensure proper participation of commons and executives. Public hearing at upazila and union level was administered where manifestation of the final plan was shown for locals to take part. People came to know about the plan through consultants, helping them to capture the image and motives of the plan. Comments and suggestions were documented as per discussion and finally explained in the final plan. Opinions of public hearing were incorporated in order to exercise plan's usefulness in local level and subsequently the final plan was prepared. The overall methodology has been presented in Figure. 1.2 and Figure 1.3 shows the five steps of planning approach.



**Figure 1.2:** Overall Methodology

In the planning exercise, a five-step planning methodology has been followed as depicted in **Figure 1.2** to grasp the ideology. The steps are viewed and adjusted according to needs of the development plan with a consideration of order that will assist the segments to be in an arrangement for uniformity. These steps are described in order of the initial to the last as numbered.

In step-1 the conceptualization, mobilization, and operationalize the activities were carried out and the output was the preparation of Mobilization Report. Different types of Background Studies, Reconnaissance Survey was carried out and step- 2 was the preparation of an Inception Report.

In step-3 different survey and studies were conducted in order to prepare a database for harnessing an insight into the existing conditions. On the basis of findings of the studies, Survey Report was prepared.

Step-4 was to review the survey and PRA findings for generating a draft plan. Reviews were made by exchange of opinion with the cross section, people and stakeholders with an approach of either group or particular basis. Important task or activities in this step was to formulate strategies, policies, and preparing plans for all five stages of the plan. These five segments are Sub-Regional Plan, Structure Plan, Urban Area Plan, Rural Area Plan, and Action Area Plans for the target areas.

Step-5 the final step was review and evaluation of the Strategies, Plans, feedback and opinion of experts and feedback of public hearing. After compilation of all the opinion, the final plan has been prepared.

### 1.6 Limitation of the Study

Avoiding the complications to keep the study process in adorned routine without affecting the study result to a large extent was maintained through out the study procedure. In a few cases, less relevant variables were avoided in order to avoid complication as well as information gap was neglected while the variation of the data due to making the undertaking a lengthy extent. This plan preparation process also has limitations as any other endeavor. Although these limitations can be seen as of minimum concern, it deviates the output of the plan from the original with an insignificant amount. The plan preparation process has taken a span of nearly 3 years. The required data for plan preparation has been collected in the first phase of the plan. As a result, there has been a great gap between the physical feature survey and plan preparations period. In this time lag, the development of the survey area has been stagnant. So the collected physical feature data during the survey period has been changed when the actual plan preparation process starts. Hence the existence of an information gap is imminent.

Because of the lengthy process, a number of impediment was to face in the arrangement of the political appearances. In this time gap, in some parts of the study area, local political leaders have been changed. Different leaders express their different views about the plan and execution of the plan. So the main plan is different in the different political environment. The survey has been conducted in the dry season during the initial phase of the plan. But survey outcome can be different according to the different season of the year. This particular survey data according to the season can generate a different scenario in the final output. Hence separate surveys for the dry and rainy season were required for the proper conceptualization of the existing scenario of the area.

In preparation of the contingency plan, calculation of the risk has been simplified using equal weight to all the 8 variables. There is a number of active earthquake fault line in the study area. So the risk of an earthquake is very low in the study area. Hence, more complex equations in risk calculations have been avoided. All the planning proposal and planning area has been defined in the plan based on the future population of the area. This future population has been projected using the systematic methodology using previous population data. But this previous population data has been collected from secondary sources which date back to 2011 population census. Population data for the year 2015 was unavailable from any primary relevant sources. In the plan, many aspects of economic entities for instance industries, agricultural, small-scale industries, and others. Gender issue has been discussed in few of the initiatives however the women empowerment and engagement strategy was discussed with a priority basis. A number of separate facilities for women have been delineated in the plan.

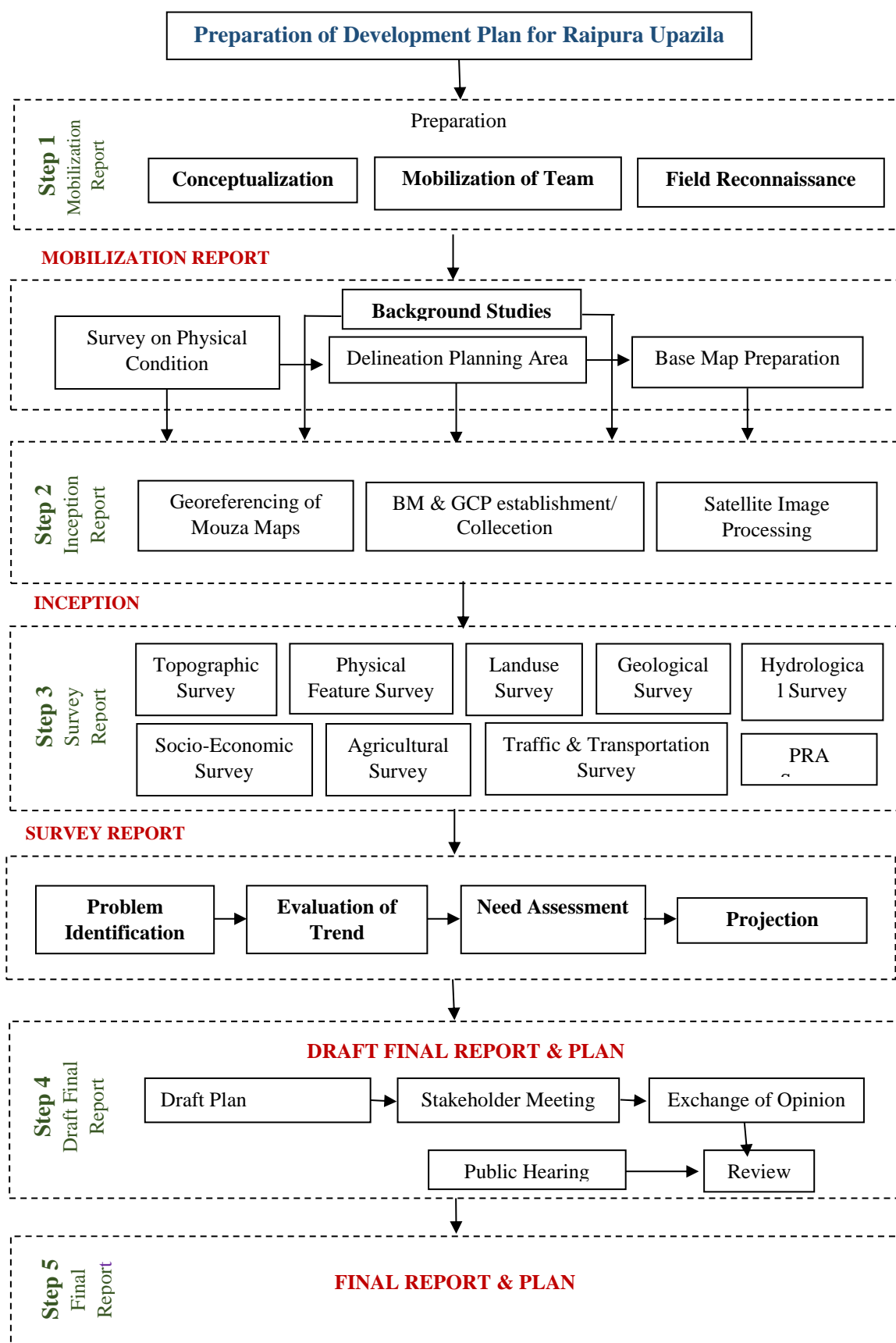


Figure 1.3: Planning Approach

## **Chapter 02: Sub-Regional Plan**

### **2.1 Introduction**

Raipura Upazila is located in the periphery of Dhaka Metropolitan region. Being naturally appropriated as an agricultural hub, the Upazila serves the city as a hinterland by providing agricultural goods. Secondly, the Upazila is gradually turning into an industrial and service providing area as being very close to Narsingdi industrial hub. These two conditions provide Raipura Upazila with immense potentials to become economically and socially integrated with the Dhaka Metro region and Narsingdi industrial regions. These opportunities are the basis of the development of the regions as a sub-system of the whole economic region.

### **2.2 Goals and Objectives of the Sub-Regional Plan**

To achieve the vision of developing Raipura Upazila as an economically vibrant, liveable, sustainable and planned administrative entity, the following objectives are outlined:

- The Sub-Regional Plan for Raipura Upazila for the next 20 years will guide the Upazila to become integrated with Dhaka and Narsingdi as their economic sub-system;
- The sub-system will be provided strength by development of various linkages, physical, economic and social connections; and
- Making provision and plans for the growth of the economy, employment, social, and environmental conditions.

### **2.3 Nature of the Sub-Regional Plan**

The overall vision of the sub-regional plan is to make Raipura Upazila a well-linked and integrated, liveable and sustainable Upazila. It contains the policies drawn for development of Raipura Paurashava and rest of the Upazila area over a longer period of time (20 years). It also contains a comprehensive package of social, economic and physical policies which deals in principles only with all aspects of development for urban and rural area over a given period of time. The predominant policy areas include linkages, mobility, employment, land, infrastructure for linkages such as transport and social provisions. This framework has been generated from data and findings from shift-share analysis and location quotient earlier in the survey section.

### **2.4 Linkage with National and Regional Context**

The communication system of Raipura with Capital city Dhaka and other divisional town is quite nice for both internal and external communication. Raipura Upazila has great significance in the context of the road network. National Highway, Regional Highway, and Railway have gone through it which makes the Upazila Center more viable. Raipura Upazila is well-connected with the railway network. Daily train service connecting Dhaka to Narsingdi is by three trains. Raipura is served by Narsingdi section of Meter Gauge line. There is 27 kilometer railway line and six railway station in Raipura Upazila. The name of stations is Methikanda, Amirganj, Khana Bari, Hathubanga, Daulatkandi, and Sreenidhi.

Raipura Upazila is situated 81 kilometer from Dhaka and 28 kilometer from Mymensingh (BBS, 2011). Though the National Highway N2 (Dhaka to Sylhet Highway) has flown through Narsingdi District. It is well connected by National and Regional Highway originating from different Districts/Upazilas like Narsingdi, Bhairab, Palash, Ashuganj, Gazipur, and Brahmanbaria etc. At present, the national and regional highways are playing a very important role in a communication network. Besides the number of Zila roads and internal local roads is also providing regional

connectivity. This connectivity is a huge potential for regional linkages and local development. Frequencies of trains, buses, and others road vehicles make Upazila a well-linked with regional systems.

Raipura is the second largest Upazila of Bangladesh. There are 3 important bazars in this area named monipura bazar, rayapura bazar, and Srirampur bazar. Their bid price is BDT 49, 00,000; 8, 00,000 and 11, 00,000 accordingly which are comparatively high within the Upazila. There are also some famous river flows beside the Upazila named The Meghna, The old Brahmaputra, Arial Kha and Kakon. Most of the people of Char area of this Upazila lived their life by using the rivers. The Upazila is famous for a high percentage of the fish cultivated area. Fishes of this Upazila are exported to the various cities like bhairab, kishorganj, Narsingdi, Dhaka etc. Panthshala is one of the famous tourist spots of this Upazila.

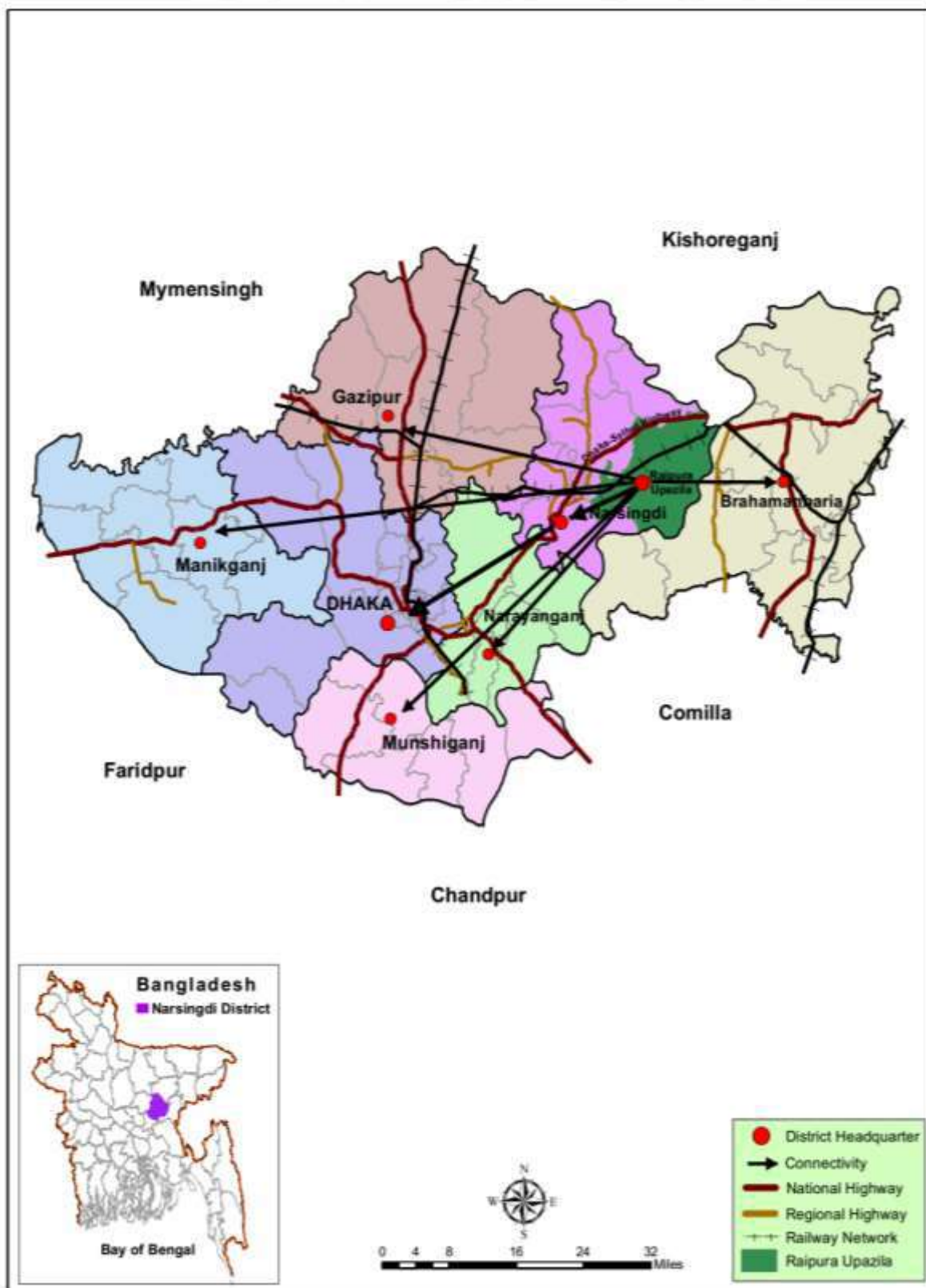
Raipura, the biggest Upazila of Narsingdi Zila in respect of area. It came into existence in the middle of the nineteenth century and upgraded to Upazila in 1984. Nothing is definitely known about the origin of the name of the Upazila. There is a general belief that in the past this area was under an influential Zamindar of the Roy family. The Upazila might have been named as Raipura after the name of the Zamindar family.

The economy of an area is one of the major issue of the Upazila's development condition. It also reveals, which sectors of the economy have been flourished here, and which sectors of the economy are favourable for this area. There are some export-oriented poultry and fish feed farms are located here. Moreover, a number of small scales and large-scale industries are here. And more are waiting for government's help. On the other hand, here it has been found that the Upazila needs skilled labour but females are totally segregated from both of formal and informal sectors of the economy. Map 2.1 Shows Regional Linkage of Narsingdi District and Raipura Upazila.

According to BBS (2011), there are total 110520 households at Raipura Upazila and the average size of households is 4.82. A total number of population is 5, 35,796 where the number of the male is about 2, 58,993 and number of female is 279,803. The density of this area is about 1,713 per sq. kilometer. Raipura Upazila of Narsingdi District is generally functioning as a large agro-economic zone where many people are engaged with agriculture-based economic activities. It also contains large employment centre in urban areas, thus the people got attracted from different parts of rural areas. The location and linkages of the city of Raipura with the regional growth centres make it one of the most important cities in this region.

According to BBS (2011), the Upazila has 5 growth centres, 62 hat/bazars, 565 poultry farms, 144 dairy farms and 5 nurseries. It also has 25 government offices, 13 nationalized bank branches and 37 NGOs. The Upazila's famous crop is paddy. It possesses 53,766 total farm holding.

**Map 2. 1: Regional Linkage of Raipura Upazila**



## 2.5 Sub-Regional Plan of the Raipura Upazila.

Raipura Upazila under the jurisdiction of Narsingdi District occupies an area of 291.50 sq. kilometer which is located between 23°56' and 24°07' north latitudes and between 90°38' and 90°50' east longitudes. It is bounded by monumberhardi Upazila on the north, Raipura, Narsingdi Sadar and Palash upazilas on the south, Belabo and Raipura Upazilas on the east, Palash and kapasia upazilas on the west. The road, economic and social connectivity among these areas will lead the Upazila to be an economic hub.

The discussion made in this chapter under the heading National Contexts and Regional Contexts provided the basis for a Sub-Regional Plan. As elaborated, Raipura Upazila and the Upazila town are located within the periphery of the Dhaka Metropolitan region. Further, the Upazila is the part of Narsingdi industrial zone. The interaction between Dhaka- Narsingdi and Raipura Upazila is not only economic but also social and cultural. The ties between them are historical. Raipura Upazila owns one of the oldest settlements and was a hub of development. Thus, the situation provides an imperative to consider further linkage, beneficial to both the places like Dhaka Narsingdi, as well as other regional centres. Under the prevailing circumstances, the following policies can be promoted to develop better regional linkages and development.

**Policy 01:** For the development of Raipura Upazila as a whole and also for the township (Paurashava), it is almost necessary to have better linkage with capital city.

**Plan 01:** The means interactions to be activated between these two places.

- a) Physical linkage through rapid bus transport from Raipura to Dhaka
- b) Easy transportation of products from Raipura to Dhaka so that the farmers and the producers benefit from it.
- c) Productive resources and capitals can be borrowed from big cities like Dhaka to enhance productivity of the Upazila.
- d) Social and Cultural activities such as sports can be enhanced between them.

**Plan 02:** Development of linkage between Narsingdi District town and Raipura Upazila.

- a) Such linkage can be made through more frequent and easy visits by the people for various purposes. This enhanced mobility will help develop the growth of Raipura Upazila.
- b) Exchange of goods and services between these two places can enhance economic growth.
- c) Social mobility and cultural exchanges can also be developed through planning various programs.
- d) Attractions to be created in the Upazila to pull resources for district development.

**Plan 03:** Besides Dhaka and Narsingdi, linkage can be developed between other important places such as with all Upazilas of the district and important places of greater Dhaka such Narayanganj, Gazipur, Tongi and Brahman Baria. For successful linkages, it will be necessary to enhance Upazila's productivity and development.

These linkages can be established primarily by roads in the physical sense. However, the mobility of the people not necessarily develop based on the road network, economic productivity, exchange of goods and distribution of services.



**Policy02: Taking /reaping the advantages of Dhaka-Sylhet Highway as an economic corridor.**

**Plan 01:** Corridor development is encouraged along the Dhaka Sylhet Highway Raipura section. Various transport related development such as railway station modernization, motor garage, fuelling station, hotels, restaurants etc. may be an immediate response and this will enhance the economic development of the Upazila region.

It is to be noted that corridor development should be made in such a manner that it does not disturb traffic number of proposals that have been put forward in the structure plan.

The above policies and plans can be gradually implemented by the rich entrepreneurs of the Upazila and Dhaka city based institutions and enterprises. Once such development starts, the multiplying effect will lead to ultimate development.

## **Chapter 3: Structure Plan and Landuse Zoning**

### **3.1 Introduction**

The Structure Plan is the second basic document of the Plan Package which contains the policy framework for further plans and development actions. This report is based on the policy framework of the Structure Plan, in which the development proposals are prepared at subsequent lower levels. It identifies areas where growth is likely to take place in the future that addresses the major issues only. This report consists of plans that comprises a broad policy guideline. It also indicates the direction and extent of urban growth and long-term strategy covering the twenty years from 2013-2033, for urban development infrastructure facilities and a broad indication of land use.

### **3.2 Objectives of Structure Plan**

The main objectives of the Structure Plan are to explain the strategy and the development policies to create the context for the future development. It will serve as a framework for the development and the structure plan areas, which falls under the public and private sector agencies.

The Structure Plan has the following objectives:

- To identify the main development issues, major opportunities and constraints in the Upazila;
- To identify the possible growth and physical expansion of the areas as foreseen considering economic base and growth trend;
- To identify the required and suitable land for future physical expansion and development;
- To identify the sector-wise strategies for pursuing the future development control in a desirable direction;
- To establish inter-sectoral goals, policies and general proposals for urban spatial development;
- To identify the development options to offer maximum benefit to the people;
- To provide a framework for the next hierarchy of plans, like Urban Area Plan and Action Area Plan.

### **3.3 Structure Plan Area**

The function of the Structure Plan is to promote the development of Raipura Upazila. These are as follows:

- The Structure Plan will serve as a framework for the development.
- It will work out as a mechanism for coordination and prioritizing development activities by public and private sector agencies.
- It will set the context for action area plan by the identification of the development needs of specific areas and the time period of action.
- The Structure Plan will consider the major development options and policies.

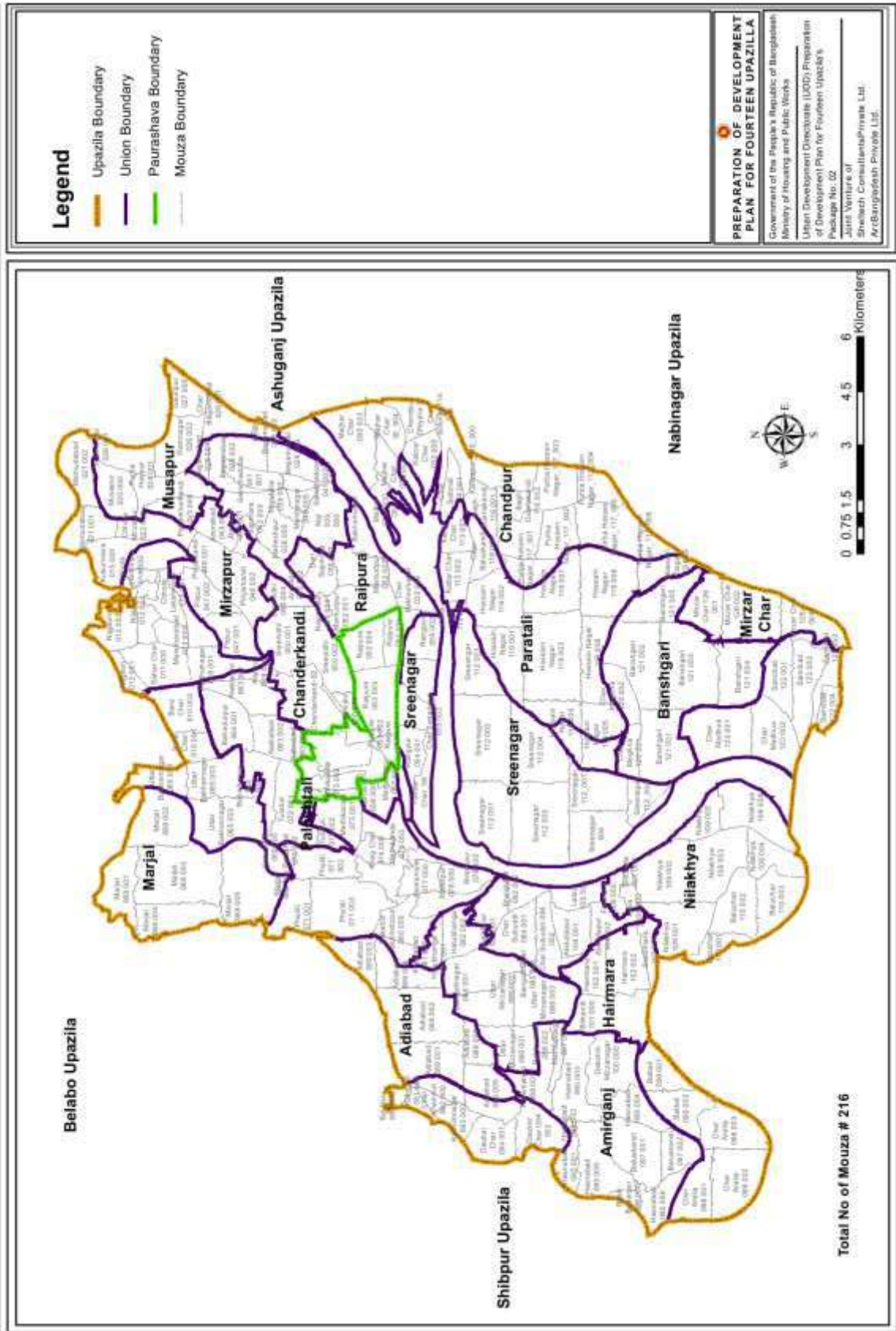
The Structure Plan Area is determined on the basis of reviewing its growth, geographical context, geological and hydrological aspects, socio-economic context and other relevant issues. As per ToR, the study area of the planning is determined as the whole Upazila comprising one Paurashava and 24 unions with an area of 291.50 square kilometer (72033.16 acre).

**Table 3.1: Planning Area of Raipura Upazila.**

Union	Population	Area	
		In Area	In Square kilometer
Adiabab	20359	2737.35	11.08
Alipura	16734	2210.97	8.95
Amirganj	38603	3921.21	15.87
Banshgari	17205	3687.57	14.92
Chanderkandi	15556	2160.29	8.74
Chandpur	24201	4903.59	19.84
Char Aralia	14045	2199.45	8.90
Char Madhua	9909	2357.86	9.54
Char Subuddi	21438	1922.36	7.78
Daukar Char	10555	1191.25	4.82
Hairmara	15805	1573.77	6.37
Maheshpur	26217	2628.79	10.64
Marjal	23905	3221.85	13.04
Mirzanagar	21658	2398.04	9.71
Mirzapur	24306	3216.64	13.02
Mirzar Char	8840	1348.18	5.46
Musapur	29121	2351.46	9.52
Nilakhya	23976	4269.45	17.28
Palashtali	32315	3886.41	15.73
Paratali	27704	5090.44	20.6
Radhanagar	17230	2417.21	9.75
Raipura	11424	1904.90	7.71
Sreenagar	27503	6229.98	25.21
Urban Area	34904	2090.06	8.46
Uttar Bakharnagar	22283	2114.08	8.56
<b>Total</b>	<b>535796.00</b>	<b>72033.16</b>	<b>291.50</b>

**Source:** Field Survey, 2016.

Map 3. 1: Planning Area of Raipura Upazila

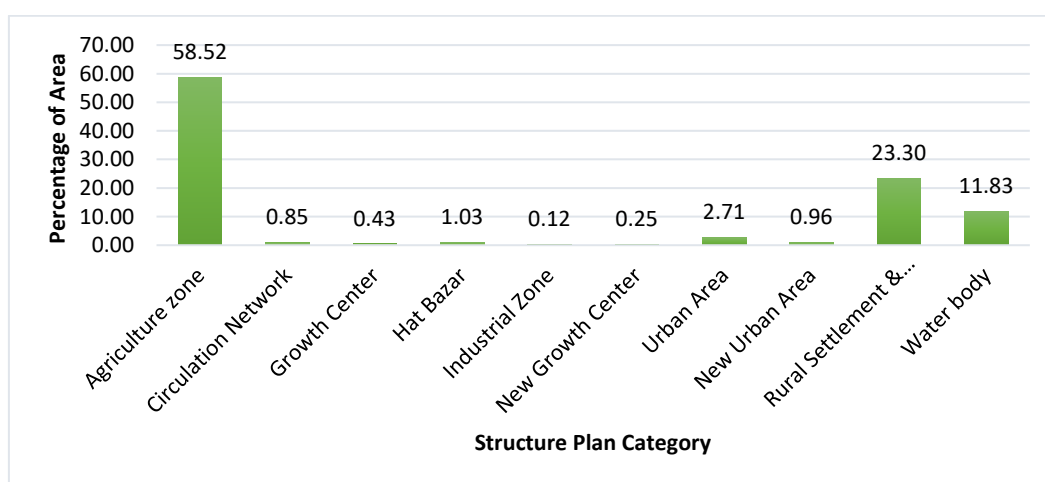


### 3.4 Broad Land use Zoning

In Land-use strategies, Zoning is a technique that is used as a tool for urban planning by the governments to develop and regulate a real estate. The purpose of zoning is to divide a property uniformly into residential, commercial, and industrial districts. Zoning regulates the use and development of private and public real estates of an area.

The Total area of the Upazila is segregated under some broad classes that will basically guide future growth with wide aspects. Definitions of broad classes of Structure Plan are given below for conceptualizing focus of the future magnitude as well as an illustration of the policies and strategies.

**Table 3.2** and **Map 3.2** shows the Structure Plan for Raipura Upazila.



**Figure 3.1:** Land use zone according to area

**Table 3.2:** Structure Plan of Raipura Upazila

Structure Plan Categories	Area (in acre)	%
Agriculture zone	42155.52	58.52
Circulation Network	614.25	0.85
Growth Center	306.62	0.43
Hat Bazar	743.02	1.03
Industrial Zone	83.48	0.12
New Growth Center	179.63	0.25
Urban Area	1950.58	2.71
New Urban Area	694.19	0.96
Rural Settlement & Vegetation	16781.75	23.30
Water body	8524.12	11.83
<b>Total</b>	<b>72033.16</b>	<b>100.00</b>

**Source:** Field Survey, 2016.

**Table 3.3:** Land use of Raipura Upazila

Land use	Existing Area (Acre)	Proposed Area (Acre)
Administrative	5.67	8.37
Agricultural	46165.83	44445.49
Circulation Network	721.10	2200.62
Commercial Facility	580.87	1330.09
Community & Religious	1.82	10.18
Education & Health	14.04	15.71
Industrial	0.09	3.40
Mixed use/ Others	10.83	20.20
Recreational & Open Space	32.95	41.50
Residential	15021.85	14563.43
Utility and Waste Management	0.32	18.06
Transportation & Communication	0.48	2.76
Waterbody	9477.62	9374.18
<b>Total</b>	<b>72033.47</b>	<b>72033.99</b>

**Source:** Field Survey, 2016

### Agriculture zone

Agriculture zone is an area where predominantly agricultural production is staged. All activities of agricultural production and cultivation based market is a hallmark and tillage is the dominant type of land use in this region. Agriculture and Horticulture practices as crop production of all kinds as vegetable and paddy on the other hand Aquaculture or aquaponics practices as rearing fish population and animal husbandry as poultry or cattle farming can be a dominant activity in this zone. About 42155.52 acres land out of total about 72033.16 acres has been kept as agriculture area.

This zone will serve the following purpose;

- To protecting high value agriculture land where production is most high in the area
- To lead farming practices and farming operations on lands which are especially suitable
- To protect and conserve farming lands to ensure agricultural growth in urban area for coming years.

### Circulation Network

Circulation network in this Upazila contains major road network and railways linkage with regional and national settings within the Upazila district area. About 614.25 acres of land has proposed for circulation network in this development approach. Among the proposed circulation framework, a 246 kilometer of new road has been proposed for increased transport network. Traffic currently goes through the urban area using major urban linkages causing traffic congestion in core area. This improvement will help gain a sustained condition in the core area and overall circulation system.

Development of Regional Connectivity will have the following targets

- To reduce traffic congestion within the Paurashava area
- To widen of existing narrow roads.

### **Growth Center**

Growth centers are service centers both in rural and urban context which has a potential for further development in the planning region. It has been conceived as points of attraction for the people who otherwise would go to large congested urban settings for social or economic services. Growth centers are service centers both in rural and urban context which has a potential for further development in the planning region. It has been conceived as points of attraction for the people who otherwise would go to large congested urban settings for social or economic services. About 306.62 acres of land has been kept for Growth Center development.

Growth centers will have the sole objectives as follows;

- To sustain economic activity and economic development of rural area
- To provides goods and services to its own population as well as its surroundings.

### **Hat Bazar**

Hat Bazar serves as a trading junction for local people in rural areas where the economic traffic is most high. These areas are the commodity hub to the villagers hosting primary commercial activities and has higher concentration of structures than the rural settlement area. Around 743.02 acres (1.03%) of land has been kept for Hat Bazar Development. Total 43 Rural Service and Sells Center has been proposed all over the Upazila. This initiative will showcase;

- To promote trade and commerce in a comprehensive fashion
- To relate components that support the market system to grow and increase operation and performance

### **New Growth Center**

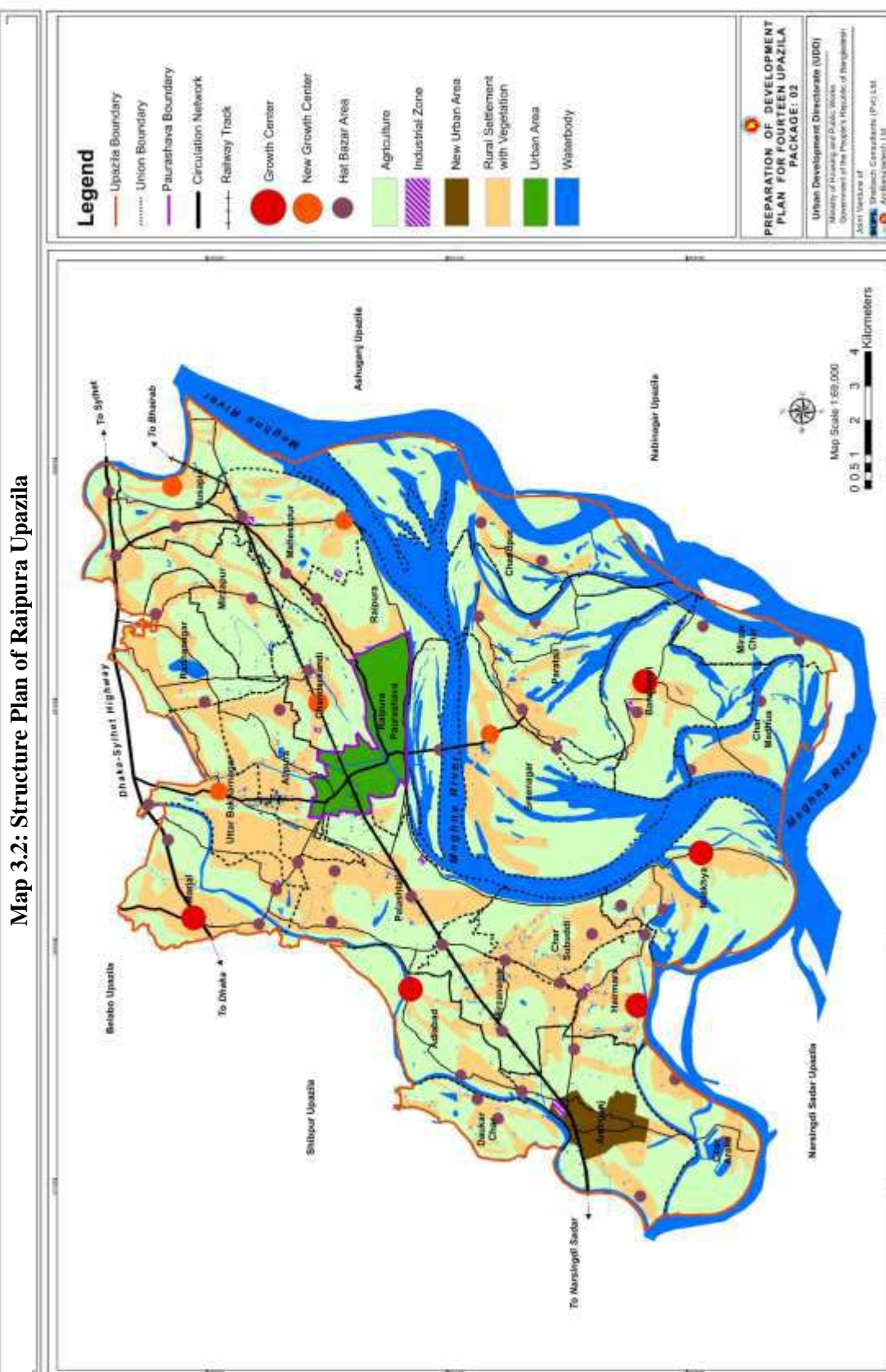
New Growth Center, which has the potentiality of new development and has a good connectivity and prospects to serve local community by increasing commercial activities. About 179.63 acres area has been kept for New Growth Center. New Growth center has been proposed. Those Growth Center are well connected with Paurashava by existing and proposed road network.

### **Industrial Zone**

Industrial zone has been earmarked as the primary location to promote industrial development, the use generally include manufacturing, repairs, warehousing, distribution and transport operating centers. About 83.48 acres (0.12 %) of land mass has kept for industrial zone.

- Accommodate a variety of industrial establishments of high environment quality that may function as an integral part of an overall development of the area.
- Link the zone with major transport network for convenience of the employees and production function.







## Urban Area

This area is also known as built-up area or core area. This is defined as the area which has the highest concentration of economic and social services; it also has the highest population concentration and density at the present day. Height restriction or density zoning can be the tool to control the present growth trend and establish the targeted density. The Proposed Urban Area covers an area of 1950.58 acres (2.70 %).

## New Urban Area

In preparing the Structure Plan, some areas are identified outside the existing Paurashava area. Due to some growth and development factors these areas are considered as the Structure Plan area. In the future growth direction of Upazila, some infrastructure and Dhaka Sylhet Highway (N-2) passes through the Upazila at northern direction towards Raipura Upazila. About 694.19 acres has been proposed for the new urban area beside existing urban area. These area will be developed within the plan period of 2033. This zone also accommodates the required area for a proposed public facility like administrative services, utilities, recreational area, major religious educational area etc.

## Rural Settlement and Vegetation

The rural settlement is a sparsely populated community that exists away from densely populated urban centers and has a low population density. In Raipura Upazila, Rural Settlement area is predominantly influenced by agriculture, homestead farming, and vegetation etc. Rural Settlement haphazardly developed at roadside areas. About 16781.75 acres (23.30 %) land has been kept for rural settlement and vegetation. The future rural settlement will be developed in those places.

## Water body

This zone conserves various types of water bodies such as river, canal, Khal, beel, and pond etc. Waterbody under this category is grouped under two functional subcategories, natural water system – rivers and canals; water retention –controlled as canal and large ponds. About 8524.12 acres of waterbody has proposed to preserve.

**Table 3.4:** Area coverage of Water body in Raipura Upazila

Type	Area
Beel	226.41
Canal	79.32
Ditch	141.55
Haor	16.35
Lake	27.00
Pond	610.92
River	21246.89

## Chapter 4: Development Planning Issues

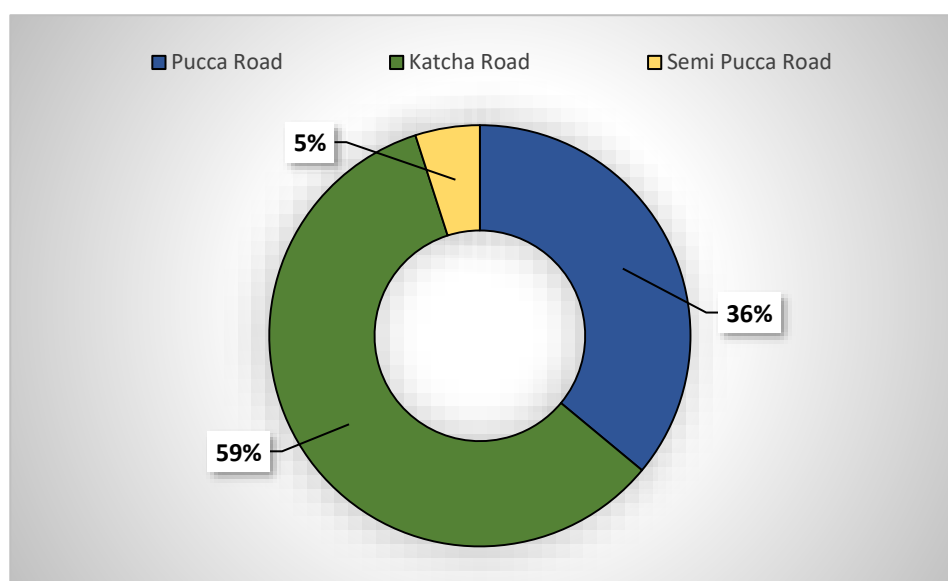
### 4.1 Introduction

This chapter represents a brief review of the critical development planning issues which includes problems as well as opportunities prevailing in the Upazila. These issues connects the decision making in setting proposals for future urban development.

### 4.2 Physical infrastructure

Geographically the location of Raipura Upazila is very near to Dhaka and the prospect of Upazilas are very high. According to survey findings, industrial development is not found but some agro-based industries are established. Residential structure is mostly developed in the core area. There are number central parks at the Upazila except some playground of educational institutions.

Road is an important physical feature for an area. From the physical feature survey it has been observed that total 981.51 kilometer road serves Raipura Upazila. At present, the road network of Raipura Upazila planning area needs concentration on construction of new roads for better connectivity, and from the physical feature survey it has been observed that in respect of road length about 36.02 % of the roads is pucca which is followed by 59.03% katcha road and the rest of roads are semi-pucca. The Upazila has number proper canal structure that is required to control the water flow. As a result the Upazila is facing drainage problems.



**Figure 4.1:** Existing Road Percentage

**Table 4. 1:** Existing Structures of Raipura Upazila

Features		Quantity	Types of Structure	Quantity	%
Structures	Urban	6176	Pucca	4791	5.55
	Rural	80096	Semi-pucca	21585	25.02
			Katcha	59269	68.70
			Under Construction	627	0.73
Total		86272	Total	86272	100.00

**Source:** Field Survey, 2016

### 4.3 Socio-Economic

When one is planning to develop an area or a region, Socio-Economic factors play a vital role. Raipura is recognized as a developed Upazila. As the socio-economic facilities of that area is pretty much high. The study shows that Raipura has a population of 5, 35,796. Males constitute 2, 58,993 of the population and females is 2, 76,803. It is not a densely industrial area and it consist of 1, 10,520 number of households in total. About 88 % of the total population follows Islam and the rest 12% belongs to other religions.

Poultry, business and agricultural are the main source of income for the people living in Raipura and about one fourth of total population living in rural area of that Upazila are engaged in it. However, people living in urban area of that Upazila works in public sectors and numbern-profit organizations to earn their living. Around 27.4 % of the household earns below Tk10000 per month. Around 40 % of the households are middle class family. They earn between Tk. 10,000- Tk.20, 000 and 4.4 % of households earns more than Tk 50, 000.

Raipura has two economic activities which are mentioned below:

- The formal economy involves economic activities that are formed by industries such as rice mill, work shop, brick field and many more.
- The informal sector or informal economy is the diversified set of economic activities that involves poultry, saw mills, dairy farms, fisheries etc. The economic activities involved in informal economy is not taxed and are not controlled by the government.

### 4.4 Existing Landuse

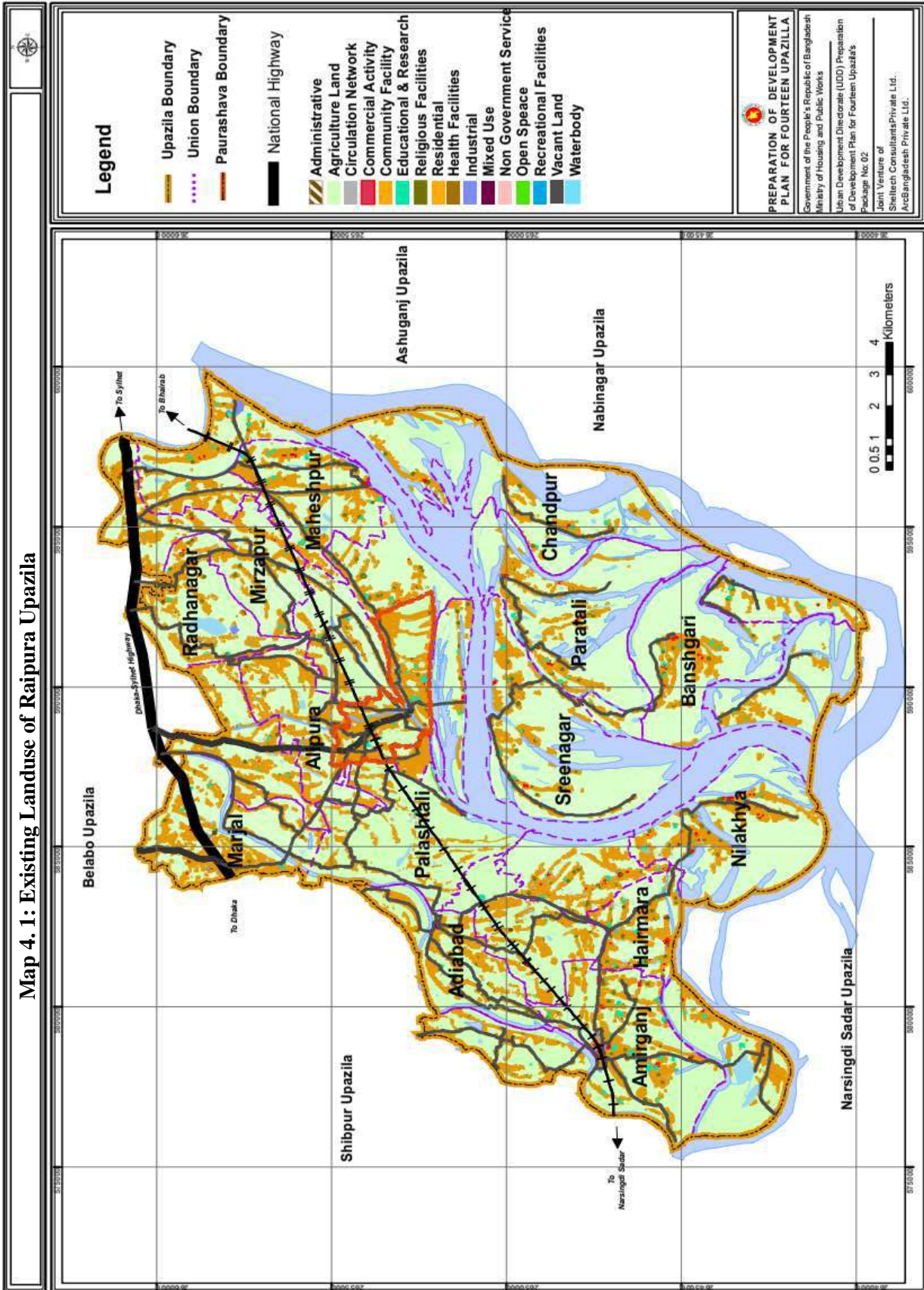
The information depicted from the survey shows that 64.09% of the land is used for agriculture and 21% of land is used for residential. The existing land uses of all study areas have been presented on **Map 4.1** and **Table 4.2**

**Table 4. 2:** Existing Land use of Raipura Upazila

<b>Landuse</b>	<b>Upazila Area</b>	<b>Landuse</b>	<b>Urban Area</b>
Agricultural	45898.92	Agricultural	764.92
Circulation Network	730.24	Circulation Network	41.46
Commercial Facility	242.55	Commercial Facility	16.90
Community Facility	0.92		
Education & Research	180.68	Education & Research	16.73
Administrative	16.01	Administrative	5.59
Health Facilities	10.93	Health Facilities	0.19
Industrial	53.73	Industrial	0.09
Utility Service	7.98	Utility Service	3.20
Mixed use	103.77	Mixed use	12.18
Non Government Services	1.65	Non Government Services	0.08
Open Space	63.19	Open Space	32.95
Recreational Facility	0.54		
Religious	91.44	Religious	1.82
Residential	15396.60	Residential	1085.11
Transportation & Communication	2.23	Transportation & Communication	0.48
Waterbody	14170.71	Waterbody	108.40
<b>Total</b>	<b>76972.08</b>		<b>2090.11</b>

**Source:** Field Survey, 2016

Map 4. 1: Existing Landuse of Raipura Upazila



**Administrative/Government Services:** Administrative land use generally encompasses all types of Government Office. About 27.04 acres of lands in Raipura Upazila are used for administrative purposes.

**Agriculture:** About 46164.51 acres of lands have been used for agriculture purposes. Additionally some other uses are also considered as agriculture use such as dairy farm, poultry farm, etc.

**Circulation Network:** About 574.70 acre lands are used for circulation network.

**Commercial:** At Raipura Upazila, commercial land use mainly uses of the area such as different types of shops (book shops, cloth shops, departmental store, electrical and electronic goods, grocery shops, stationary shop, etc), katcha bazaar, market and other lands used for others commercial purpose. About 238.61 acres of lands are in commercial use. **Map 4.4** Shows existing growth center and hat bazar of Raipura Upazila.

**Community and Religious:** At Raipura Upazila, community and Religious facility comprises mosques, temples, community centers, cyclone shelter, graveyards etc. Total 91.13 acres of lands are used for community and religious purpose.

**Educational and Health:** Mainly primary school, NGO School, high school, college, madrasa, etc have been considered as academic services. From the land use survey it has been found that about 179.34 acres of lands are used for educational and health facilities. **Map 4.2** shows existing educational facilities and **Map 4.3** shows existing health facilities of Raipura Upazila.

**Industrial Activities:** Industrial use of Raipura Upazila generally includes factory, rice mill, saw mill, bakery, ice mill and other mill or factory. About 57.03 acre lands have been used for industrial purposes.

**Recreational Facilities & Open Space:** It is found from the land use survey that in all the unions of Raipura Upazila recreational land use is apparent.

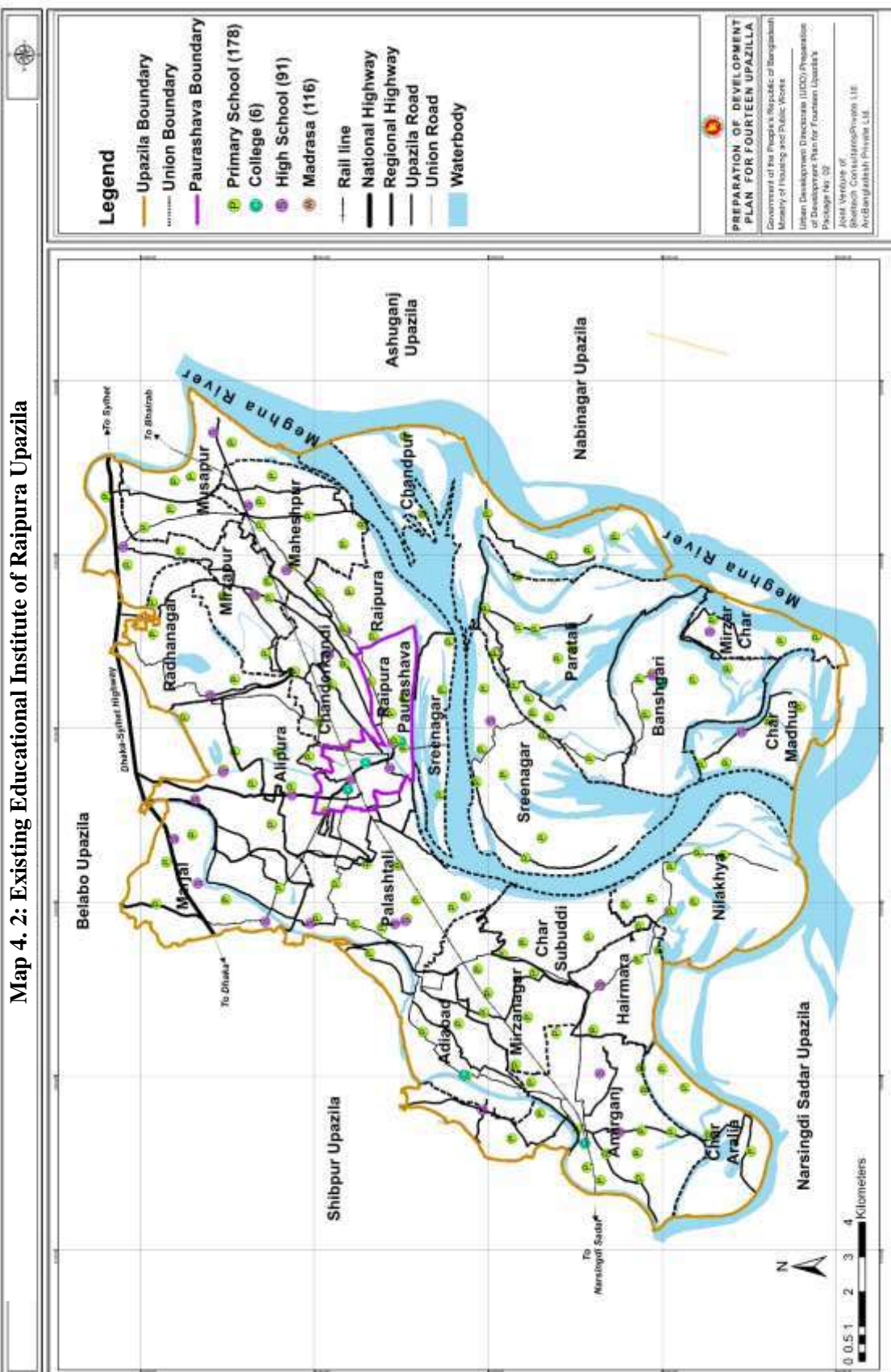
**Transportation & Communication:** Transportation and Communication comprises bus stand, passenger shed and road facilities. Total land area transportation and communication is 49.85 acre.

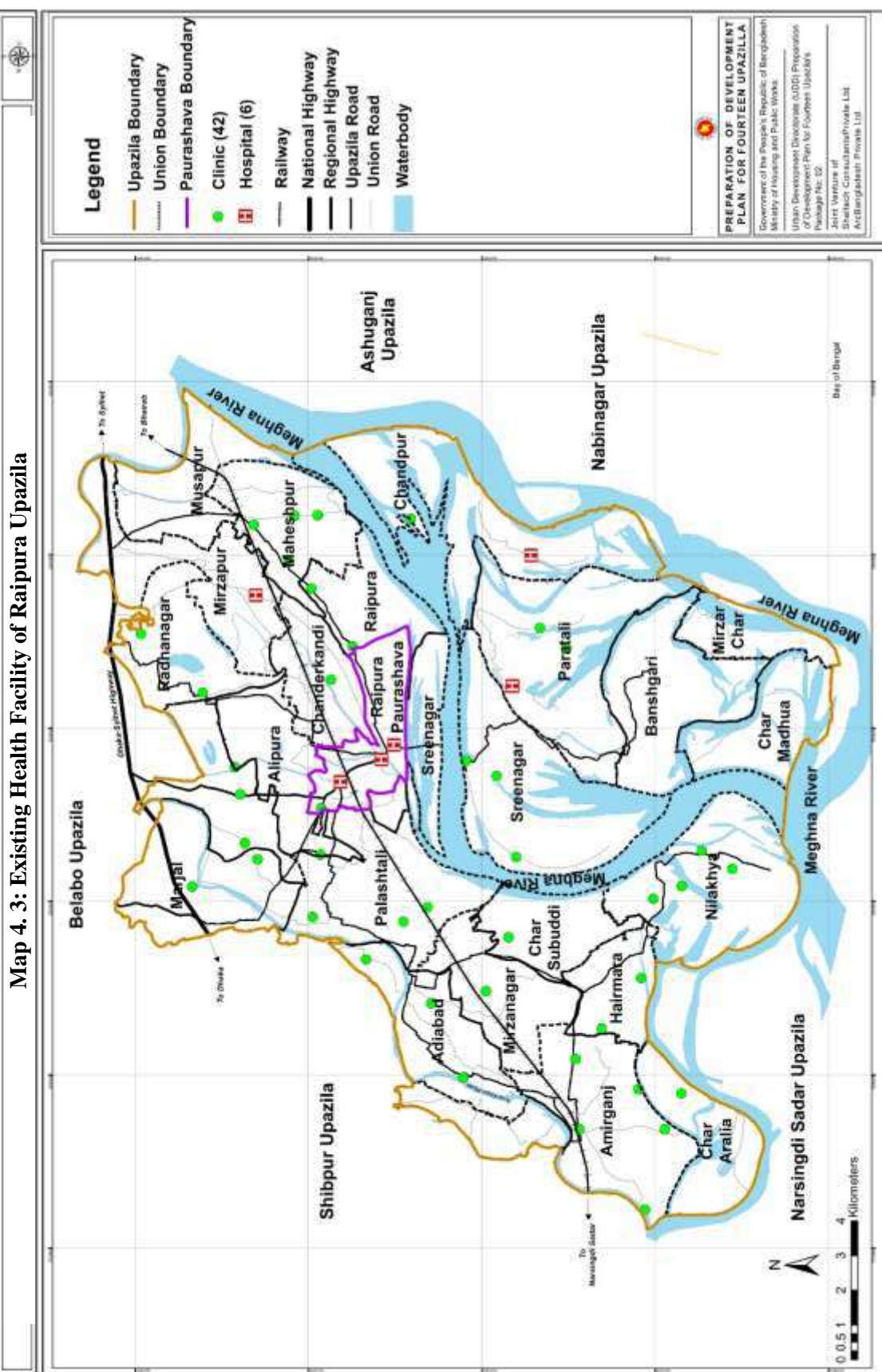
**Mixed Use:** At Raipura Upazila, only 92.20 acres of lands are used for mixed use. Here mixed uses have been considered where two or more uses occur in a single structure such as residential and commercial or residential, commercial and institutional uses take place in a single structure.

**Residential:** From the land use survey, it has been observed that about 15124.52 acres areas have been used for residential purposes.

**Water body:** Total watery land of Raipura Upazila is 9374.18 acres. Waterbody comprises river, canal, beel, ditches, ponds etc.

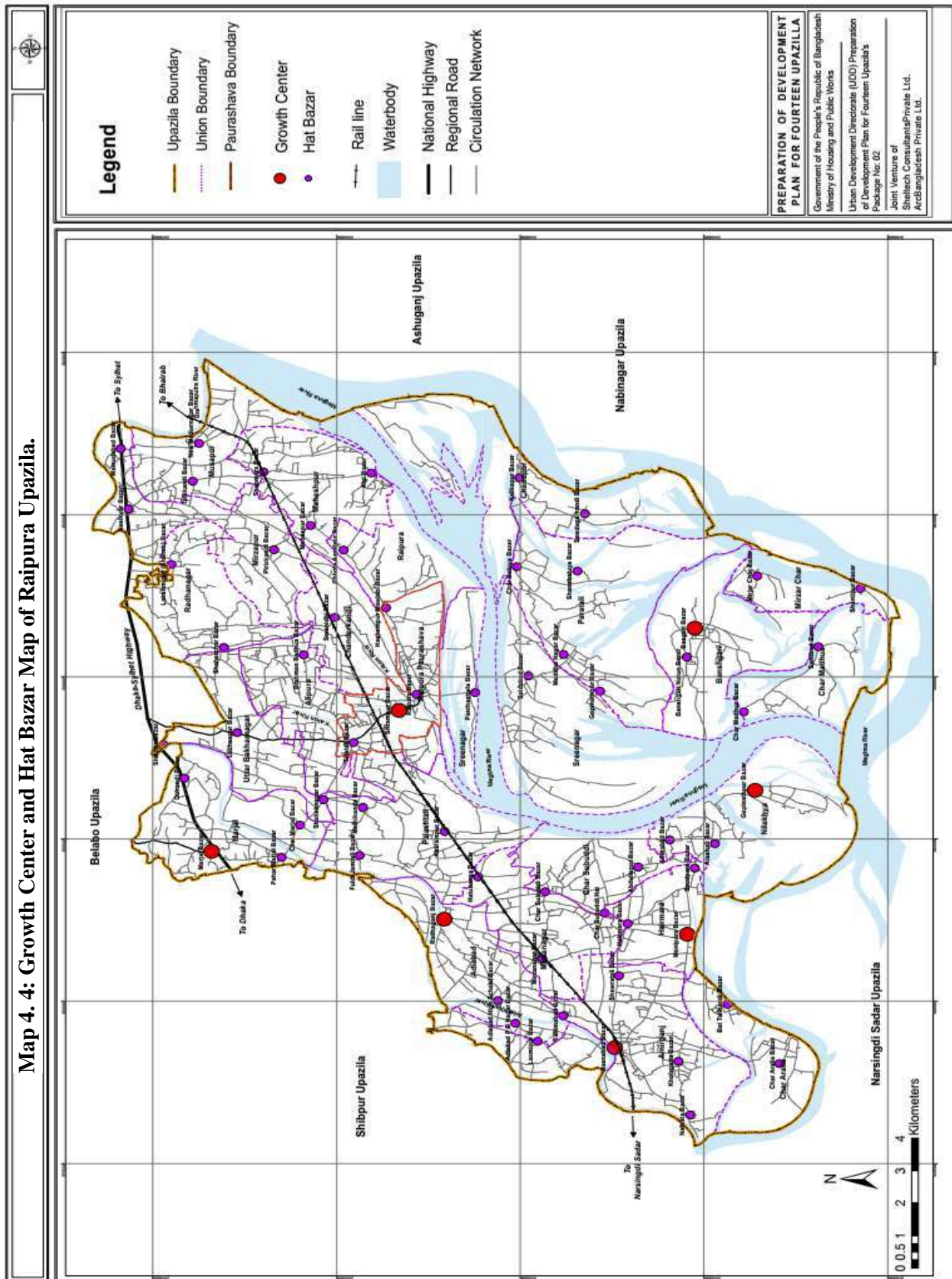




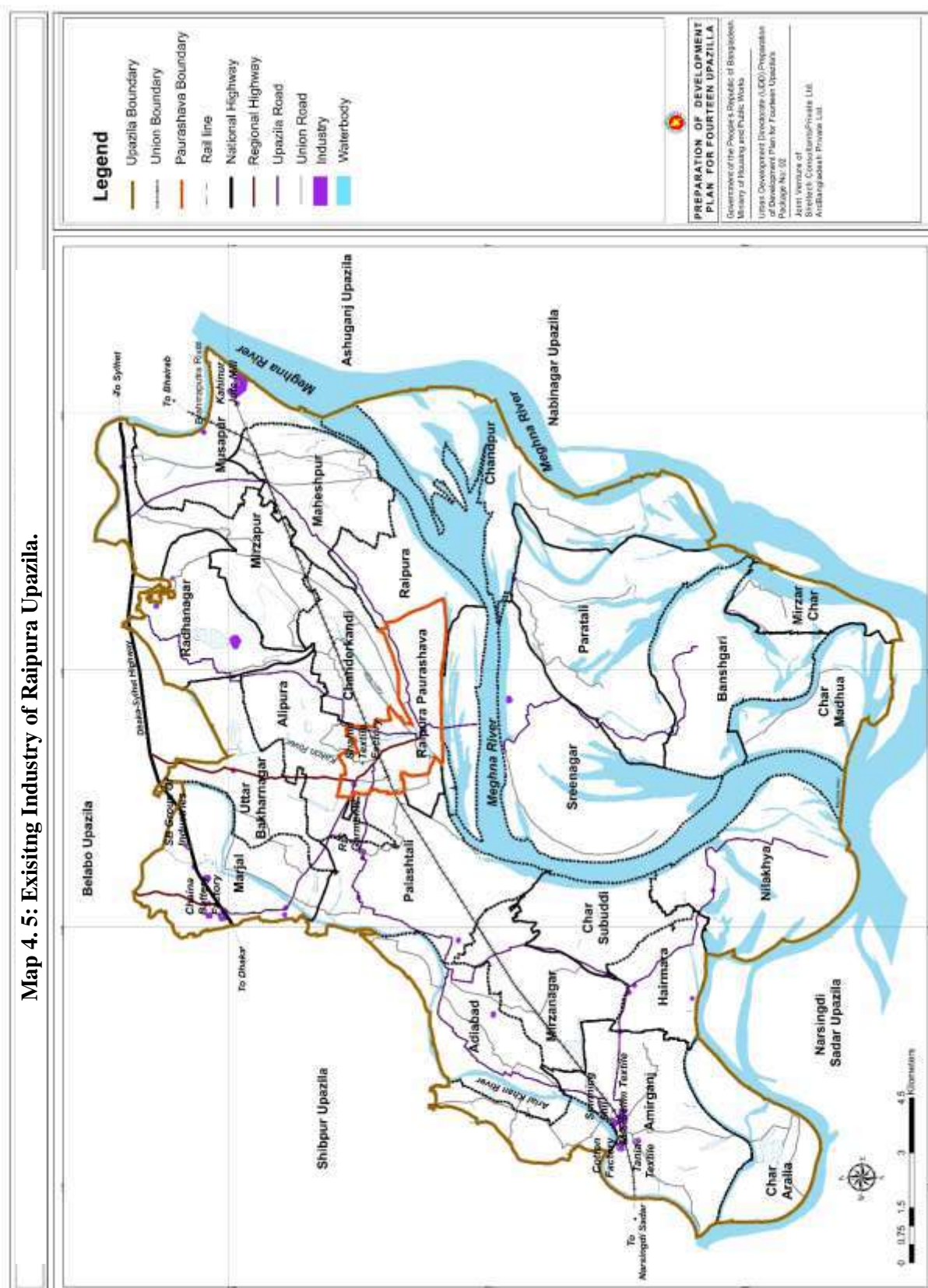




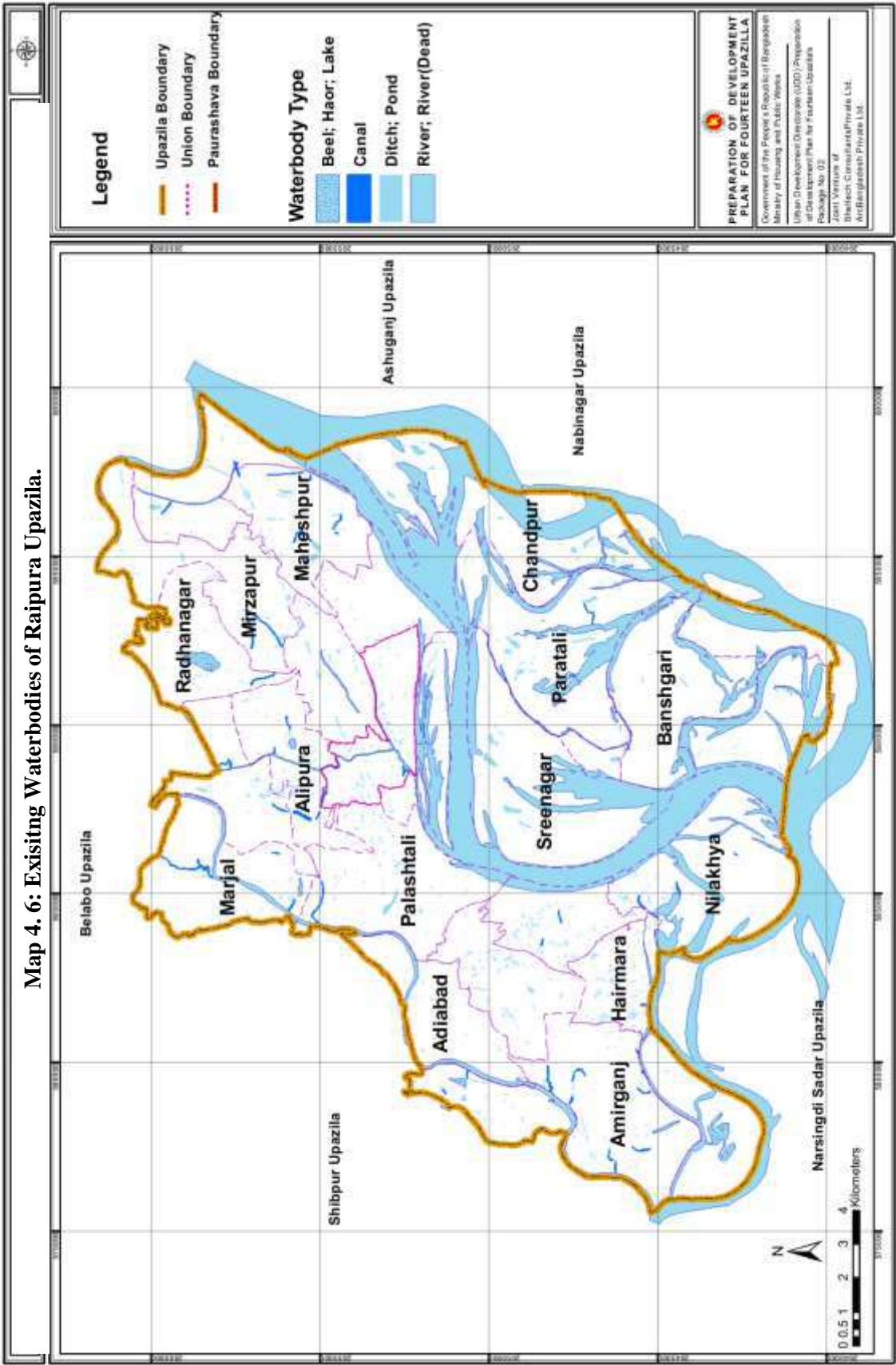
Map 4. 4: Growth Center and Hat Bazar Map of Raipura Upazila.

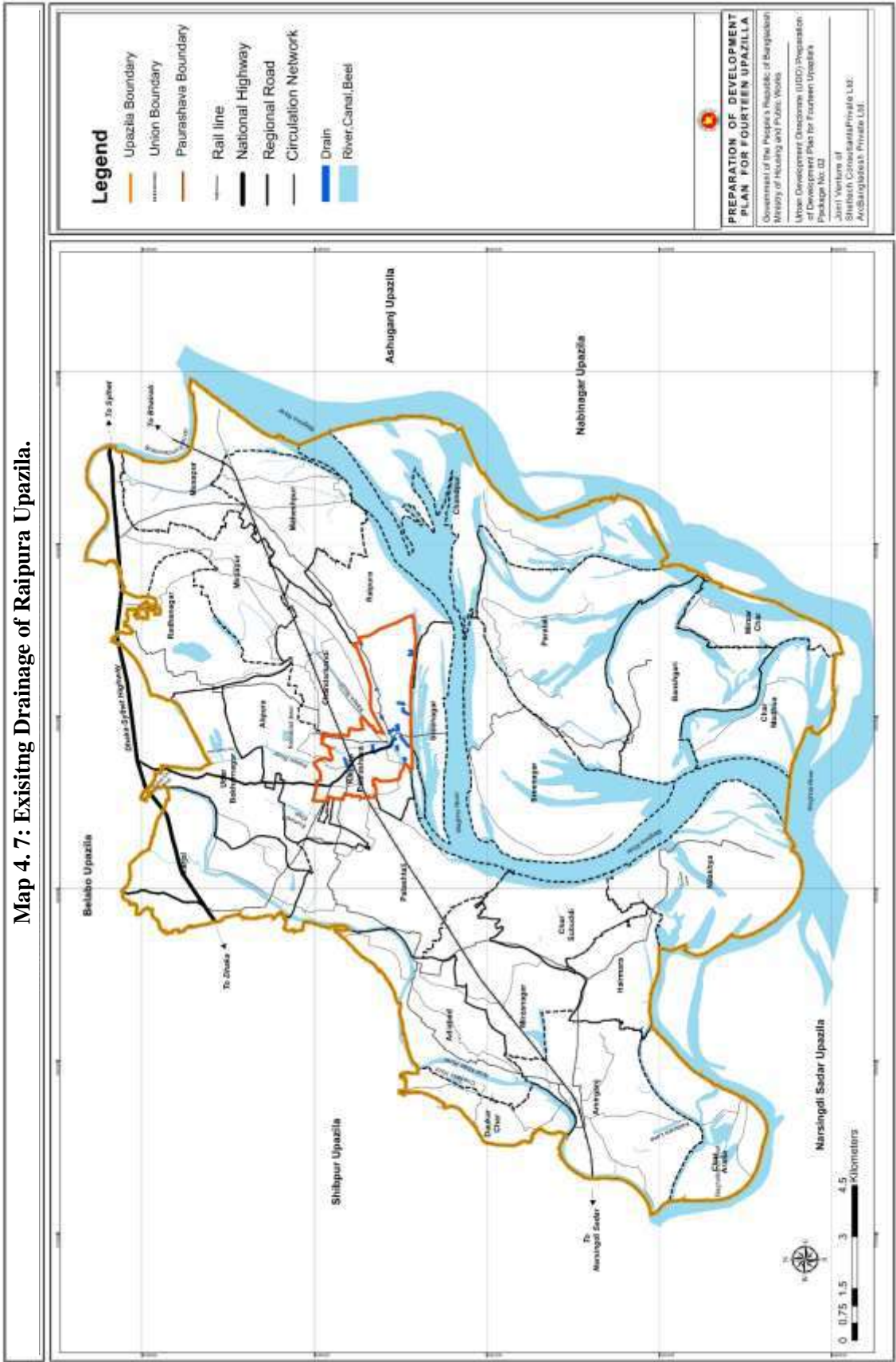


Map 4. 5: Existing Industry of Raipura Upazila.









#### 4.5 Transportation

It is very important to build a proper transport system in order to develop an area. Raipura is connected to Dhaka through Narayanganj. The National Highway N-02 from Dhaka to Sylhet has passed over at the northern part of the Upazila. It is well connected by National and Regional Highway with different Districts/Upazilas like Narsingdi, Bhairab, Palash, Ashuganj, Gazipur, Brahmanbaria etc.

The people living in that Upazila use the local bus service as their choice transportation to move from one place to another. They also ride Rickshaw, bicycle, van, auto-rickshaw, mini-bus etc. Rickshaw and auto-rickshaw is the main transport for intra Upazila movement. Raipura has number bus terminal. Neither the Upazila has any truck terminal. One has to find a suitable spot in order to park his vehicle.

#### 4.6 Participatory Rural Appraisal (PRA)

Participatory Rural Appraisal (PRA) is considered one of the popular and effective procedure to incorporate the knowledge and opinions of people in the planning and management of development projects and programs. In recent years there has been a rapid expansion of new participatory reflection and action methods and related approaches in the context of development and research. PRA methods are now increasingly used in both Rural and Urban situations. Three tools were selected such as Social Mapping, Venn diagram and Technology of Participation for collecting information from the field. **Map 4.8** Shows PRA analysis of Raipura Upazila.

##### Key Findings of PRA are as follows:

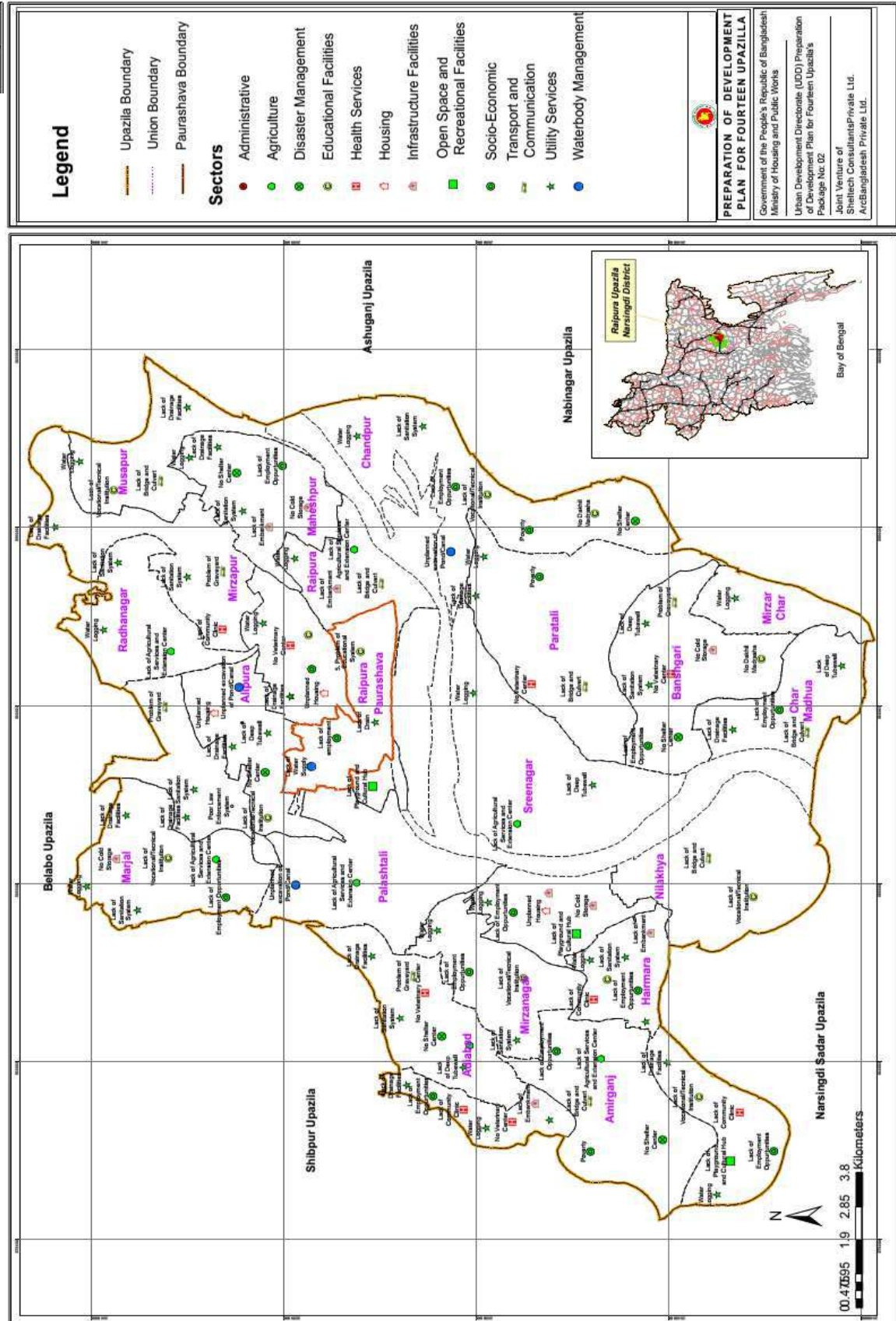
From the social mapping, it is evident that Raipura Paurashava and all unions are having almost common problems. Most of the participants have participated in order to identify the problems and prioritized the problems with causes, impact, and potentials. Total 43 numbers of problems have been identified from the study areas, of which Insufficient Educational Facilities, Number gas connection, Unemployment, Water logging, Poor communication system, Lack of Agricultural extension services and Poor medical facilities are the common problems in all locations. Again, Lack of vocational training, Electricity Problem and some social problems like drug addiction, early marriage, are also identified as their less important problems. Among all the study areas, in spite of being a Paurashava, Raipura Paurashava is also suffering from lack of medical facilities, educational, communication, Absence of gas connection, waterlogging, poor road development and so on. **Figure 4.2** shows preparation of Social Mapping.



**Fig 4. 2:** Preparing Social Map



Map 4. 8: PRA Analysis of Raipura Upazila



From the opinions of local people, there is number gas connection in the study area. . The people from Adiabad Union, Amirganj Union, Sreenagar Union, Radhanagar, Mirzarchar, and Maheshpur are suffering from insufficient electricity supply. Communication systems are very poor except Mirzabagar, Palshtali and Mirzapur Union. Sreenagar, Radhanagar, Paratoly, Uttar Bakhar Nagar, Char Aralia, Raipura Paurashava are experiencing serious water logging among all other areas due to lack of drainage system. There is a limitations of improved, modern hospital, experienced doctor and other medical facilities in all the areas. In the educational sector Paratali, Sreenagar, Mahespur Unions are suffering most in all other areas. Again the people spoke about lack of industries, lack of playground/ park and cultural amenities, unemployment as their less prominent problems.



**Fig 4.3:** Social Map of Raipura Paurashava

The local inhabitants also identify the potentials of the respective area which may be used as resources during planning. Most of the participants mentioned Agricultural land (Paddy), Canal, River, Beel, Human resource, Fisheries, Fruit garden, Poultry Farm, Foreign Remittance and Livestock Rearing as their main potential to development among all the identified potentials. The participants have demanded the development in many aspects which needs to be fulfilled for improving their lifestyle as well as environment. The demands are not same for all the areas and sometime the demands are asked by more than one participant. It is found that, most of the demands are concentrated in the communication, education, safe water and electricity, Gas Connection, employment sector and found almost all the area.

Five major problems are prioritized by local people e.g. poor communication system, poor employment opportunity, lack of health service, poor law enforcement and lack of drainage system. It has been found that; the demands are set according to extent and preferences.

#### **4.6.1 Short Term Priorities:**

During the ToP Consensus session, participants identified different short-term priorities which they demanded to be fulfilled within 1-5 years period and these are termed as short-term development priorities which the participants understand that these are time-bound and needs fund allocation from central government. Among the priorities, most common demands were development of transportation and irrigation, development of health services and establishing digital post office (Please see Table 4.2)

**Table 4.3.1: Short term Development Priorities for twenty four Unions of Raipura Upazilla**

Short Term Development Priorities	Unions*
Demand of safe water and electricity, sanitation	1,2,10,11,13,14,16,17,18,20
Development of bazar	1,2,11,13,22
Demand of Employment	2,11,13,14,18,21
Demand of shelter center	1,11,16
Development of transportation system	2,5,6,9,13,16,17,19,23
Demand of developed agricultural irrigation and drainage	2,3,7,11,20
Demand of development of Entertainment	1,2,11,13,17,18,19,23,
Demand of improved health services	1,5,6,10,11,13,16,19
Need to establish digital post office	1,2,3,23,
Solving River Erosion Problem	6,11

Source: PRA Survey, 2015

Note\*

1 = Adiabab Union	9 = Char shubuddhi Union	17 =Musapur Union
2 = Alipura Union	10 = Daukar Char Union	18 =Nilakkhya Union
3 = Amirganj Union	11 = Hairmara Union	19 =Paratoly Union
4 =Banshgari Union	12 = Maheshpur Union	20 =Polashtoly Union
5 = Chanderkandi Union	13 =Marjal Union	21 = Radhanagar Union
6 = Chandpur Union	14= Mirjanagar Union	22 =Raipura Union
7 = Char Aralia Union	15 =Mirzapur Union	23 = Sreenagar Union
8 = Char Madhuya Union	16 =Mirzarchar Union	24 =Uttar Bakhar Nagar Union

#### 4.6.2 Mid-term Development Priorities

During the ToP Consensus session, participants identified different mid-term priorities which they demanded to be fulfilled within 5-10 years period and these are termed as mid-term development priorities which the participants understand that these are time-bound and needs fund allocation from central government. Among the priorities, most common demands were development of agriculture and veterinary, development of education system and industrialization to create employment opportunity (Please see Table 4.3). Practically, participants put emphasis on development of utility facilities (electricity, gas) in both short term and mid-term priorities as they wanted it any period of time at least let the process roll on for them.



**Table 4.3.2: Mid-term Development Priorities for twenty four Unions of Raipura Upazilla**

Mid Term Development Priorities	Unions*
Improvement of Utility services	1,2,5,10,11,12,17,21
Development of agriculture and veterinary	1,2,6,7,8,11,12,13,19,23
Need to develop education system	1,2,5,6,8,11,12,14,17,19
Demand of industrialization	1,6,10,11,12,14,22
Demand of U.P. complex	1,9,11,12,24

Source: PRA Survey, 2015

Note: \*

1 = Adiabad Union	9 = Char shubuddhi Union	17 =Musapur Union
2 = Alipura Union	10 = Daukar Char Union	18 =Nilakkhya Union
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6 = Chandpur Union	14= Mirjanagar Union	22 =Raipura Union
7 = Char Aralia Union	15 =Mirzapur Union	23 = Sreenagar Union
8 = Char Madhuya Union	16 =Mirzarchar Union	24 =Uttar Bakhar Nagar Union

**4.6.3 Long-term Development Priorities**

There were threadbare discussions among participants to identify their different long-term priorities which were actually the vision to see their entire upazila what it would become in next 20 years. Among the priorities, most common demand was creating employment opportunities to Figure ht poverty. They also wanted initiatives from Govt. to development transportation system to flourish local economy. They were found very optimistic on establishing Economic Zone at Raipura Upazila. Moreover, they gave emphasis on introducing modern agricultural system to increase productivity. (Please see **Table 4.4**)

**Table 4.3.3: Long term Development Priorities for twenty four Unions of Raipura Upazila**

Long Term Development Priorities	Unions*
Demand of developed agricultural system	1,8,10,19,21
Demand of electricity for all	10,19
Demand of employment	10,12,17,19,21,23
Establishment of shelter center	1,2,12,13,17,19
Demand of development of transportation	2,3,6,7,10,21,22

Source: PRA Survey, 2015

Note\*

1 = Adiabab Union	9 = Char shubuddhi Union	17 =Musapur Union
2 = Alipura Union	10 = Daukar Char Union	18 =Nilakkhya Union
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#### 4.7 Population Growth and Projection

The growth of population and the physical expansions of the town or Upazila are interrelated. To accommodate the growing population, new areas are required not only for residents but also for other functions like commerce, road network, and service facilities etc. The population projection has been estimated by taking into account both the natural increase of the existing population and the balance between migrations in and out of the Upazila.

Urbanization has a crucial role to play in the increase of population and economic development of this Upazila. Because of increasing industrial and commercial development along with increasing recreational facilities, Raipura Upazila is gradually stepping towards the process of urbanization which is very much important for the economic growth of this Upazila. From the projected population, it is evident that with the increasing population all the economic facilities will also boost up in order to increase the urbanization of this Upazila under the influence of the Capital city Dhaka.

#### 4.8 Population Projection

Projection Population means to estimate the future population of an area and in order to make a 20-year population projection of 24 unions of the Upazila including the Paurashava, two alternative methods have been used. The methods are named below:

- Exponential Compound Growth Method
- Geometrical Growth Method

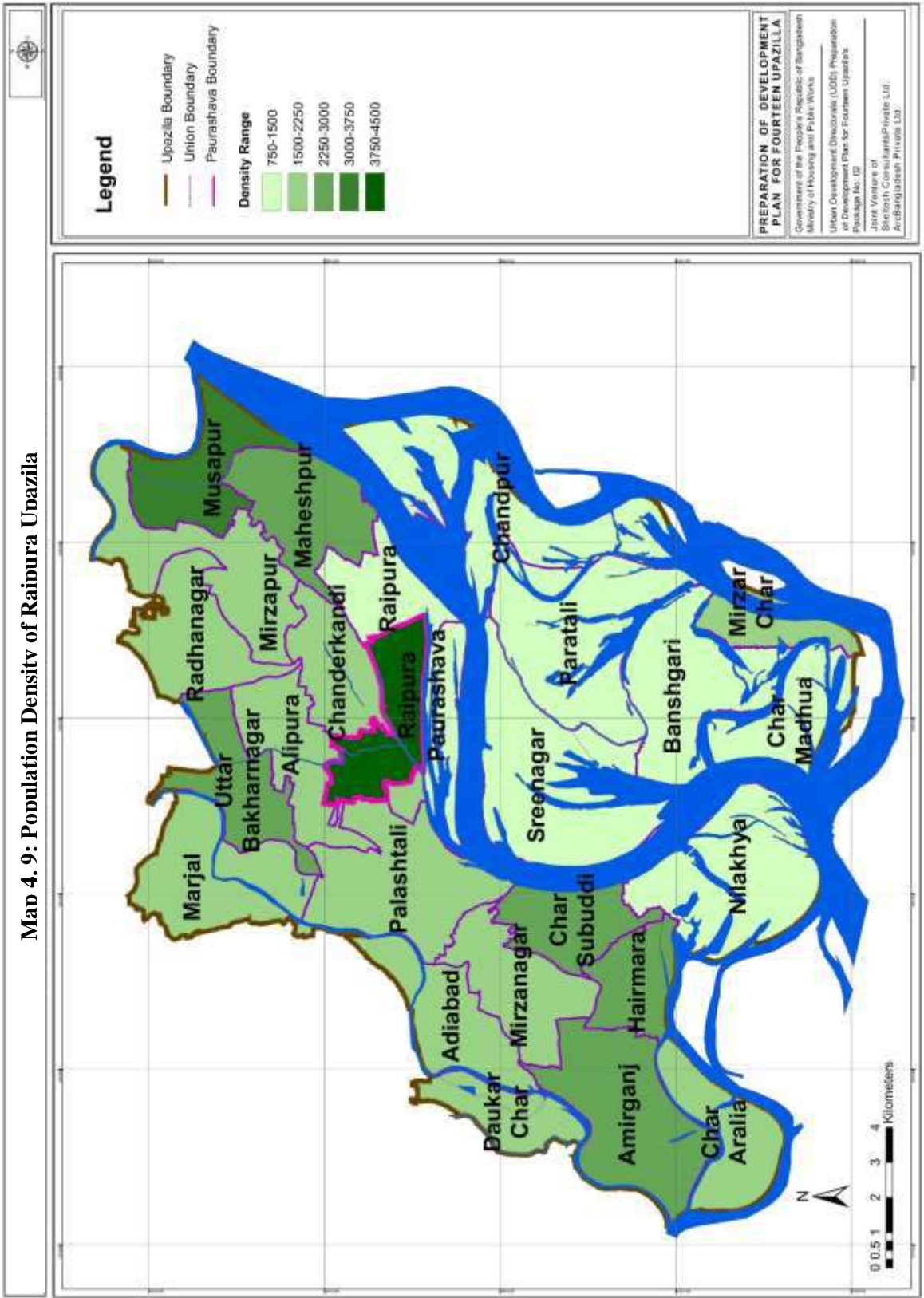
The population data, which has been collected from BBS, 2011 is considered as the base year. The important issues, which are to be considered in order to calculate the population projection are mentioned below:

- Raipura Upazila has been facing an increasing trend in the growth rate, as a result the current population density of this Upazila currently enlisted having 1713 per sq. kilometer, which is greater than the national density of 976 per sq. kilometer.
- This study has noted that the population growth rate of Raipura Upazila was lower in the past years. But, from the year 2001, it shows a population growth trend that has a considerable inclination fashion.

According to population projection based on the analysis made during this effort, Urban Area will face a population of 62508 in the year 2033 considering a medium growth rate of 2.60 %. On the other hand based on the medium growth rate of 1.58%, the Rural Population will be increased towards 679844 by the year 2033.

**Table 4. 4:** Projected Population of during the Year 2013-2033.

Area	Base Year Population (2011)	Projected Population ( On the basis of medium population growth)				
		2013	2018	2023	2028	2033
Adiabab	20359	19558	21325	23236	25304	27540
Alipura	16734	15698	17151	18722	20421	22259
Amirganj	38603	38982	42333	45958	49878	54117
Banshgari	17205	16199	17693	19308	21056	22945
Chanderkandi	15556	14444	15794	17255	18834	20543
Chandpur	24201	23648	25749	28021	30479	33137
Char Aralia	14045	12835	14054	15373	16799	18342
Char Madhua	9909	8431	9291	10222	11228	12316
Char Subuddi	21438	20706	22567	24580	26757	29112
Daukar Char	10555	9119	10035	11026	12098	13257
Hairmara	15805	14709	16081	17565	19170	20906
Maheshpur	26217	25795	28071	30532	33194	36074
Marjal	23905	23333	25408	27653	30080	32706
Mirzanagar	21658	20941	22821	24854	27054	29432
Mirzapur	24306	23760	25870	28152	30620	33290
Mirzar Char	8840	7293	8060	8890	9788	10759
Musapur	29121	28887	31415	34149	37106	40304
Nilakhya	23976	23409	25490	27741	30176	32809
Palashtali	32315	32287	35093	38127	41408	44957
Paratali	27704	27378	29783	32384	35197	38240
Paurashava	34904	36559	41856	47877	54724	62508
Radhanagar	17230	16226	17722	19340	21089	22981
Raipura	11424	10044	11036	12109	13269	14523
Sreenagar	27503	27164	29551	32134	34927	37947
Uttar Bakharnagar	22283	21606	23540	25633	27895	30343
<b>Total</b>	<b>535796</b>	<b>519016</b>	<b>567794</b>	<b>620846</b>	<b>678556</b>	<b>741352</b>



#### 4.9 Geological Analysis

A rigorous geo-scientific investigation was a fundamental necessity for this sustainable infrastructural development initiative. This study was installed with systematic surveys for geo analysis including geological, geophysical, geotechnical methods in the proposed project area. The study report would be useful for planning, designing and future maintenance of the project area. To add to the potentiality of this study, the benefit can be realized for the planners as well as the concerned authorities to take relevant decisions pertaining to disaster risk reduction and mitigation. The project should be aware of the full extent of this geo-scientific study before initializing any development of infrastructure in the project area. The result will prepare the planning to be strongly sustainable without a doubt.

In this study, following investigations and surveys has been carried out into the field which are geomorphological survey; drilling of boreholes and preparation of borehole logs; collection of undisturbed and disturbed soil sample as per standard guideline; conducting standard penetration tests (SPTs); drilling of boreholes and casing by PVC pipe for conducting PS logging test (Down-hole seismic test); conducting PS logging test (Down-hole seismic test) and conducting Multi-Channel Analysis of Surface Wave (MASW). Geomorphologic conditions of the study area are covered by floodplain and elevated Pleistocene trace with some low or marshy land. Geologically and structurally the area is not much complex, that's why geotechnical and geophysical investigations are covered whole floodplain and elevated Pleistocene trace area except low or marshy land and almost everywhere soils are Modhupur clay and recent fluvial type of deposit which are much soft and thicker. These field and technical laboratory data were analyzed to produce risk sensitive micro-zonation maps of the project area.

#### Survey Locations

Borings were conduction and field borelog were prepared by visual classification of soil, which was guided by technical personnel. The borehole records included records of characteristics regarding the following fields; soil type, nature of sample, soil moisture content and consistency, SPT blow counts (N Value), ground water observation, apparent origin as fill, alluvium, recent sediments. A daily field logs have been prepared. Locations map of downhole seismic, MASW and SPT tests are shown in **Map 4.10**. The drilling work of 12 boreholes has been completed along with the field raw data proceedings and laboratory data of soil samples (disturbed and undisturbed) were analyzed to prepare geotechnical logs.

#### Surface geology

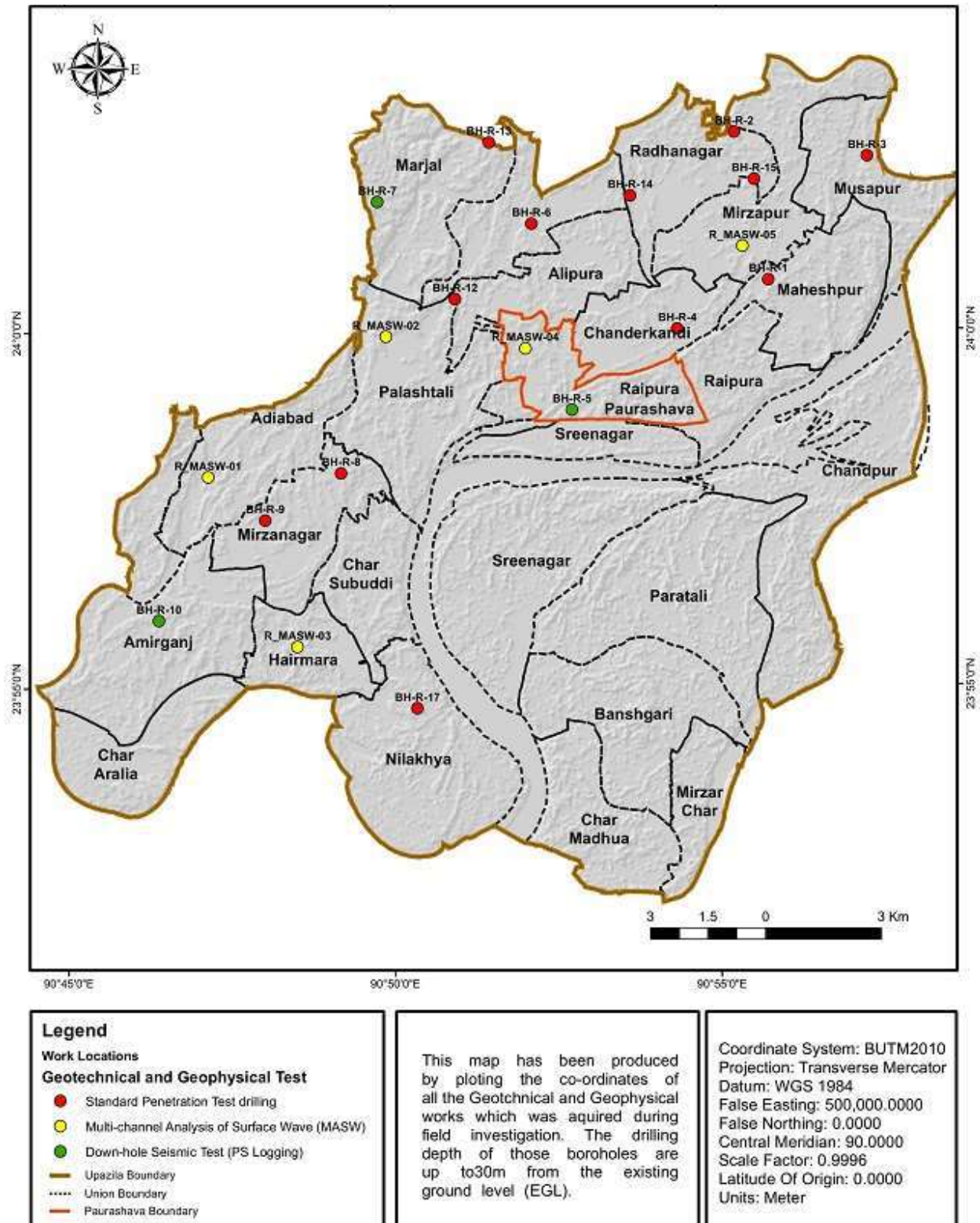
The study area is characterized by relatively flat terrain comprising predominantly of floodplain deposits (Alluvial Silt and Sand) with low terraces (Madhupur Clay) in the northwestern part of the area as shown in **Figure 4.5**. A surface geological map of the area exemplifies the physiographic features of the terrain and also reveals the geological attributes. The surface geological map units are the litho-genetic units that ultimately reflect the surface lithology as well as the physical processes involved in the geological evolution of the study area that depicts the surface geological (geomorphological) classification of the study area, based on litho-genetic category, with a brief lithological description.

**Table 4. 5:** Surface geological map units and lithological characteristics

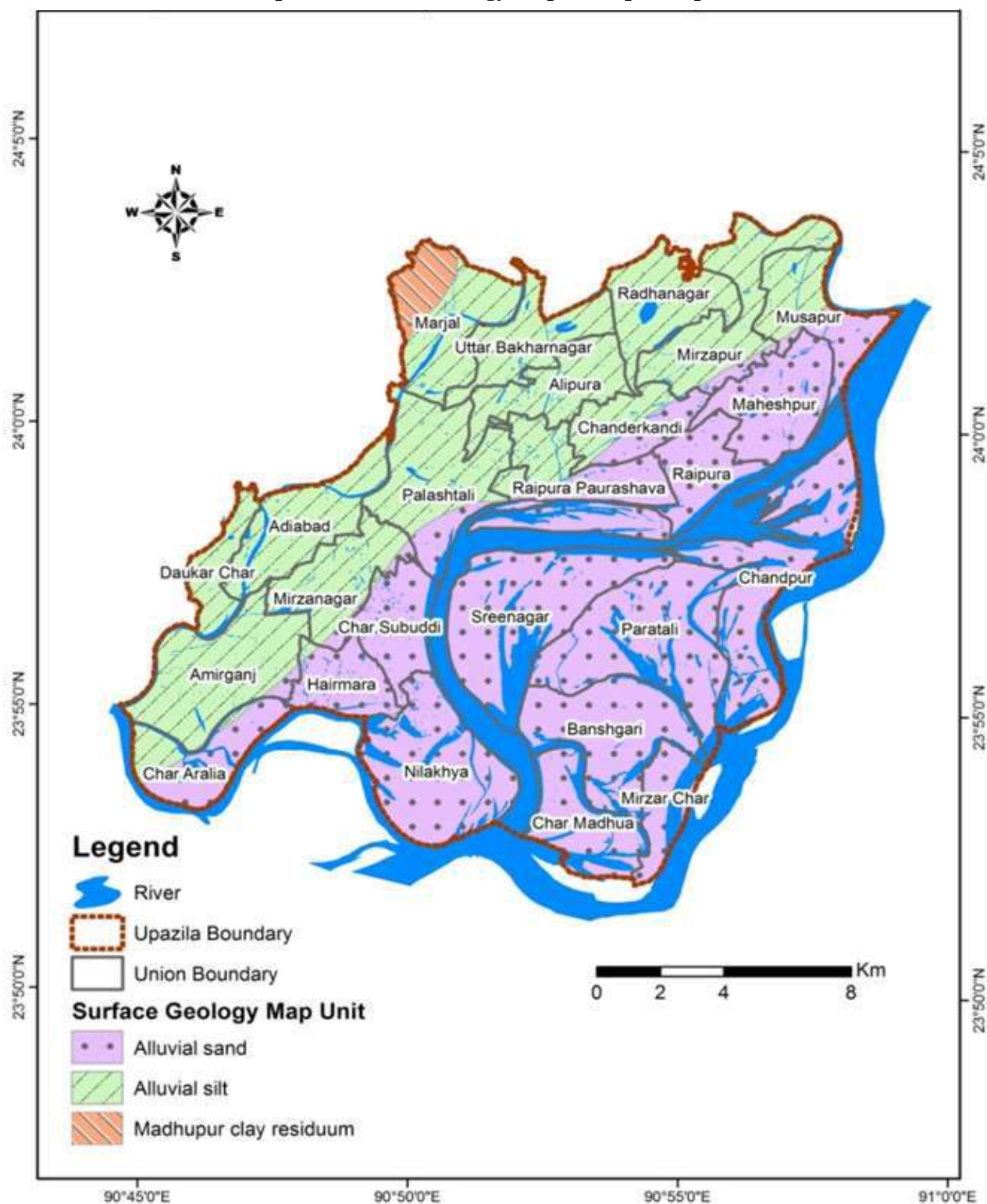
Litho-Genetic Category	Map Unit	Detail Description
Floodplain Deposits	Alluvial Sand	Alluvium or alluvial deposits are loose, unconsolidated sediments, which has been eroded, reshaped by water in some form, and re-deposited in a numbern-marine setting. Alluvial deposits are usually most extensive in the lower part of a river's course, forming floodplains and deltas. Alluvium is typically made up of a variety of materials, including fine particles of silt and clay and larger particles of sand and gravel. When alluvial deposits are primarily consists of sand size particles the deposit is termed as alluvial sand. Sand, sediment particles ranging from 0.06mm to 2mm in diameter irrespective of mineral type. The most common component of sand is silicon dioxide in the form of quartz. Sand is easily transported by moving currents and wind and settles where the energy of wind and current is low.
	Alluvial Silt	Alluvium or alluvial deposits are loose, unconsolidated sediments, which has been eroded, reshaped by water in some form, and re-deposited in a numbern-marine setting. Alluvial deposits are usually most extensive in the lower part of a river's course, forming floodplains and deltas. Alluvium is typically made up of a variety of materials, including fine particles of silt and clay and larger particles of sand and gravel. When alluvial deposits are primarily consists of silt size particles the deposit is termed as alluvial silt. Silt, sediment particles ranging from 0.004 to 0.06 mm (0.00016 to 0.0024 inch) in diameter irrespective of mineral type. Silt is easily transported by moving currents but settles in still water.
Low terraces (Pleistocene Terrace)	Madhupur Clay	Madhupur Clay highly weathered and deeply oxidized reddish brown deposit exposed in the Madhupur, Barind and Lalmai Hill areas. These sediments are mainly composed of well to moderately well drained, reddish brown to yellow-brown, strongly to extremely acidic, friable and deeply weathered, red-mottled clay. The clay contains halloysite and illite and represents relict paleosol. Clay is the particles size having the diameters of less than 0.005 millimeter. Clay materials are plastic when wet, and coherent when dry. Most clays are the result of weathering. Madhupur Clay represents several north-south elongated pleistocene terraces, highly dissected during the Late Pleistocene climatic episodes.



Map 4. 10: Geotechnical and Geophysical Test location of Raipura Upazila



**Map 4.11: Surface Geology Map of Raipura Upazila**





**Landuse suitability**

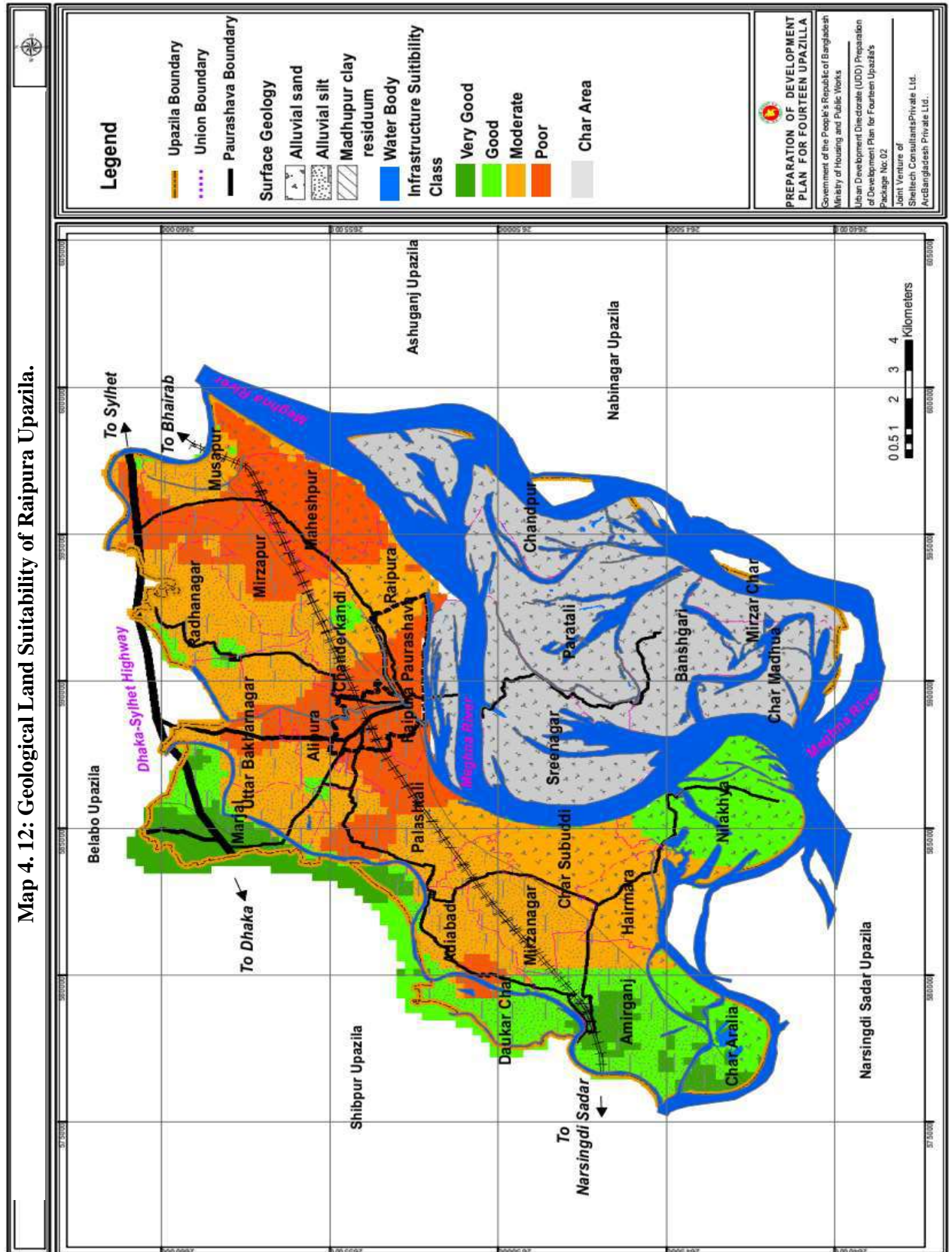
Landuse suitability map of the area is produced (**Map 4.17**) based on subsurface sediment criteria, foundation layer depth, Shear wave velocity (Vs) and PGA seismicity of the area shows that Nilakhya, Char Aralia, Amirganj and Duakar Char union and northwestern part of Marjal union of the project area is very good to good for infrastructure development which suggest that those areas are composed of 2-3m thick compacted sediments (mainly madhupur clay).

Which results in the adjustment of 4-6 storied light infrastructure of commercial, residential or/and industrial purpose to being suitable with a foundation depth of up to 5 m (suitable on madhupur clay). On the other hand the stating of large and tail infrastructure will require pile foundation placed on Soil layer number 3 or 5.

**Table 4. 6:** Landuse Classification for Infrastructure Development

<b>Infrastructure Suitability</b>	<b>Subsurface Sediments</b>	<b>Infrastructure foundation suitability</b>	<b>Suggested land use suitability</b>
Very Good	Madhupur Clay is exposed 2-3 m thick, compacted sediments.	4-6 story light infrastructure is suitable with a foundation depth of up to 2 m. Large and tail infrastructure requires pile foundation placed on Soil layer number 3 or 5.	Commercial area Residential area Industrial zone
Good	Highly dissected Madhupur Clay is exposed	4-6 story light infrastructure is suitable in Madhupur Clay. General foundation depth is within 5 m, at places higher Large and tall infrastructure requires pile foundation placed on layer number 3 or 5	Commercial area Residential area Industrial zone
Moderate	Moderate thickness (12 m) of soft sediments	4-6 story light infrastructure requires on-site subsoil investigation and proper foundation design. Deep pile foundation is needed for large and tail infrastructure	Industrial zone Residential area Commercial area Agricultural Zone Park and Recreation
Poor	5-7 m of loose and soft silty clay and clayey silt with few layers of organic clay, at places Madhupur clay is missing	Detail subsoil investigation and proper foundation design is required for all types of infrastructure, due to low bearing capacity with hazard potential.	Agricultural zone Flood flow zone Wetland Rural settlement Park and Recreation
Very Poor	Mainly silty clay, with alternate layers of Organic clay and peat.	Detail subsoil investigation for deep pile foundation is essential, due to very low bearing capacity and high hazard potential. Shallow foundation is not preferred.	Agricultural zone Flood flow zone Wetland Rural settlement Park and Recreation

Map 4. 12: Geological Land Suitability of Raipura Upazila.



The Figure ure also shows that Hairmara, Mirzanagar, Adibad, Char Subuddi and Radhanagar union, some parts of Marjal, Palashtali, Raipura, Raipuar paurashava, Uttar Bakharnagar, Alipura, Chanderkandi, Mirzapur and Musapur union are moderately suitable for infrastructure development which comprises moderately soft sediments up to 12m depth. This invites 4-6 storied light infrastructure requiring on-site subsoil investigation and proper foundation design and deep pile foundation for large and tail infrastructure of commercial, residential or/and industrial purpose. The soil condition of the Maheshpur union and part of Musapur, Mirzapur, Palashtali, Chanderkandi, Uttar Bakharnagar, Raipura, Raipura paurashava and Alipura union is poorly suitable for infrastructure development and subsoil comprising 5-7 m of loose and soft silty clay and clayey silt with few layers of organic clay however, at most places Madhupur clay is missing. Thus detail subsoil investigation for deep pile foundation and proper foundation design is essential for all types of infrastructure; due to low bearing capacity with hazard potential shallow foundation is not preferred. These areas are more suitable as agricultural and flood flow zone and rural settlement and park and recreational zone.

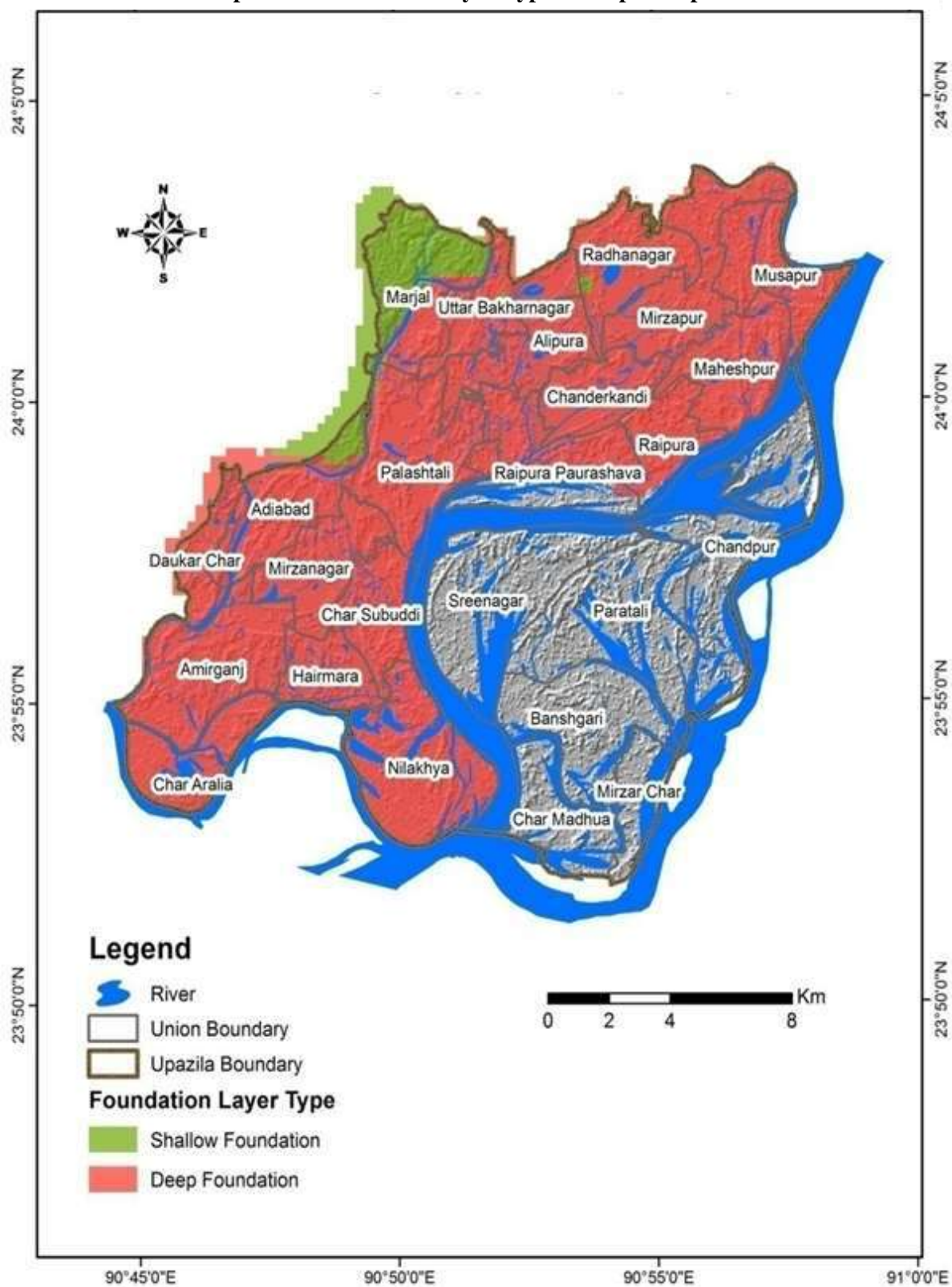
**Table 4. 7:** Land area according to Geological suitability

Suitability	Area (Acres)	%
Very Good	4803.11	24
Good	12525.15	42
Moderate	21652.61	24
Poor	12525.15	10
<b>Total</b>	<b>51506.02</b>	<b>100.00</b>

### Earthquake Sensitivity

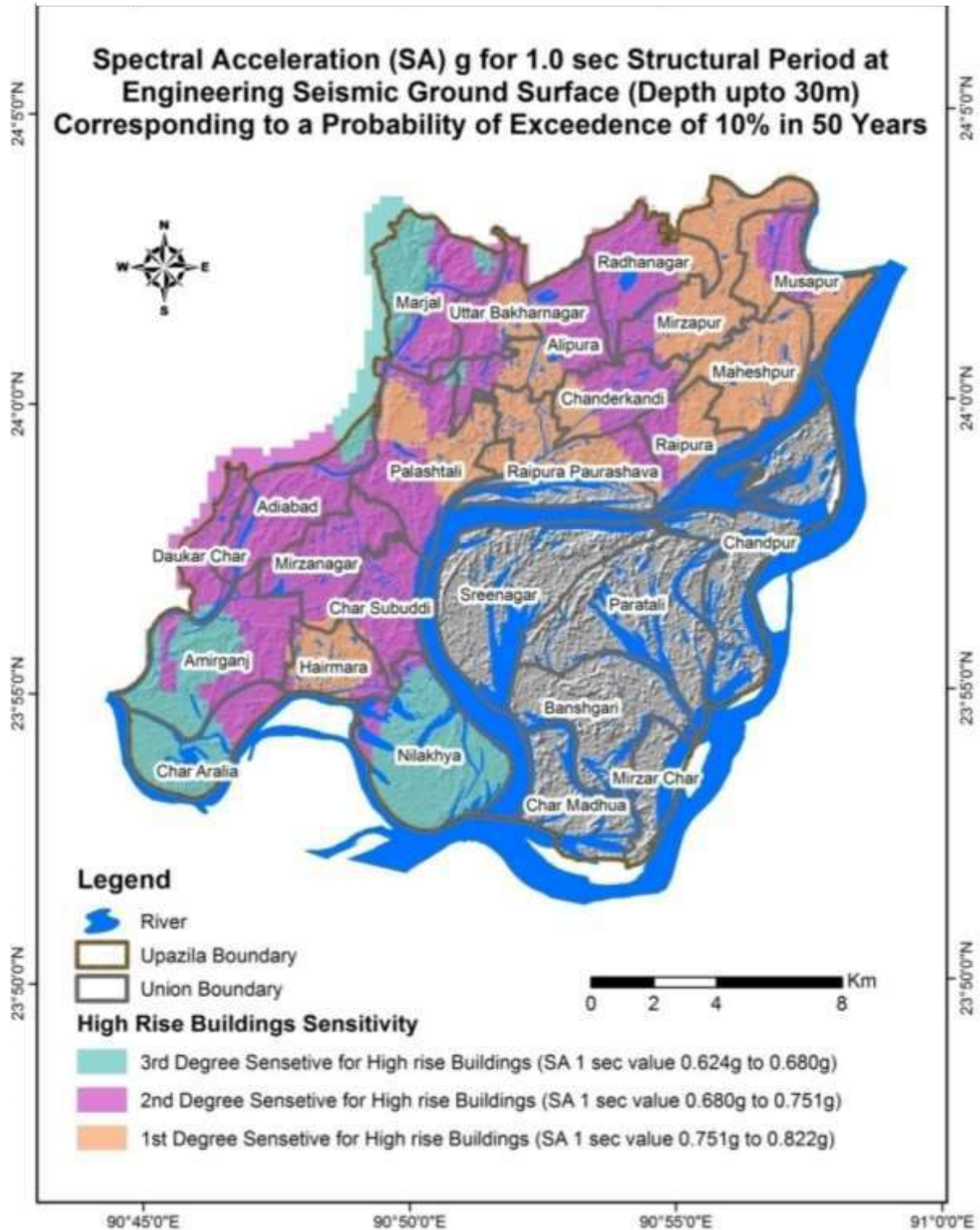
Seismic hazard is a broad term used in a general sense to refer to the potentially damaging phenomena associated with earthquakes, such as ground shaking, liquefaction, landslides, and tsunami. In the specific sense, seismic hazard is the likelihood or probability of experiencing a specified intensity of any damaging phenomena at a particular site or over a region in some period of interest. The methodology for assessing the probability of seismic hazards grew out of an engineering need for better designs in the context of structural reliability (Cornell, 1968; Cornell, 1969), since such assessments are frequently made for the purpose of guiding decisions related to mitigating risk. PGA(g) at ground surface is used as a good indicator for earthquake intensity and the United States Geological Survey developed an Instrumental Intensity scale, which maps peak ground acceleration (PGA) on an intensity scale correlating to the modified Mercalli intensity scale. The SA value for 1.0s period is used to identify the earthquake sensitive zone for high rise buildings. Here in the study area, the SA value (for 1.0s period) ranged from 0.624 to 0.822g. The cyan colored areas having SA value 0.624 to 0.680g as shown in **Map 14.4** suggesting that, the area is 3<sup>rd</sup> degree earthquake sensitive for high rise buildings on the. On the other hand the orange areas having SA value of 0.751 to 0.822g suggest that the areas are 1<sup>st</sup> degree earthquake sensitive for high rise buildings. The pink colored areas with SA value of 0.680 to 0.751g suggest that the areas are 2<sup>nd</sup> degree earthquake sensitive for high rise buildings.

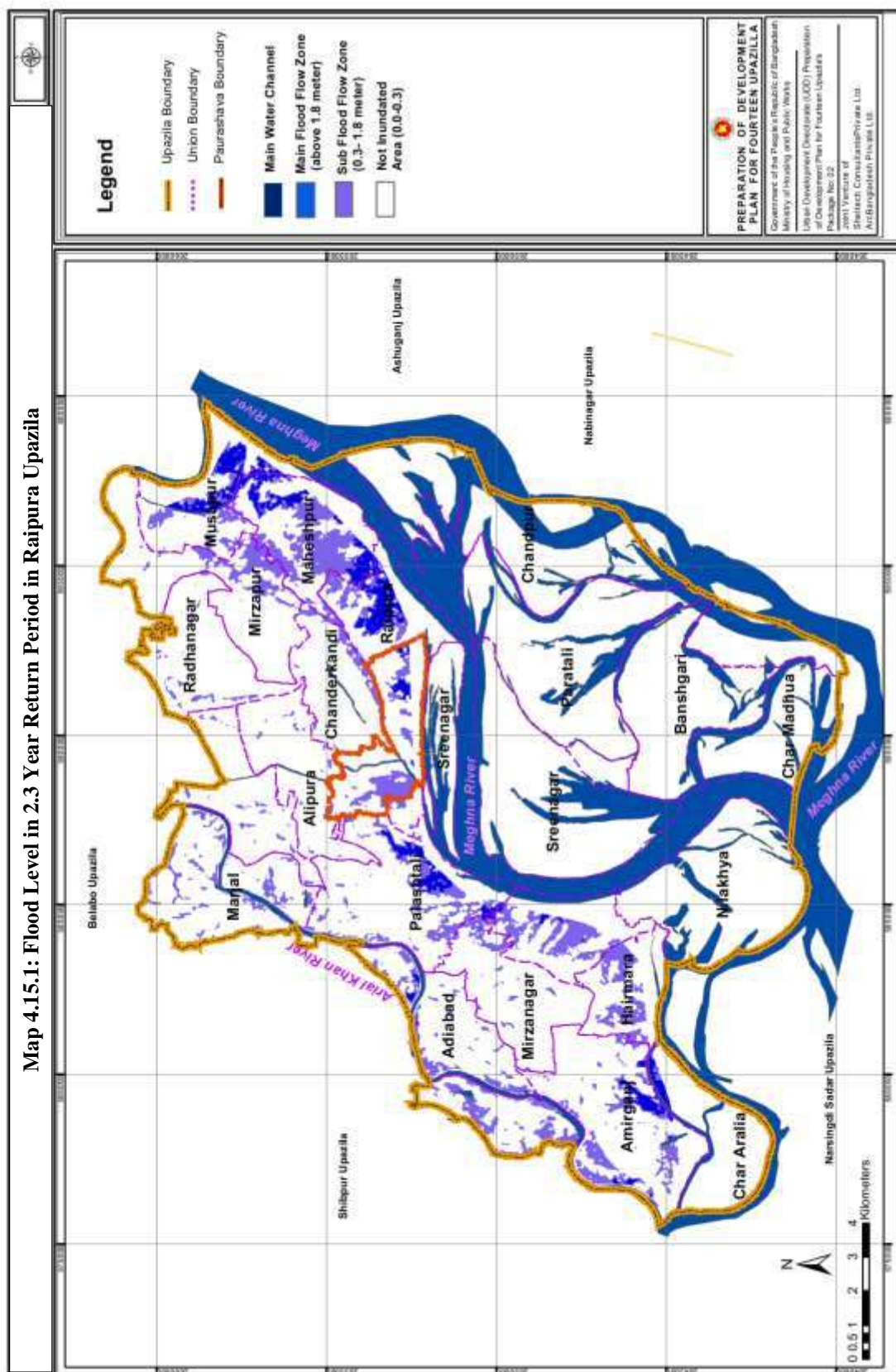
**Map 4. 13: Foundation Layer Type of Raipura Upazila.**

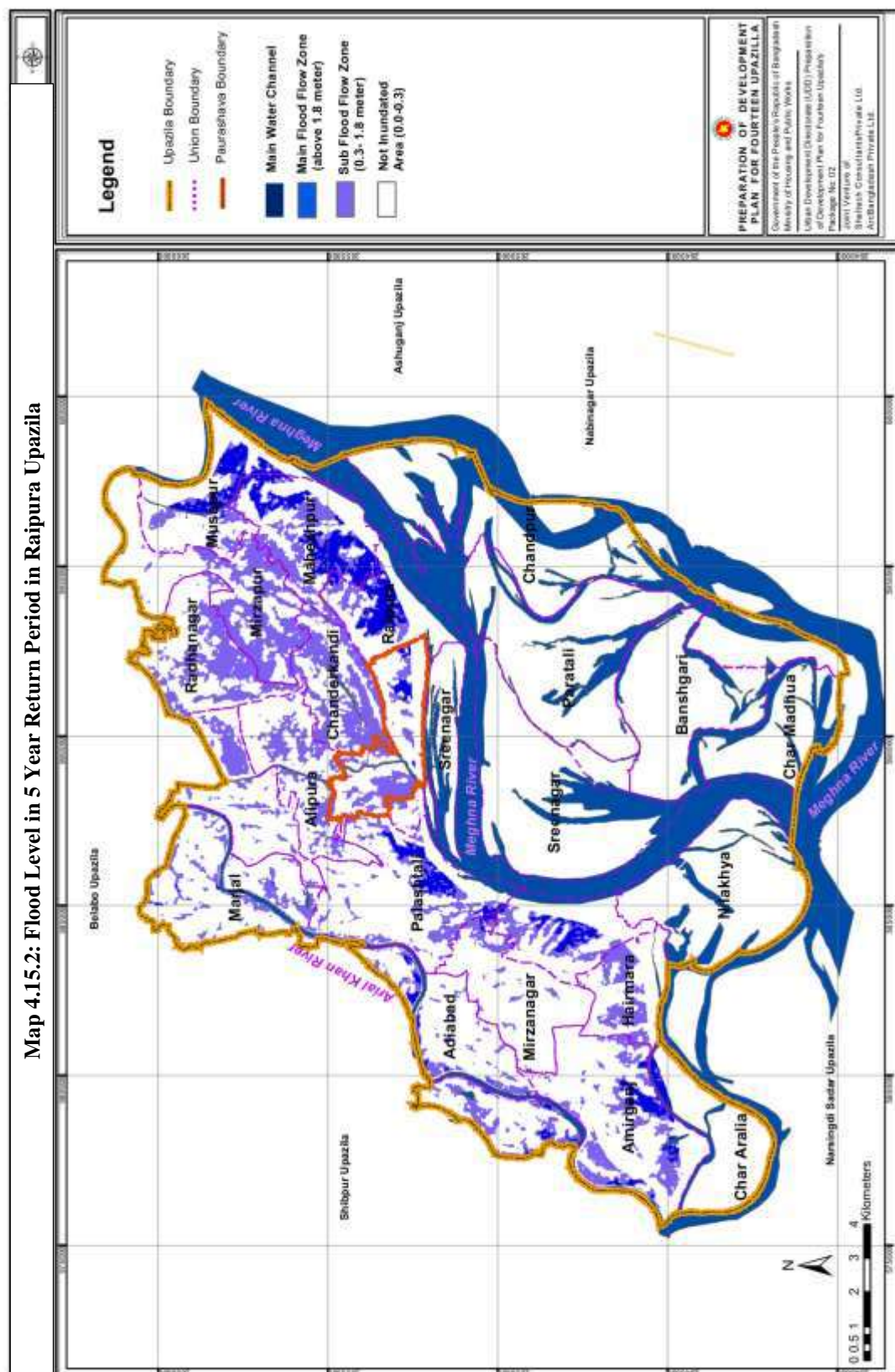




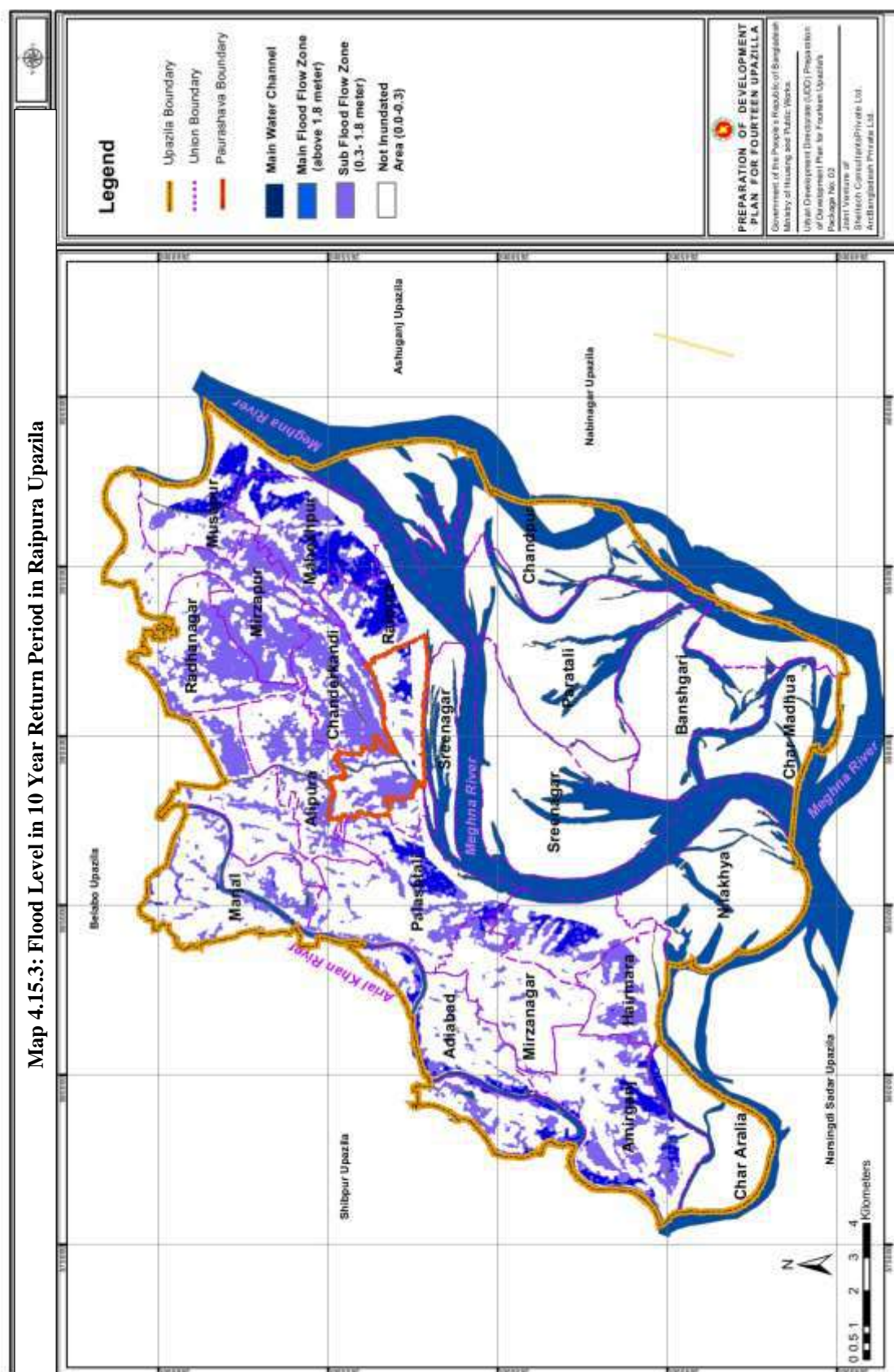
Map 4. 14: Spectral acceleration (SA): for short period (0.2s): of ground surface at Raipura



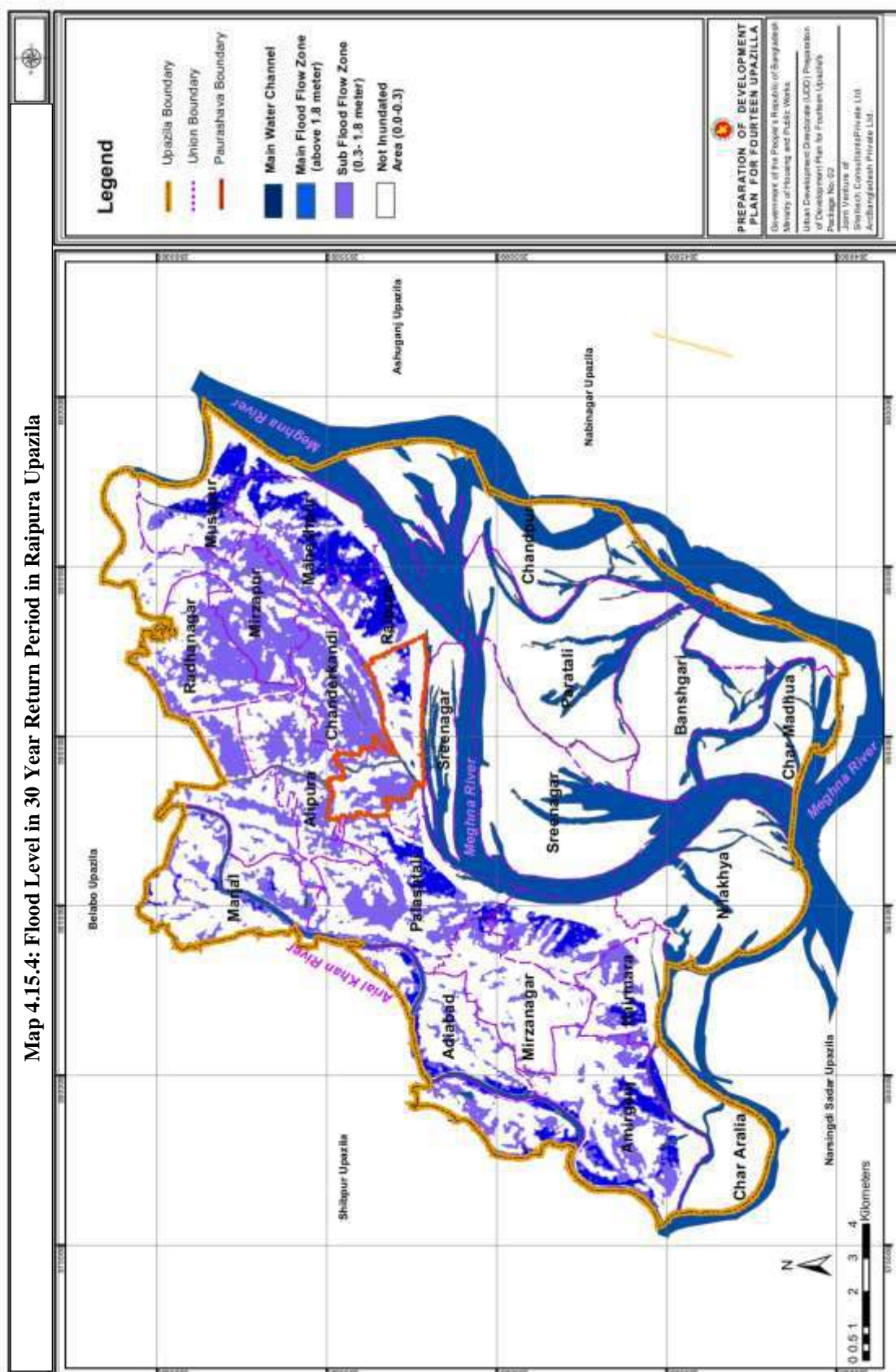


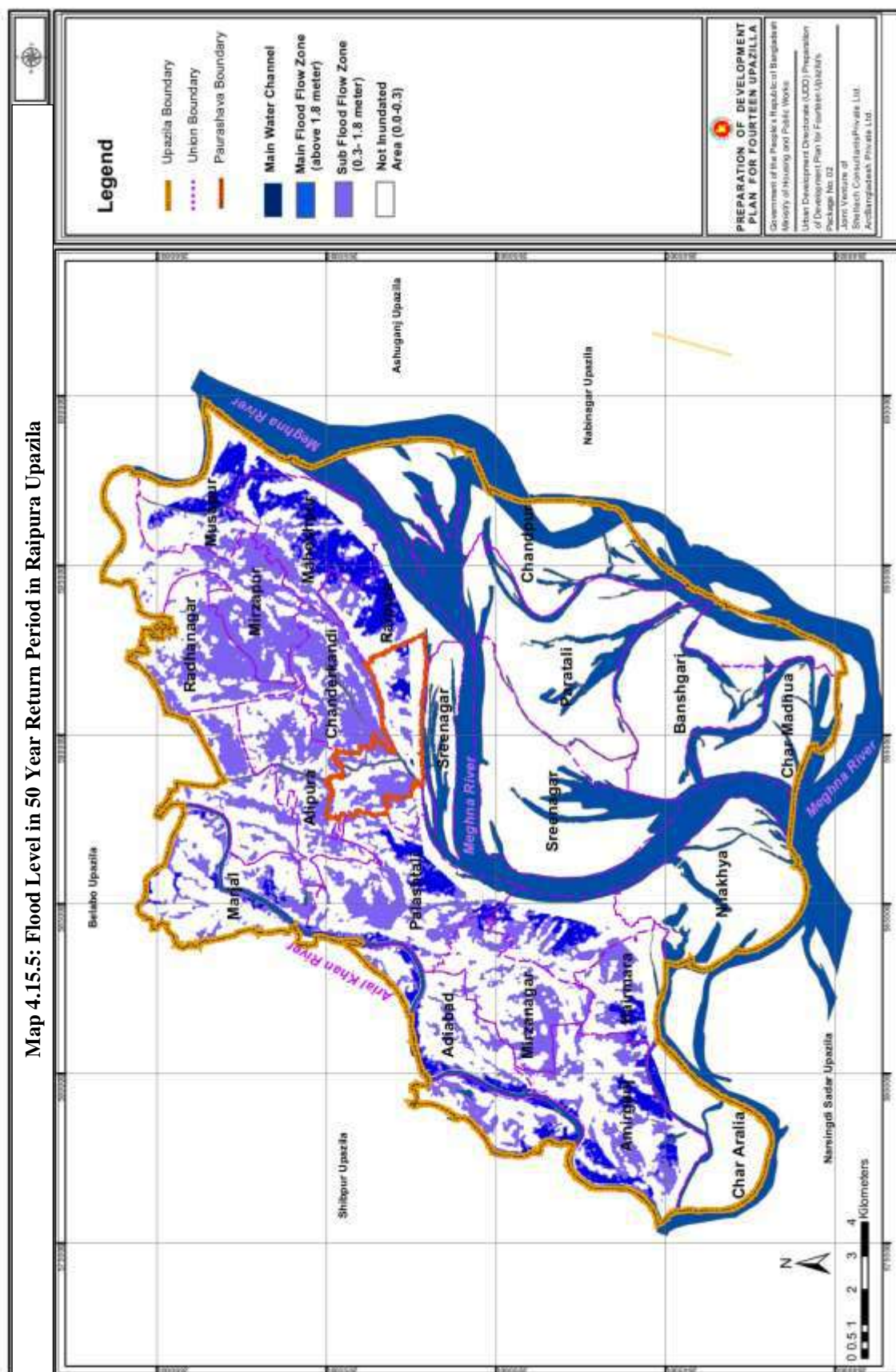












#### 4.10 Agricultural Suitability

This study has incorporated the analysis for identifying the best suitable area for agriculture using water depth, slope and cropping intensity. These following factors has been initiated with weightage criteria and along the the margins of depth of water. The cropping intensity has also played a significant role as mentioned forward.

**Raster Calculation:** "Cropping Intensity" \* .6 + "Depth of water" \* .4

**Table 4. 8:** Weightage Criteria for Agricultural Suitability Analysis

Weightage Criteria	%
Cropping Intensity	60
Depth of water	40
<b>Total</b>	<b>100</b>

Cropping Intensity (CI) = CI positively influenced agricultural suitability from single to multiple crop land

Water Depth = Water depth positively influenced the agricultural suitability

Depth 0 – 0.3m = Double/Triple Crop Land

Depth 0.3 – 0.9m = Double/Triple Crop Land

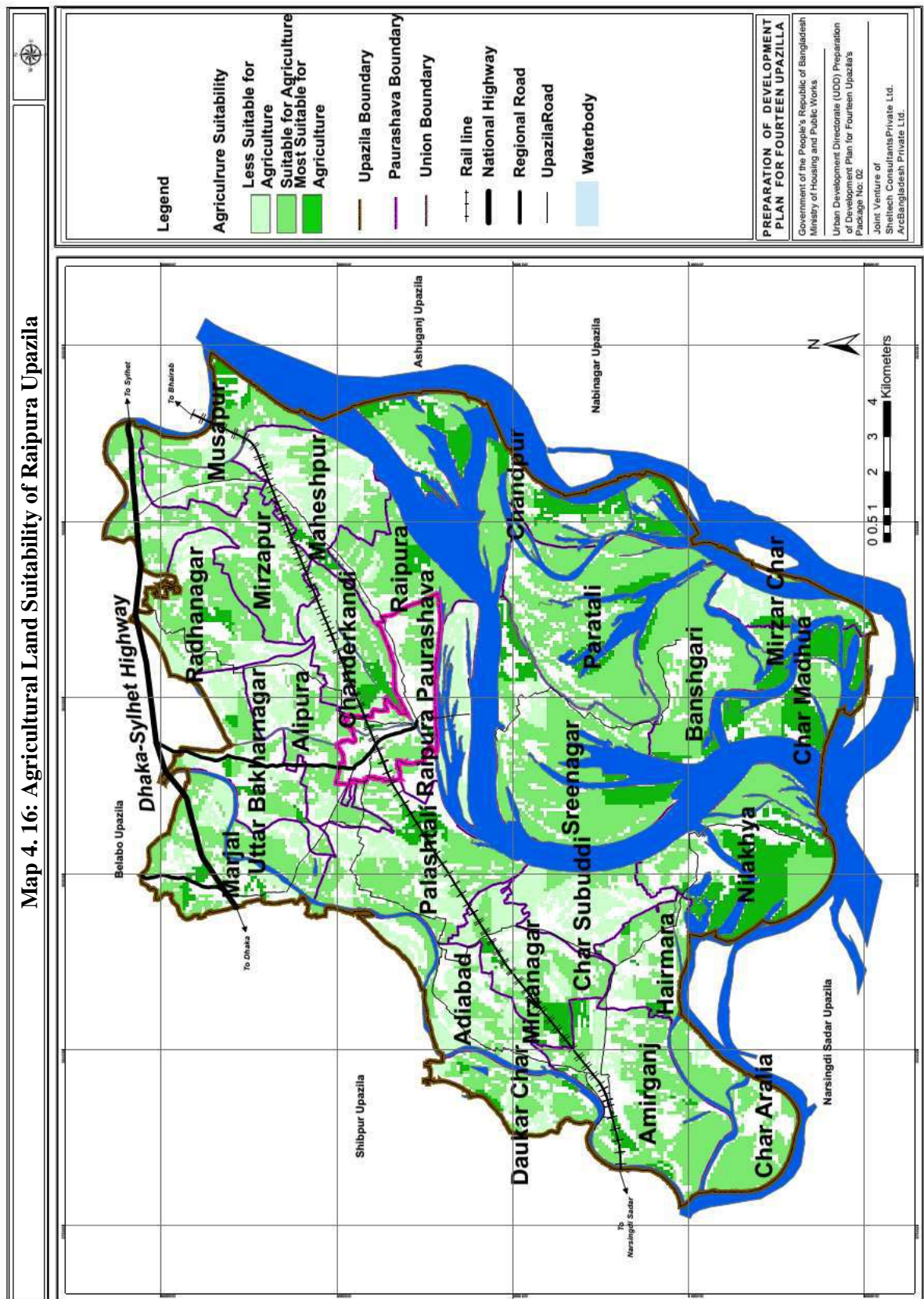
Depth 0.9 – 1.8m = Single Crop Land

For a better a better understanding of the Upazila in the context of agricultural land suitability, **Map 4.16** shows the condition according to findings for practice of agriculture application on suitable space. Most of the parts of Nilakhya, Char Madhua, Chadpur, Mirzanagar have been most suitable for agricultural purpose. Less suitable land has been found in Char Subuddi, Adiabad, upper part of Sreenagar, Maheshpur and some parts of Alipura, Marjal, Palshatali. Rest of the land have been found to be moderately suitable for agriculture.

**Table 4.9: Agricultural land Suitability**

Suitability	Area (Acres)
Most Suitable	6332.65
Suitable	30212.59
Less Suitable	9838.39
<b>Total</b>	<b>46383.63</b>





#### 4.11 Human Settlement Suitability

To identify the best suitable area for human settlement an analysis has been done. It is derived from the data of water depth, slope and cropping intensity. The main reason of this analysis is to identify the most suitable agricultural land for conservation.

**Table 4. 10: Weightage Criteria for Human Settlement Suitability Analysis**

Weightage Criteria	%
DEM	20
Population density	20
Settlement Area	20
Proximity to road (250m buffer)"	20
Infrastructure Suitability	20
<b>Total</b>	<b>100</b>

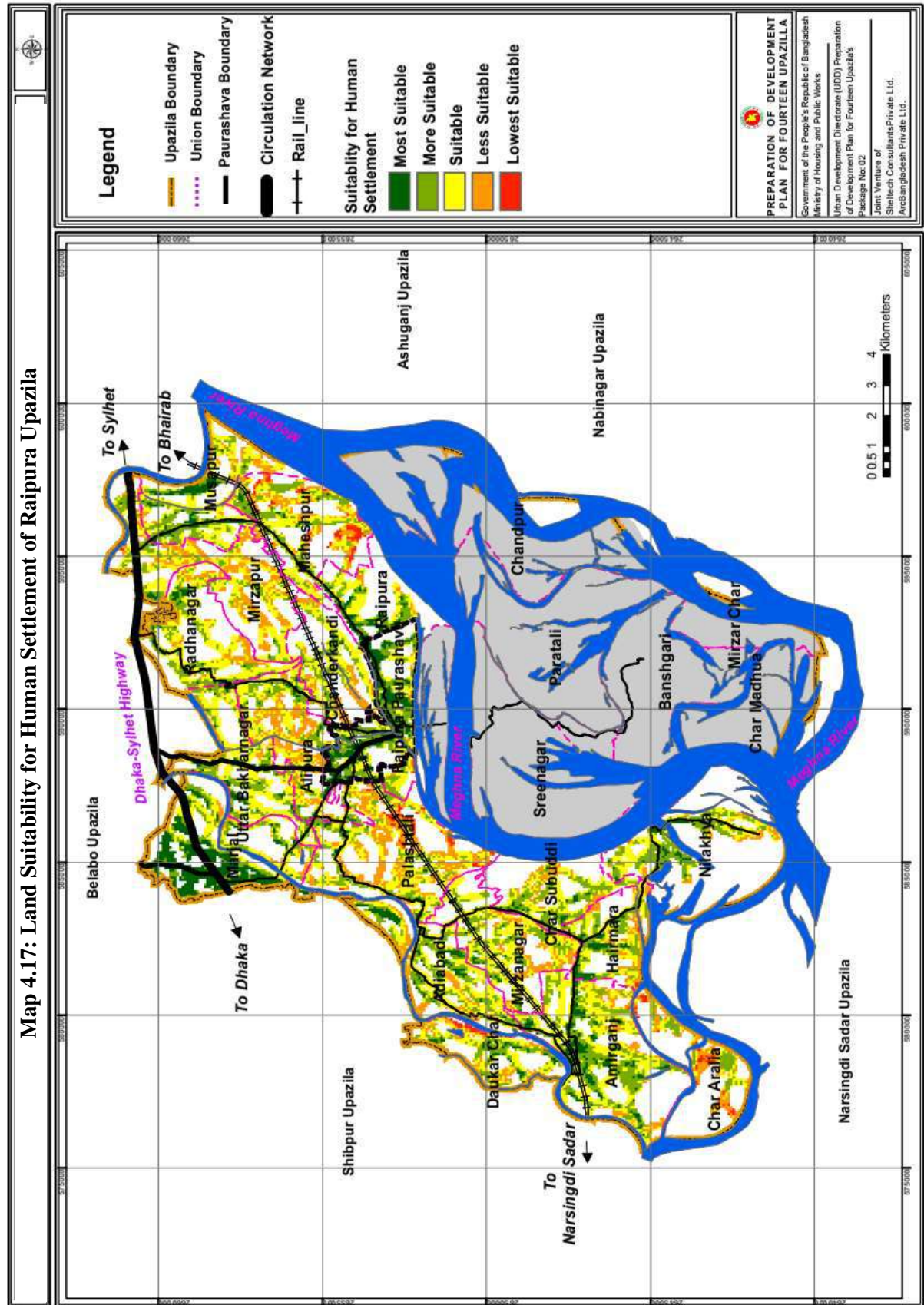
**Source:** Field Survey, 2016

- DEM = positively influenced the Human Settlement Suitability from minimum to maximum Value.
- Population density = positively influenced the Human Settlement Suitability from minimum to maximum Range.
- Settlement Area = positively influenced the Human Settlement Suitability in a range of 1 to 5 in respect of landuse type.
- Proximity to road = proximity to Road influenced the human settlement suitability according to road type. (Katcha = 1; Semi pucca= 2; Pucca =3)
- Infrastructure Suitability = infrastructure Suitability positively influenced human settlement suitability from “poor” to “very good”.

Based on the 5 criteria described above, the human settlement suitability (**Map 4.17**) analysis has been supervised. The output of the analysis produces map which shows the most suitable part of Raipura whole upazila. From the analysis Paurashava, Marjal and some parts of Raipura, Musapur, Amirganj, Nilakhya, Hairmara, Adiabad, Daukhar Char, Uttar Bakharnagar, Radhanagar union have the most suitable land for human settlement. Besides these union small parcel of more suitable land for human settlement are also found in all over Raipura upazila. And moderate suitable land for human settlement has been found all over Raipura Upazila. Some parts of Maheshpur, Palashtali, Char Aralia and west part of Adiabad union also shows less suitable land.

**Table 4.11: Human Settlement Suitability**

Suitability	Area (Acres)
Lowest Suitable	445.51
Less Suitable	4692.03
Suitable	11756.52
More Suitable	8197.62
Most Suitable	3020.57
<b>Total</b>	<b>28112.25</b>





#### 4.12 Urban Suitability

For the identification of the urban suitable area some criteria have been fixed such as DEM, Geological suitability and major road. In which areas these four criteria have met the consideration those areas are the urban suitable areas.

**Raster Calculation:** "DEM" \* .2 + "Settlement Area" \* .3 + "Proximity to road (250m buffer)" \* .2 + "infrastructure Suitability" \* .3

**Table 4. 12:** Weightage Criteria for Urban Suitability Analysis

Weightage Criteria	%
DEM	20
Settlement Area	30
Proximity to road (250m buffer)"	20
Infrastructure Suitability	30
<b>Total</b>	<b>100</b>

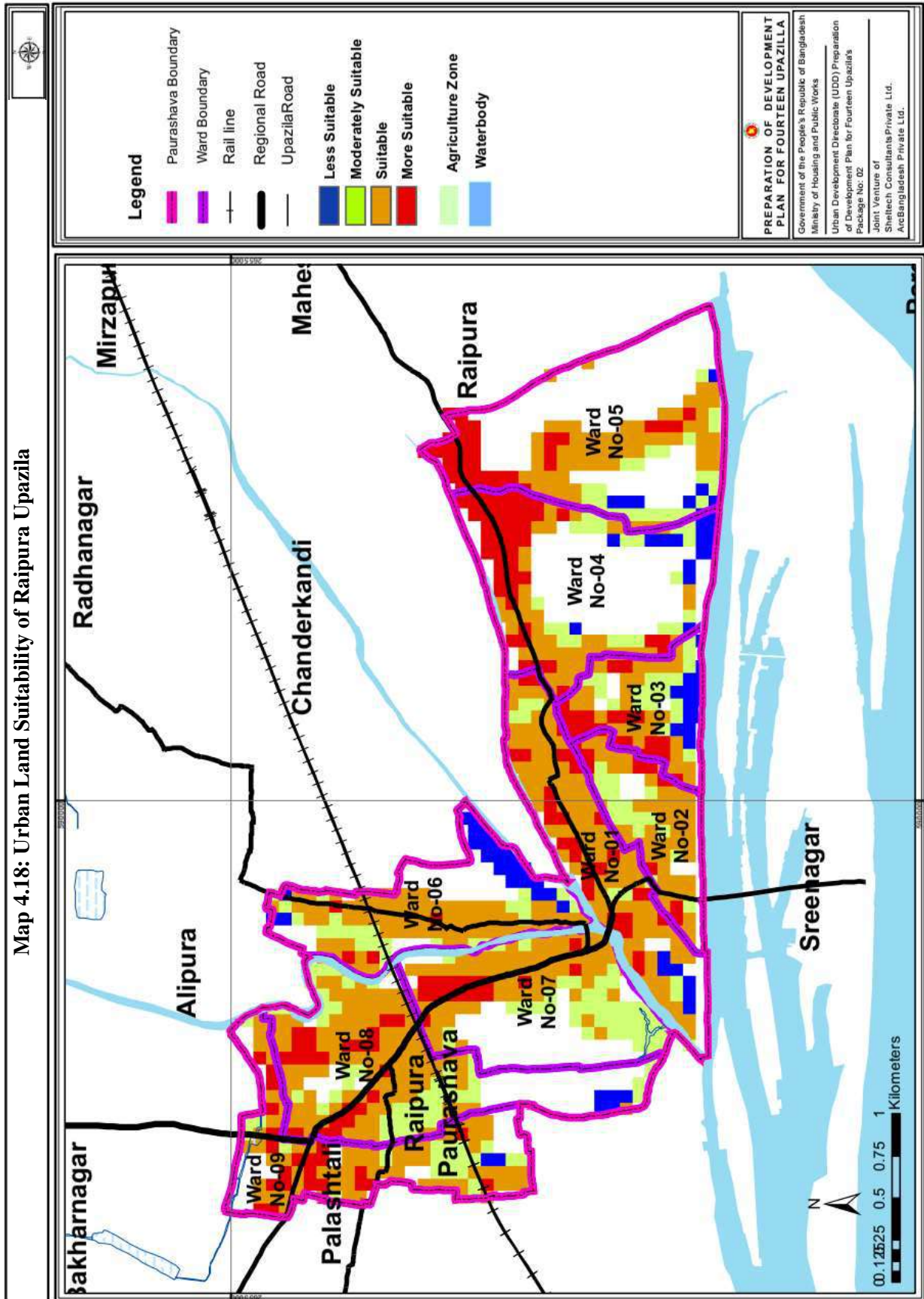
**Source:** Field Survey, 2016

- DEM = Positively influenced the Human Settlement Suitability from minimum to maximum Value.
- Settlement Area = Positively influenced the Human Settlement Suitability in a range of 1 to 5 in respect of landuse type.
- Proximity to road = Proximity to Road influenced the human settlement suitability according to road type. (Katcha = 1; Semi pucca= 2; Pucca =3)
- Infrastructure Suitability = Infrastructure Suitability positively influenced human settlement suitability from “poor” to “very good.

Based on the suitability for urban area (**Map 4.18**) has been delineated. The red color in the map has shows the least suitable area for human settlement. Least suitable area has been found in ward number 3, 4 and 6. On the other hand, most suitable area has been found in all the ward as small parcel. There are also some agricultural parcel land in ward 4, 5 and 7.

**Table 4.13:** Urban Land Suitability of Raipura

Type	Area(Acre)	%
Less Suitable	98.36	6.63
Moderately Suitable	296.27	19.99
Suitable	824.90	55.66
More Suitable	262.59	17.72
<b>Total</b>	<b>1482.12</b>	<b>100</b>





## **Chapter 5: Strategies and Policies for Sectoral Development**

### **5.1 Introduction**

Raipura Upazila is a prosperous and rich area in Narsingdi District; its natural beauty, agriculture, industry makes Raipura affluent among all Upazilas in Narsingdi District. Various agricultural products, vegetables, fruits are main exportable item from the Upazila. There is need of development plan to safeguard such issues and the development proposals were followed by some strategies and policies to support development plan in this chapter.

### **5.2 Agriculture Development.**

#### **Policy 01: Promotion of Regional Agriculture.**

**Justification:** Promotion of agriculture would help increase income and ensure employment. The main objectives of agriculture sector to increased production and simultaneously ensure value addition. Growth from agriculture will stimulate development of agro-based industries and investment in agro-based productive sectors in Raipura upazila.

#### **Policy 02: Conservation of Agriculture.**

In order to preserve and harness the maximum length of agriculture sustenance of the area, emphasis should be given to the following areas;

- Advocacy of agro-based industries.
- Promotion of local livelihood.
- Establishment of cold storage

### **5.3 Economic Development**

#### **Policy-01: Light Industry development to make Industrial Sector flourish**

**Justification** To accelerate the economic development of Raipura Upazila in the long run, it is required to encourage the industrial establishment within Upazila area.

To control the haphazard industrial development measures will be undertaken

- Follow the category of industries as categorized by DOE (Green Category) and Bangladesh National Building Code (low and medium category hazards)
- Following Bangladesh National Building Code, 1993 & 2006 and Building Construction Regulation, 1952 (amendment in 1996) for providing Road, setback before construction of any industrial structures

#### **Policy-02: Developing Growth Center Markets.**

**Justification:** Small growth Center should developed all over the unions. Public and private investment should invited towards growth center with lucrative methods and profitable enterprises. This policy will create opportunities for developing basic agro-based industries in Raipura Upazila using the agricultural products as input at a comparatively cheaper rate. Agro-based industries will help the existing producer to increase their earning and increase the employment opportunities.

**Policy 03: Ensure Best Possible Use of Land.**

**Justification:** Dealing economic development and employment generation with positive undertaking proper land use is highly needed. Within Paurashava area, land is limited and agriculture has been discouraged since these areas are more likely to nurture structural development for objective growth.

To make a successful implication of this policy, following strategies should be taken:

- Inland Water bodies for fishery purpose and recreational purpose.
- Khas land will be distributed among the landless and a more transparent process of land settlement will be ensured

**Policy-04: Encourage Investment in Business**

**Justification**

- Local people can be encouraged to invest in business.
- Authority can reduce cost, revenue on business to encourage people.

**Policy 05: Support SME for Creation of Job and Economic Upliftment.**

**Justification:** Short and medium size enterprises are essential for the promotion of economic activities and new employment generation. The SME sector will support the large investment in many ways which help the process of generating new employment.

**Policy 06: Employment Generation through Development of Potential Sectors**

**Justification:** To sustain economic activity of Upazila people for longer period. The economic activity of existing Raipura Upazila is oriented with mainly Agriculture, small scale business in some extent. Proper planning and co-ordination among these sectors and future potential sectors would be possible to engage active labor force.

Following measures will be encouraged to implement this policy implication:

- Industrial Zone declaration in Land Use Zone (mainly light industries)
- Infrastructure development to flourish agro industry (Market, Storage facility, electricity supply etc.)
- Involvement of active labor force and community participation in different management activities of Upazila such as solid waste management in transferring the wastes from Solid-waste transfer sites, road maintenance, public sanitation

## **5.4 Open Space and Recreation**

**Policy-01: Ensuring Community Level Recreational Facilities like Open Space, Park, and Playground etc.**

**Justification:** To provide a livable environment for the Upazila people, community level recreational facilities should be preserved. In the long run, preservation of recreational lands for future generations should be ensured. Parks should be created at central and neighborhood level through Master Plan and Ward Action plan. Both public and private sectors investment is encouraged. Standard wise recreational facilities such as Playground, Neighborhood parks, Stadium, Cinema hall will be provided as described in Land Use Plan of Volume II.

## **Policy 02: Development of Public Park**

### **Justification**

- Creation of recreational facilities and breathing place
- Preservation of ecological balance
- Promotion of physical and mental health both for the residents and tourists.

## **5.5 Infrastructure Development**

### **Traffic and Transportation**

Traffic is the function of land use. It is also mentioned here that traffic network and the traffic generated induces the growth of land use. There is an interrelation between road network and utility services which together play key role to guide physical development in the town and Upazila.

### **Policy -01: Widening of Existing Narrow Roads.**

**Justification:** Due to narrow road and inadequate road space traffic congestion is common in the Upazila. Transport facility is not adequate for convenience and comfort. For example, passenger shades, sufficient and footpaths are not available.

### **Policy-02: Develop Efficient inter Upazila Communication Facilities.**

**Justification:** To create easy traffic movement within the Upazila, the roads have to be widened. The main artery of both the Paurashava and unions have to be kept free from any crippled development.

### **Policy-03: For better Accessibility Transport Terminals should be Located at Major Roads**

**Justification:** To develop and facilitate easy means of transport, consultant encourage the promotion of public transport and terminals.

- Make a priority for in space allocation of ROW for better space utilization and promoting number-motorized traffic avoiding interruption, ensuring speed with motorized traffic.
- 10-20 ft. plantation at road side will be proposed.
- The Road Hierarchy of Raipura Upazila will be modified and proposed on the basis of Road width Standards.
- Follow up the basic rules mentioned in Building Construction Act, 1996 at Major Intersections of the Paurashava. Some basic rules are:
  - ✓ In each Corner plot of major intersection 1m×1m land area has to be open for traffic movement.
  - ✓ At the cross section of two or three roads within 50 meter distance, construction of commercial complex, Cinema Hall etc. are prohibited. But, 500 square meter area in total is permitted for commercial purpose (Shopping Complex), road width is 23 meter or greater.
- Promote efficient traffic management system within Upazila by pursuing Regulatory measures (parking control and speed control in Highway Road, access control of trucks in the area,) and Design measures (Details of lay-out of Proposed Primary Road and Secondary Road, use of lighting equipment etc.) in Road Transportation System.

### **Policy-04: Develop Safe Pedestrian Sidewalks and Bicycle Paths along the Roads**

## 5.6 Housing Development

### **Policy-01: Making Provision of Affordable Housing for the Low Income People**

**Justification:** Upazila and Paurashava has to think about housing facilities for the low income people. Private sector will be operated for profit earning, the low income people will not access to these scheme. Thus to reduce unplanned development, the development authority may take initiative for low income people. Also by providing services the general people can be encouraged to build their own houses.

### **Policy 02: Densification of Residential Areas.**

**Justification:** Housing category need to be decentralized through effective measures of planning.

To make a successful implication of this policy, following strategies should be taken:

- Core Area should be preserved for high income group through high land price. Core area comparatively highly dense area and vertical expansion is proposed for this area.
- Periphery portion where land price comparatively low can be declared for low income group.

### **Policy 03: Stop all Illegal Construction.**

#### **Justification**

- Prevention of land carrying capacity
- Promotion of urban environment

## 5.7 Ecology and Environment

### **Policy-01: Preservation of Ponds and Water bodies.**

**Justification:** To ensure natural water bodies and fish resources which are crucial to sustain the livelihood and to retain the eco-system.

Permitted land use will be maintained in the demarcated areas that are as follows:

- Irrigation
- Provision of water way transportation in wet season
- Fishing/Fish Culture

Identify and conserve big ponds. These water bodies work as retention pond resource for fish cultivation and vital components to retain ecological balance.

### **Policy-02: Treatment of Industrial Waste before Discharging into the River.**

#### **Justification:**

- Prevention of water pollution
- Promotion of public health
- Promotion of healthy environment.

### **Policy-03: Incepting Drainage Network Plan in Response of Water Logging Problems**

**Justification:** Lack of adequate and planned drainage facility causes water logging. The depth of maximum internal inundation ranges from 2-5 ft and duration varies from 3 to 4 hours.

Following strategies should be reflected in Drainage Network Plan to fill in the gaps:

- A planned Drainage network will be provided in Drainage and Environment management Plan considering the standards, appropriate method and formula
- Regular maintenance of existing man-made and natural drainage network with Community involvement

- Illegal encroachment of Water bodies by Water Reservoir Conservation Act, 2000 ensuring storm water drainage
- Scattered throw of solid waste in water bodies by proper solid waste management activities

**Policy-04: Identifying the Hazard Risk Zones.**

**Justification:** Environmental Management Plan will be prepared under Urban Area Plan for all possible hazards (Cyclone, Flood, River Erosion, etc.). The Plan will provide the adaptation, prevention (structural/numbern-structural measures), mitigation, Preparedness techniques against natural disaster through comprehensive disaster risk management and addressing tools.

To reduce the impact of hazards same manures will be undertaken which are as follows:

- Embankilometerent, flood control suice gates and other structural measures
- Early Warning System
- Providing multi-purpose cyclone shelter

**Policy-05: Pollution Control**

**Justification:** Pollution in common dimensions such as water, air and soil has a very low rate of exposure. The most lightly polluted environmental factors are air and soil but this should not allow increasing pollution rates as such condition prevails. To ensure safe environment for the Paurashava area for the coming years, all aspects of the environmental factor is needed consideration. In this context mostly, maintenance of the surface water quality is vital.

To control pollution following measures will be required:

- Make surface waters free from domestic wastes and wastes which require solid waste management interventions.
- Riverside dumping needs to be restricted and dumping site has to be located through prescribed land use planning
- Discourage the high hazarders industries (Only Green Category Industries of DOE)
- Excessive pesticides and fertilizers use in Agriculture field cause soil pollution, therefore it requires to comply the Pesticides law of 1985

**Policy-06: Ensuring Safe Sanitation for Citizen**

**Justification:** There exist two types of latrine viz. Katcha and Pucca. Besides, littering of solid wastes is a common phenomenon in any part of the country. This practice results in having poor environment and damaging out-turn.

Following strategies should be promoted in ensuring sanitation:

- Dumping Site and solid waste transfer sites demarcation in Land Use Plan of Planning area ensuring effective management including community participation
- Proposal of Solid Waste Dumping site
- Installing public toilets in schools, bus stations, launch Terminal, Markets, important public places and community latrines in densely populated poor communities or slums

## 5.8 Utility Services

### **Policy-01: Facilitating Access for all Citizens to Basic Level of Services in Water Supply and Sanitation**

**Justification:** Facilitate safe drinking water supply and safe sanitation to each household as per demand in 2035 through various means, including:

- Piped Water Supply System
- Water treatment plant, Overhead Tank
- Rainwater Harvesting and Conservation

### **Policy-02: Management of Toxic Waste from Industry.**

**Justification:** Toxic waste from industries are hazardous for human health. Industrial waste must be treated through proper method including Effluent Treatment Plant (ETP).

- Promotion of public health
- Prevention of public nuisance
- Promotion of healthy environment

## 5.9 Heritage Development

### **Policy01: Conservation of Heritage Site.**

- Identify and preserve Ecologically Sensitive Area (ESA)
- Locate and conserve 'Heritage Sights'.
- Preventing intrusion into the protected areas by identifying and minimizing the root causes of illegal encroachment and occupancy.
- Bringing up the ecologically and culturally valuable sights into prominence and making them functional.
- Encourage public participation through central and local conservation committees.

### **Policy 02: Promoting and Attracting Investment in Tourism Development.**

- For attracting tourists, tourist zone should be developed.
- Improved infrastructure and accommodation facilities can help promote tourism in the Upazila.

## Chapter 6: Vulnerability Analysis and Contingency Plan

### 6.1 Introduction

Risk assessment is a process of determining the spatial variety of risk scale in terms of specific hazard. Risk assessment is necessary for development projects to evaluate the sustainability. Risk is different in terms of hazard and vulnerability of the area. This report mainly looks for the existing risk condition of Earthquake and Fire Hazards in Raipura Upazila area. Following, a contingency plan has been prepared to overcome the risk. It is imperative to see and check for potential and face front hazards as the project is arranged to develop in the structure resources.

### 6.2 Existing Risk Scenario

Risk Calculation has been conducted using the equation of risk which has been taken into account as per study requirements. This calculation was for the discernment of existing condition of the area. Risky structures are mainly found in the core area of Raipura Paurashava and all other risky zones of Raipura. According to the calculated risk it has been found out about 24 structures are highly risky, 55 structures are moderately risky and 312 structures are less risky.

In the Raipura Paurashava core area about 154 structure are found to be risky. Among them from a comparative analysis has been revealed that about 24 structure are highly risky, 52 structure are moderately risky and 78 structures are less risky. **Map 6.1** shows risky structure of Raipura Upazila. All of 154 risky structures are pucca. Among the risky structures bank, college, commercial structures, high school, hospitals, residential structures, madrassa, mobile tower, offices, primary school, temple, thana etc. are important structure which are found to be risky. The risky structures are found mainly in Dalilnagar, Horipur, Methikanda, Monumberharpur, Purba para, Ramnagar, Sreerampur, Tattakanda, Tekpara, Tulatuli, etc.

On the other hand in other union, risky structure are less than Paurashava except Amirganj. About 237 risky structure are found in all other risky zone. Among them 206 structures in Amirganj, 31 in Marjal. In these all other zone number Structure is Highly Risky, 3 are moderately risky and 234 are less risky. Bank, cinema hall, factory, godown, commercial structure, residential structure, school, mosque, offices, union parishad are found to be main risky structures in those zones. Risky Structure are mainly found in Batiara, Hasnabad, Kurer par, Marjal, Tekpara area. Number of risky structures are shown in the **Table 6.2** with their structure use.



**Table 6.1:** Important Structure of Pourashava Area

Locality Name	Structure Name	Structure
Bat-Tali	Sarbajanin Kali Mandir	Temple
Boikhandapur	Kali Mandir	Temple
Chanderkandi	Narshindi Govt. Technology School And College	College
	Prani Sampad Upazila Office	Govt. Office
	Raipura Food Godown	Govt. Office
	Raipura Hafezia Darul Ulum Madrasah	Madrasah
	Sub Registry Office	Govt. Office
	Thanahati Jame Mosjid	Mosque
	Upazila Pani Sampad Office	Govt. Office
Darihati	Dari Hati Jame Mosjid	Mosque
Hasimpur	Family Mandir	Temple
	Forkania Nurani Madrasah	Madrasah
	Hasimpur Govt. Primary School	Primary School
	Hasimpur Jame Mosjid	Mosque
Horipur	Haripur Jame Mosjid	Mosque
Kandapara	Kandapara Shahid Bashir Govt. Primary School.	Primary School
Kandapara	Uttar Para Jame Mosjid	Mosque
Mahishmara	Mahishmara Eidgah Jame Mosjid.	Mosque
	Srirampur Purba Para Primary School	Primary School
Mawlabi Bazar	Paglar Mazar	Mazar
Meratoly	Hazrat Sumaia Mahila Madrasah	Madrasah
	Meratali Jame Mosjid	Mosque
Methikanda	District Birth Regestration Office	Govt. Office
	Methikanda Islamia Madrasah	Madrasah
	Methikanda Jame Mosjid	Mosque
	Methikanda Rail Way Station Jame Mosjid	Mosque
	Methikanda Railway Station	Railway Station
	Asrafunnesa Public School	School
	Methikanda Jame Mosjid	Mosque
	Raipura College	College
Monoharpur	Krishi Bank	Bank
	Raipura Union Office	Govt. Office
Nayahati	Nayahati Jame Mosjid	Mosque
	Nayahati Talimul Quran Madrasah	Madrasah
Raipura Pasacim Para	Pasacim Para Jame Mosjid	Mosque
Raipura Purba Para	Darul Ulum Mahila Marasha	Madrasah
	Kindergarten School	Kindergarten School
	Mobile Tower	Mobile Tower
	Raipura Pilot Girls High School	High School
	Raipura Thana	Thana

Preparation of Development Plan for Raipura Upazila (2013-2033)

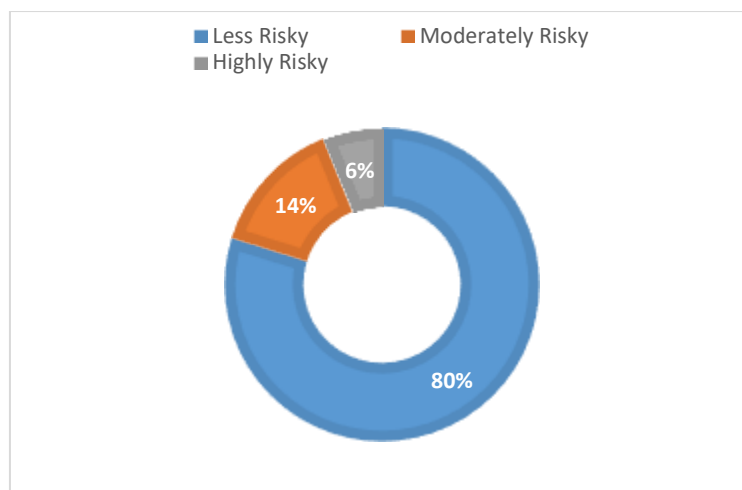
	UDD Site Office	Govt. Office
Rajnagar	Rajnagar Jame Mosjid	Mosque
Ramnagar Hati	Miraz Bhaban	School
	Raipura 2 No. Govt. Primary School	Primary School
	Raipura Bazar Mosjid	Mosque
	Raipura Hospital	Hospital
	Upazila Post Office	Post Office
Shrirampur	Bangladesh Muktiyoddha Sangsad Office	Govt. Office
	Palli Bidyut Office	Govt. Office
	Shahid Textile Factory	Industry
	Shahin General Hospital	Hospital
	Sirajnagar Mansur Ali Pailot Model High School	High School
	Srirampur Uttar Para Jame Mosjid	Mosque
	Tejuddin Munsi Mahila Madrasah	Madrasah
Shrirampur Purbopara	Darga Bari Panjekhana Jame Mosjid	Mosque
	Raipura Upazila Dakhil Madrasah	Madrasah
Shrirampur	Al Shahaba Hospital	Hospital
	Freedom Figure hter Office	Govt. Office
	Madinatul Talimul Madrasah	Madrasah
	Raipura Ideal High School	High School
	Raipura Popular School And College	College
	Raipura Telephone Bhaban	Govt. Office
	Sonali Bank	Govt. Office
	Srirampur A Haque Mordern Academy	School
	Srirampur Imbir Mosjid	Mosque
	Srirampur Jame Mosjid	Mosque
	Srirampur Purba Para Jame Mosjid	Mosque
	Walton Show Room	Market
Tattakanda	Dalilnagar Jame Mosjid	Mosque
	Janata Kindergarten School	Kindergarden School
	Pagal Nath Mandir	Temple
	Raipura 1 No. Govt. Primary School.	Primary School
	RKM School	School
	S.M Vocational Dakhil Madrasah	Madrasah
	Tattakanda Jame Mosjid	Mosque
	Tattakanda Uttar Para Jame Mosjid	Mosque
Tek Para	Gan Griha Adarsha High School	High School
	Raipura Public Model School	School
	Tekpara Jame Mosjid	Mosque
Thanahati	PTI And Primary School	Primary School
Tulatali	Abdul Matin Super Market	Market
	Adarsha School	School
	Alipura Information Center	Govt. Office
	Khan Super Market	Market

	Palli Biddiyut Office	Govt. Office
	Shathi Medical	Clinic
	Tulatali Bazar Jame Mosjid	Mosque
	D.F.U.D	Govt. Office
Tulatuli Moddha Para	17 Tulatuli Govt. Primary School	Primary School
	Tulatali Moddha Para Jame Mosjid	Mosque
Upazila	Biam Laboratory School	School
	Raipura Upazila	Govt. Office
	Raipura Upazila Jame Mosjid	Mosque
	Upazila Land Office	Govt. Office
	Upazila Nirbahi Office Building	Govt. Office

**Table 6.2 Risky Structures in Raipura Upazila**

Structure Use	Number of vulnerable Structure			Total
	Less Risky	Moderately Risky	Highly Risky	
Administrative	4	-	-	<b>4</b>
Commercial Activities	17	2	3	<b>22</b>
Community Facilities	1	-	-	<b>1</b>
Education & Research	21	7	2	<b>30</b>
Government Services	6	2	3	<b>11</b>
Health Facilities	1	2	-	<b>3</b>
Industry	1	-	-	<b>1</b>
Miscellaneous	14	5	-	<b>19</b>
Mixed Use	147	13	6	<b>166</b>
Numbern-Government Service	3	-	-	<b>3</b>
Religious Facilities	1	1	-	<b>2</b>
Residential	95	23	10	<b>128</b>
Utility Facilities	1	-	-	<b>1</b>
<b>Total</b>	<b>312</b>	<b>55</b>	<b>24</b>	<b>391</b>

Source: Field Survey, 2016.



**Figure 6.1: Percentage of Risky Structures in Raipura Upazila**

### 6.3 Contingency Plan for Minimizing Earthquake Risk

Raipura Upazila fall in the earthquake zone II where the seismic coefficient is 0.05. So Raipura Upazila is less sensitive to the hazardous threat of earthquake. In case of vulnerability, it has been found out that very little amount of structure in the Raipura Upazila are vulnerable. **Map 6.2** shows contingency plan of Raipura Upazila. There are about 391 structures in Raipura Upazila which may need particular attention. All are found to be vulnerable and risky. For these structures, a contingency plan has been prepared to ensure safety in case of earthquake and hazardous calamities.

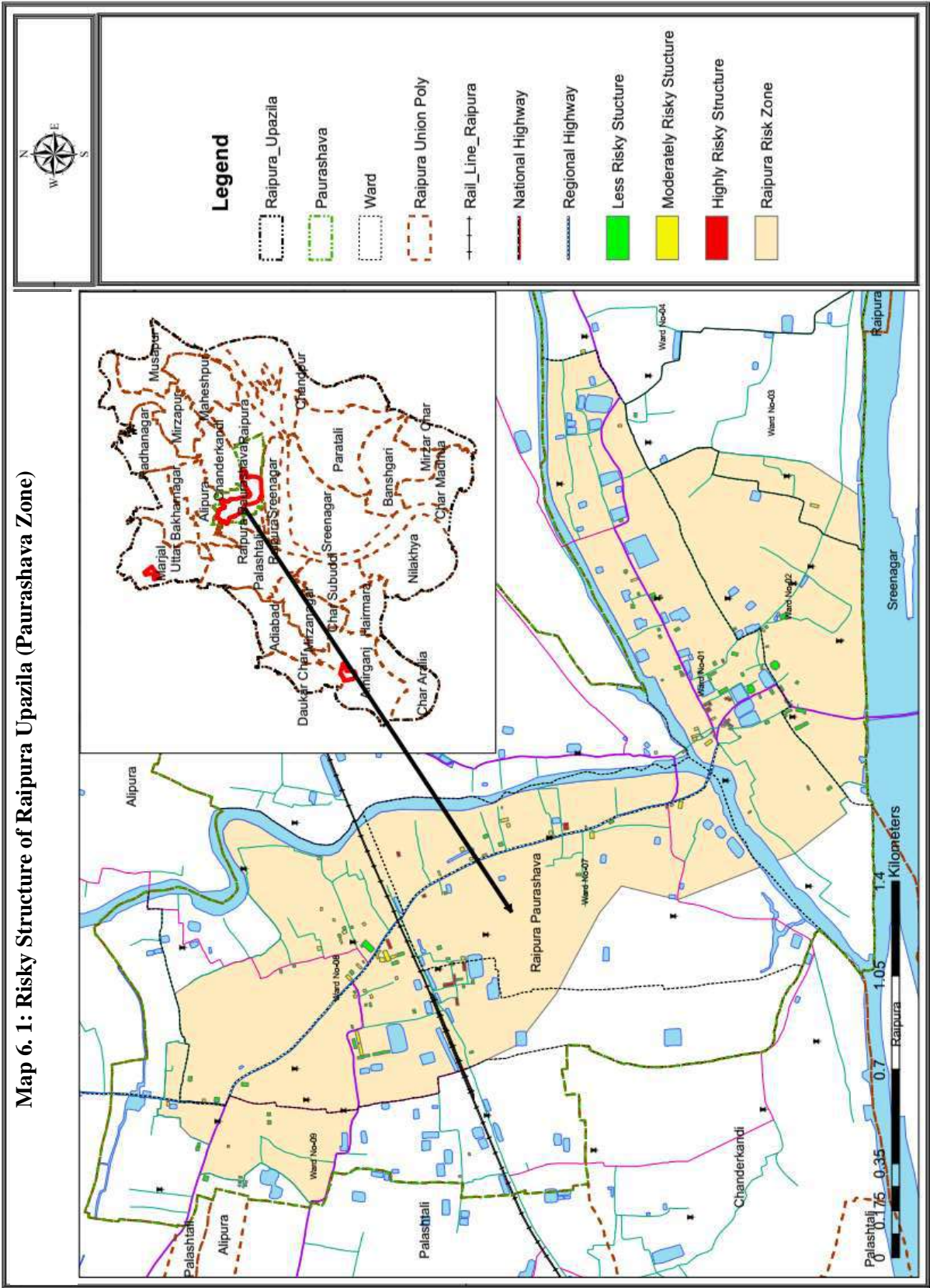
#### Planning Assumptions

- Earthquakes are impact type events and provide number warning preventing any pre-event response activities
- There is likelihood of secondary effects following an earthquake or aftershocks which may include fire, flood, liquefactions, subsidence and release of hazardous and toxic chemicals
- Strong aftershocks will continue for several days resulting in further building collapse
- Access will be severely restricted due to debris, collapsed bridges etc.

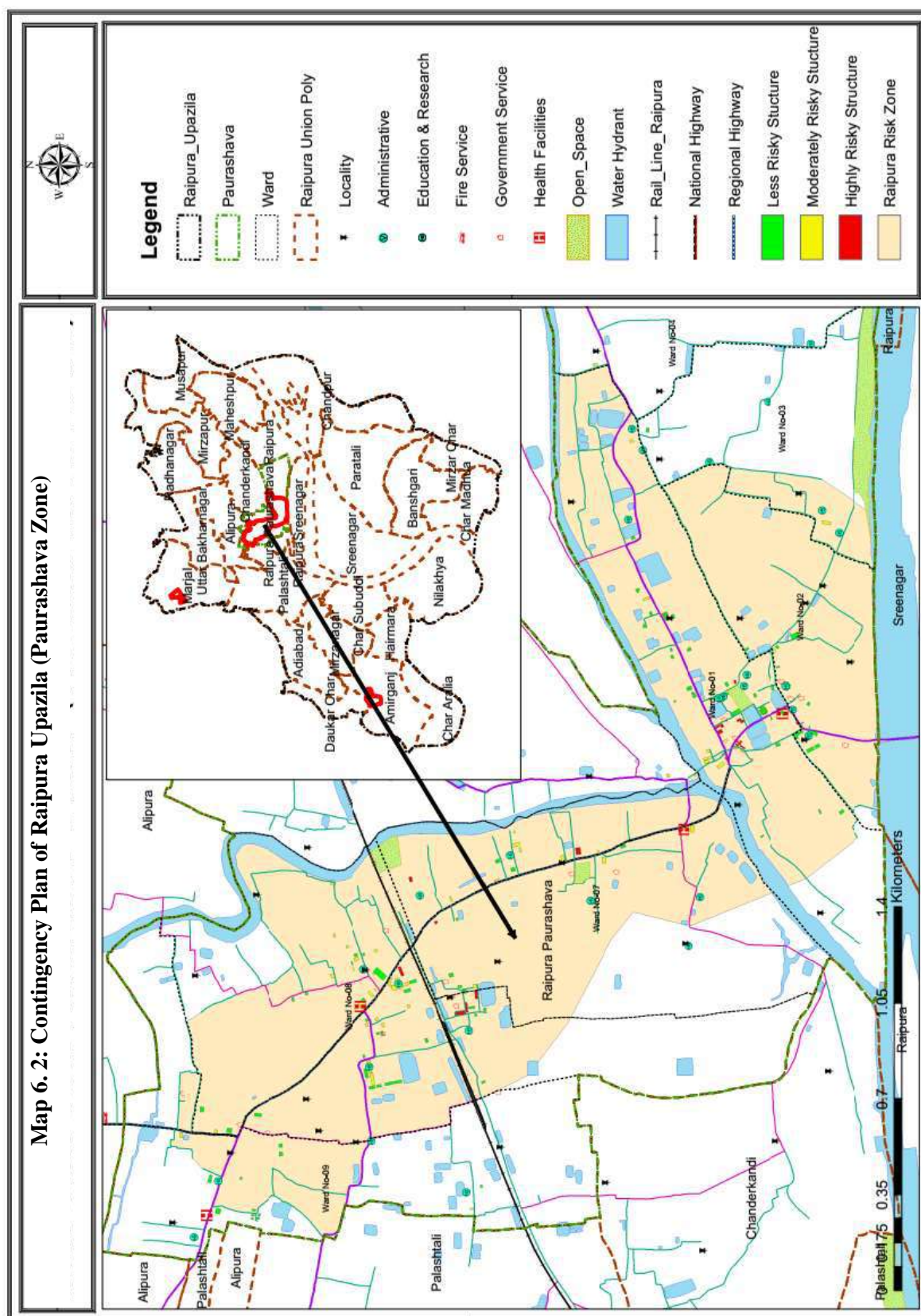
### 6.4 Operational Constraints

In order for the preparation of a successful contingent plan the first and foremost activity is to assess the disruptions and casualties which are likely to occur during the event as well as in the aftermath period. A pros and cons analysis of the operational constraints has been conducted for the earthquake hazard in Raipura Upazila. A detailed list of the constraints are given below:

- Disruption in the communication system
- Disruption in the key supplies (electricity)
- Lack of response capacity (first responders dead or injured)
- Unavailability of decision-makers\
- Disruption of infrastructure and transport system
- Limited search and rescue capacity
- Problems in Law and Order
- Lack of Open space
- Post-traumatic Stress Disorder







Following table shows sector wise Contingency Action Plan:

**Table 6.2: Sector Wise Contingency Action Plan**

Sectors	Actions	Physical Planning
Health	<ul style="list-style-type: none"> <li>Preparedness planning for Community Clinic</li> <li>Mobilization of doctors and medical teams</li> </ul>	<ul style="list-style-type: none"> <li>Location of Clinic (Existing and Proposed)</li> <li>Connectivity with the Clinic</li> </ul>
Food Security Cluster	<ul style="list-style-type: none"> <li>Supply and distribution of Food and relief</li> </ul>	<ul style="list-style-type: none"> <li>Location of Godown and Food Storage</li> </ul>
Shelter	<ul style="list-style-type: none"> <li>Identification of Shelter Place</li> </ul>	<ul style="list-style-type: none"> <li>Location of Open Space and Safe Government Institution, multipurpose of Government School College</li> </ul>
	<ul style="list-style-type: none"> <li>Identification of the people needing shelter in camps</li> </ul>	<ul style="list-style-type: none"> <li>Proximity of this place</li> </ul>
WASH	<ul style="list-style-type: none"> <li>Restoration of water supply and drainage</li> </ul>	<ul style="list-style-type: none"> <li>Identification of water hydrant and reservoir</li> </ul>
Logistics	<ul style="list-style-type: none"> <li>Risk Assessment</li> <li>Accommodations facilities for humanitarian workers (tents)</li> </ul>	<ul style="list-style-type: none"> <li>Accessibility to the vulnerable locations</li> </ul>
Fire Service	<ul style="list-style-type: none"> <li>Preparedness planning for Fire Service</li> </ul>	<ul style="list-style-type: none"> <li>Location of Fire Service Station</li> <li>Fire Service Route Planning</li> </ul>
Child Protection	<ul style="list-style-type: none"> <li>Family training</li> <li>Coordinate with other sectors</li> </ul>	
Early Recovery	<ul style="list-style-type: none"> <li>Governance</li> <li>Debris Management</li> </ul>	<ul style="list-style-type: none"> <li>Waste Disposal Site locations</li> </ul>

Source: Field Survey, 2016.

### 6.5 Physical Planning Approach

The above mentioned action planning approach are being delineated into physical planning approach. Those physical planning approach has been later integrated into five broad categories. Those categories of contingency plan has been delineated below.

- Road Widening and New Road Proposal**

The existing road has been widened in the whole Raipura Upazila. Besides new proposal for road has been prepared. The width of these road are determined considering the factor that in the time of disaster rescue team and other organization have proper accessibility to the affected area with safeguard tools. Besides, connectivity with the health facilities are also being considered so that affected population have least time to reach those facilities. Contingency plan focus on the connectivity among, risky zone and health facilities, water hydrant, safe government institution and open space. Road width standard has been set with planning team recommendations which has been detailed in the plan.

- Location of Health Facilities, Food Storage, Safe Government Institution**

Three hospitals have been identified in the whole upazila. All of them are in Paurashava. Besides these hospitals there are three clinic in the whole upazila. One is in the Paurashava area one in Amirganj and the other one is in Marjal union risk zone.



- **Locating Open Space**

There are seven large open space near Raipura Paurashava risk zone. Besides there are also many agricultural land beside the Paurashava risk zone and all other zones in the other union. In such case it can be concluded that ample open space is available if any disaster occurs.

- **Identifying water hydrant and reservoir and Supply system**

Raipura is rich in large amount of small and big ponds and beels. These waterbodies can be used as water hydrant during the time of fire hazards. Besides these Meghna and Kakon river flows through Raipura Paurashava which serves as the major water hydrant. Arial Khan River can also serve as the water hydrant in the Amirganj and Marjal risk zone. Route planning has been prepared for the transportation of water during hazard.

- **Identifying Fire Service Station and Fire Service Route Planning**

Fire service station of Raipura Paurashava is situated at Tulatuli Moddhopara area in Alipur Union. It is by the side of the main Regional Highways of Raipura upazila. Hence it well connected with the risk zone areas. Besides these proper road widening has been conducted for proper maneuvering of the vehicles.

## 6.6 Impact of Contingency Plan

The impact of the plan mainly due to the widening of the road. Because of road widening some of the structure being impacted. This structure has been identified and shown in the following Table 6.3.

**Table 6.3: Affected Structure due to Road Widening**

Structure Type	Number. of Structure
Katcha	7,725
Semi-Pucca	1,767
Pucca	1,332
Under Construction	22
<b>Total</b>	<b>10,846</b>

**Source:** Field Survey, 2016.

About 1332 pucca structure, 7725 katcha structure, 1767 semi pucca structure has been identified to be effected due to road widening. Katcha and semi pucca structure are mainly affected in the Raipura Upazila.

Raipura Upazila is situated on seismic zone II where earthquake coefficient is 0.05. Hence the probability of earthquake is really low with a greater return period. But there are some of the structure there which are risky because of their vulnerability. The contingency plan has proper support to eliminate the earthquake risk for those structures. Although the as per the plan road widening requires to effect on some the structures, but the total benefit for the whole Raipura Upazila will be maximum against earthquake.

## Chapter 7: Urban Area Plan

### 7.1 Introduction

Urban Area Plan is the third stage of the current plan package. This plan is based on the framework of the Structure Plan prepared in the earlier phase. The plan is intended to address those areas of the Structure Plan that are likely to face urban growth in the next 10 years.

### 7.2 Demarcation of the Planning Area

The total planning area is about 2338.55 acres (9.46 square kilometer) and there is about 248.49 acres (1.01 square kilometer) extended area in the structure plan. Total 9 wards is considered as the Urban Area which covers an area of 2090.06 acres (about 8.46 square kilometer). The Following **Table-7.1** shows planning area.

**Table 7. 1:** Planning Area of Raipura Pourashava

Ward Number.	Area	
	In square kilometer.	In acre
Ward-1	219.60	0.89
Ward-2	118.60	0.48
Ward-3	120.50	0.49
Ward-4	309.95	1.25
Ward-5	351.63	1.42
Ward-6	211.30	0.86
Ward-7	251.46	1.02
Ward-8	303.01	1.23
Ward-9	204.01	0.83
Sub-Total	2090.06	8.46
<b>Extension area</b>	248.49	1.01
<b>Total</b>	<b>2338.55</b>	<b>9.46</b>

Source: Field Survey, 2016.

### 7.3 Structure Plan and Landuse Proposals

In Structure Plan, different policies have been described for different sectors comprising Socio-Economic, Physical Infrastructure and Environmental Issues including different sub-sectors. The policy implication of these sectors has structured the Urban Area for next 20 years. Thus, Land use Plan is the reflection of Structure Plan policy which will revised after 10 years. **Map 7.1** shows the structure plan of Raipura Upazila.

Total Urban Area Plan is segregated under some broad classes that will basically guide future growth with wide aspects. Definitions of broad classes of Urban Structure Plan are given below for conceptualizing focus of the future magnitude as well as illustration of the policies and strategies.

**Agriculture:** Agricultural land denotes the land suitable for agricultural production, both crops and livestock. All types' agricultural activities such as crop production, vegetable production, and aquaculture etc. will be dominant and also fishing, poultry etc. will be included in this zone. About **449.85** acre of land has been proposed for agriculture purpose.

**Table 7. 2:** Structure Plan of Urban Area

<b>Zoning</b>	<b>Area (in acre)</b>	<b>%</b>
Agriculture	449.85	19.24
Core Area	242.08	10.35
Future Extension Urban	298.25	12.75
Future Urban	286.42	12.25
Sub Urban	1111.54	47.53
<b>Total</b>	<b>2338.55</b>	<b>100.00</b>

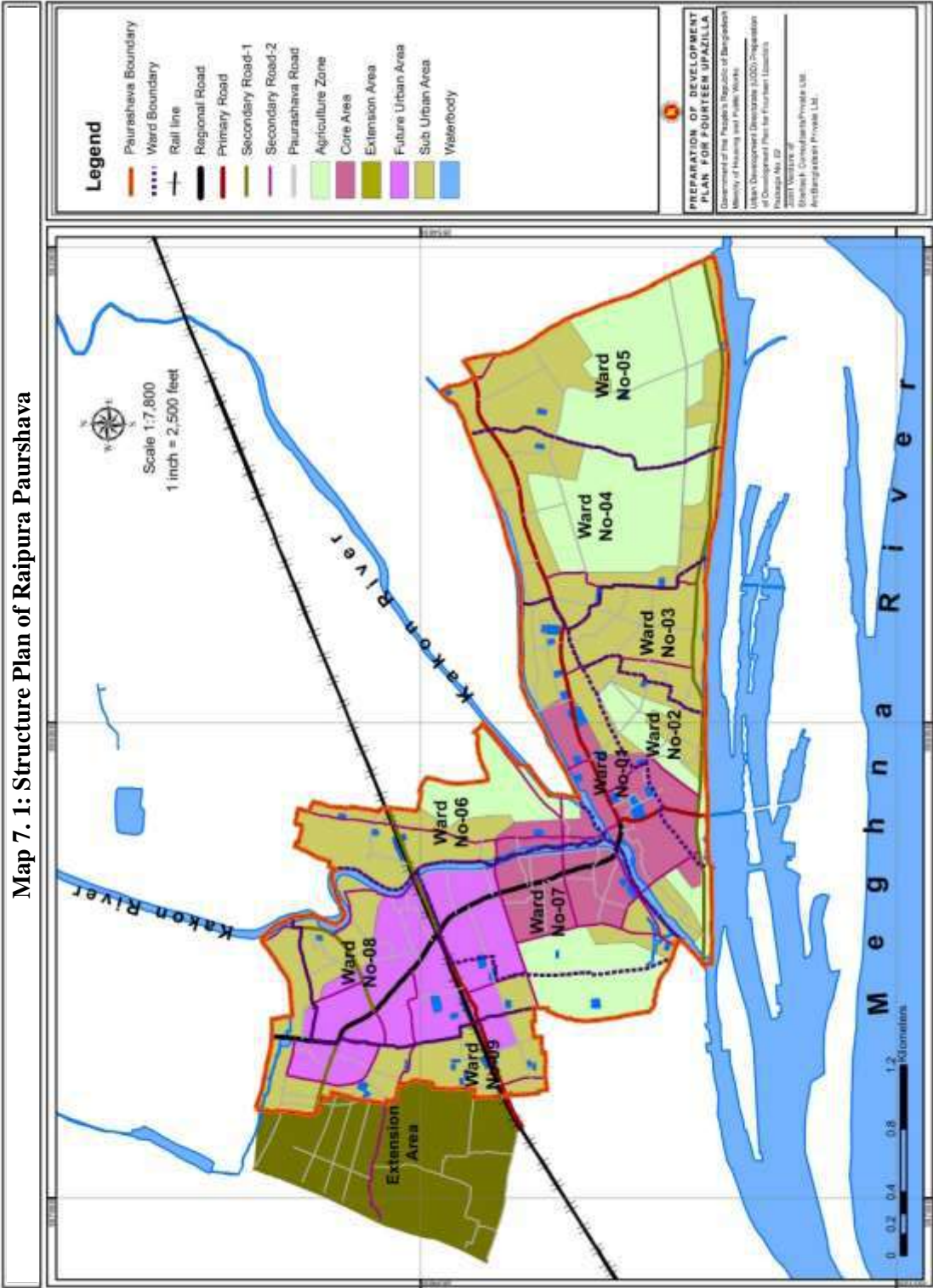
**Source:** Field Survey, 2016.

**Core Area:** This area is also known as built-up area. This is defined as the area which has the highest concentration of services; it also has the highest population concentration and density. About **242.08** acre of land has been proposed for Core Area.

**Future Extension Area:** This zone will be the required additional area for future planned urban development as per population projection. This zone also accommodates the required area for proposed public facility like administrative services, utilities, recreational area, major religious educational area, etc. About **298.25** acres of land has been proposed for Future Extension Area.

**Future Urban:** Future Urban refers to the extended developed area. It will be developed where the new growth trend can be identified. New service provisions and many new facilities can be provided in this area. The area will be developed as the future build up area and will support a huge population among the Paurashava as well as Upazila. About **286.42** acre area has been proposed for Future Urban.

**Sub Urban:** This zone is developing areas which will take further decades to reach the population densities of the urban core area. About **1111.55** acre area has been proposed for Sub-Urban Area.



## Land use

The Landuse Plan identifies approaches of planning existing and proposed landuse. It is based on the land use policies, guidelines and proposals including land use zoning plan.

In Urban area, 13 types of land uses are found. It is clearly evident from the table that residential landuse (51.85%) dominates the Paurashava area; followed by agriculture (37.03 %), water body (5.66%), circulation network (1.49%) and Commercial (0.81%). Proposed land use is projected for the target year 2033. More land has been proposed than existing landuse for accommodate target population according to planning standards. Following the planning standard, proposed land use has been calculated and shown in **Table 7.3** and **Map 7.2** and **Map 7.3**

**Table 7. 3:** Existing and Proposed Land Use.

Landuse	Existing Landuse		Proposed Landuse	
	Area (in acre)	%	Area (in acre)	%
Administrative	5.67	0.27	8.16	0.39
Agricultural	773.90	37.03	619.21	29.63
Circulation Network	31.24	1.49	112.2	5.37
Commercial Facility	16.90	0.81	20.95	1.00
Community & Religious	1.82	0.09	7.62	0.36
Education & Health	14.04	0.67	15.71	0.75
Industrial	0.09	0.00	3.40	0.16
Mixed use	10.83	0.52	20.20	0.97
Recreational & Open Space	32.95	1.58	41.12	1.97
Residential	1083.62	51.85	1113.20	53.26
Utility	0.32	0.02	7.77	0.37
Transportation & Communication	0.48	0.02	2.32	0.11
Waterbody	118.2	5.66	118.2	5.66
<b>Total</b>	<b>2090.06</b>	<b>100.00</b>	<b>2090.06</b>	<b>100.00</b>

Source: Field Survey, 2016.

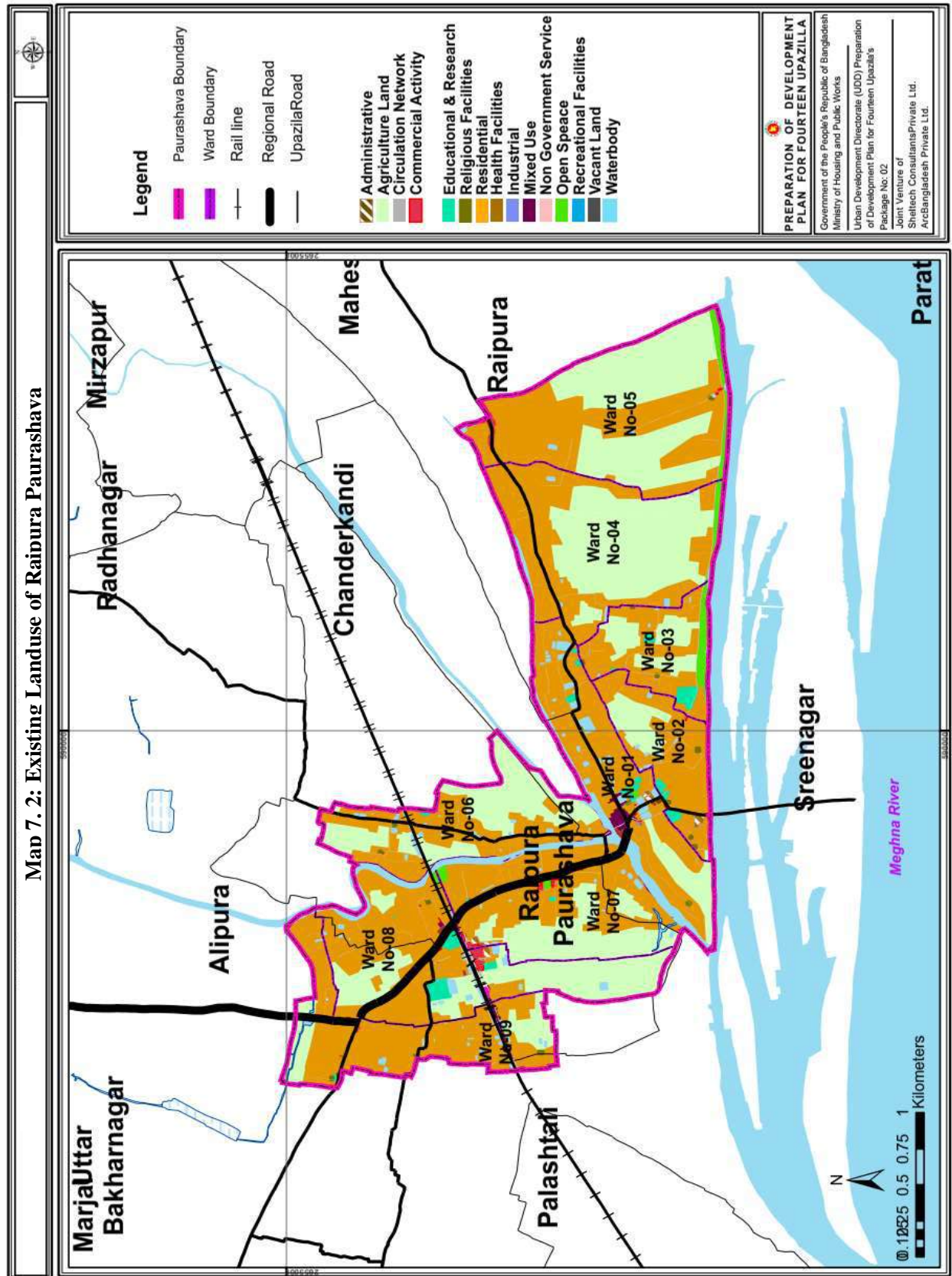
## Administrative

Administrative zone cover all kinds of government offices and Numbern-Government Offices including existing and proposed uses. The land of total 2.49 acre land has been proposed for administration. Currently 5.67 acre of land is already been used for administrative purposes. Future Government Office have been proposed at ward number 08.

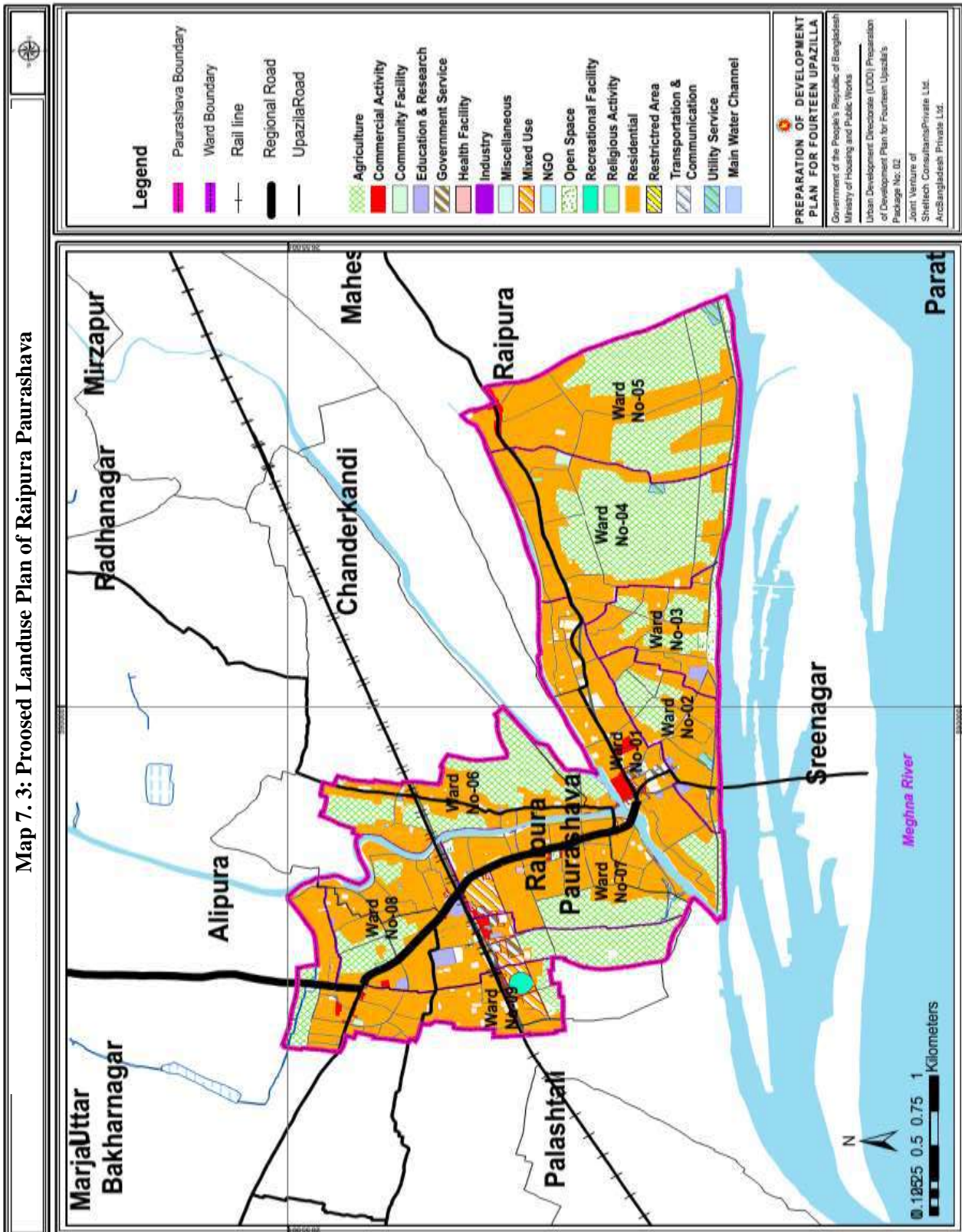
**Table 7. 4:** Proposals for Administrative Facilities.

Proposal	Ward Number.	Area (in acres)	Mauza JL Sheet	Plot Number
Future Government Office	08	2.49	Methikanda 073 002	4057,4067-4072,4091-4092
<b>Total</b>		<b>2.49</b>		





Map 7. 3: Proosed Landuse Plan of Raipura Paurashava





### Agricultural Area

Agriculture area covers activities related to agribusiness and agriculture related production activities; farm, fisheries etc. A land of 619.21 acre in total has been proposed to protect agriculture from unplanned development.

### Circulation Network

Circulation Network refers to all kind of public roads along with related facilities; footpaths, walkways, and embankment, railway etc. About 112.20 acres of land have been proposed for circulation network at Paurashava whereas at present about 31.24 acre of land have been used for these purposes.

### Commercial Activities

About 16.90 acres of land have already exist as commercial purpose. In response to the requirement, total about 4.05 acres of land has been proposed for Planning. Shopping Complex, Pauro Market, Kitchen Market etc. have been proposed at different ward. **Table 7.5** shows the proposals of commercial landuse. **Map 7.4** shows commercial facilities of urban area.

**Table 7. 5:** Proposals for Commercial Activities.

Proposal	Ward Number.	Area (in acres)	Mauza JL Sheet	Plot Number
Book Godown	6	0.25	Pocha Boalia 060 000	686
Cold Storage	8	0.13	Methikanda 073 002	3616
Neighborhood Market	9	0.85	Methikanda 073 001	301-303,282
Kitchen Market	9	0.07	Methikanda 073 002	3592, 3595
Pauro Market	1	2.75	Raipura 053 003	1521-1530, 1540
<b>Total</b>		<b>4.05</b>		

Source: Field Survey, 2016.

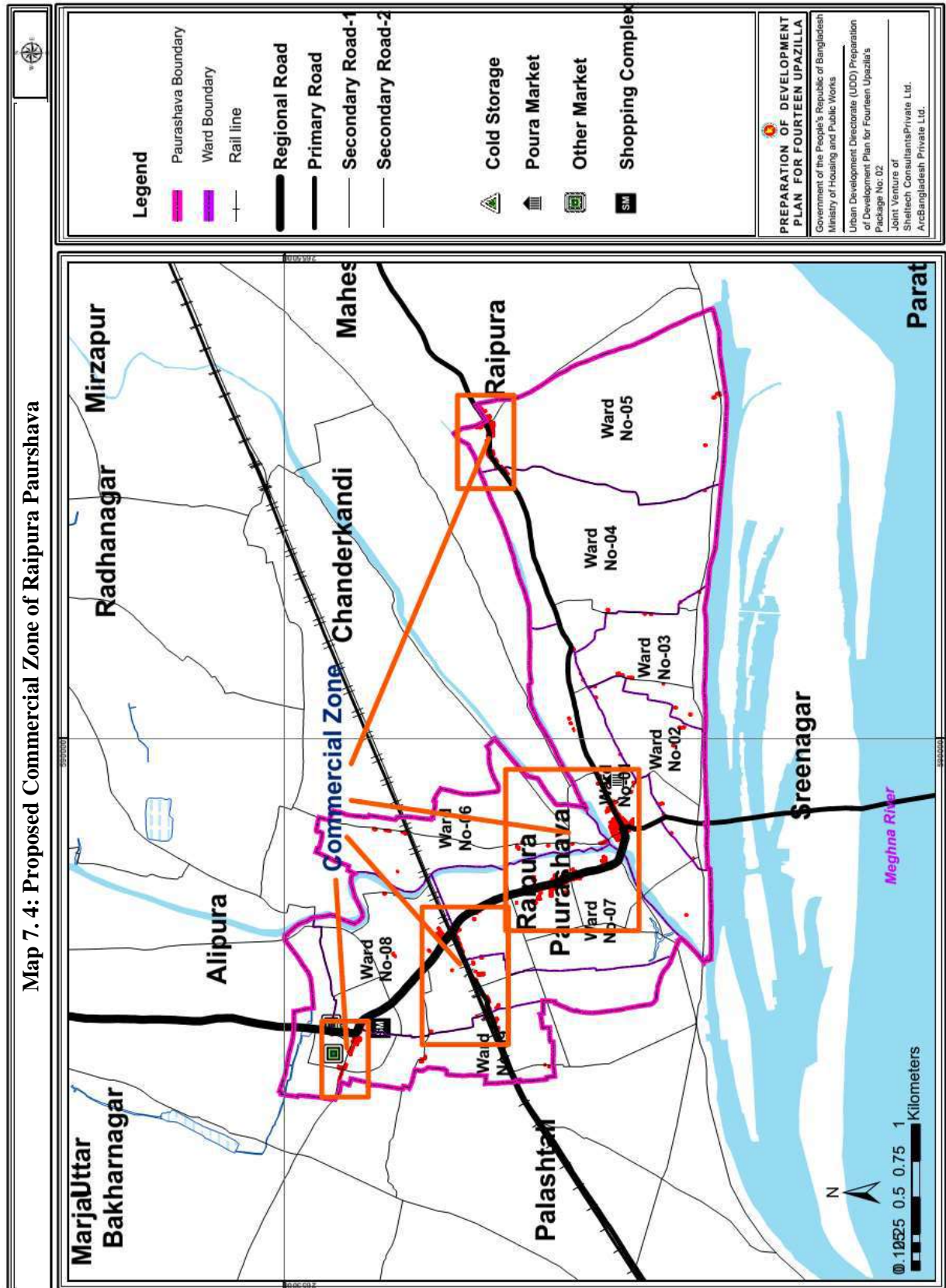
### Community and Religious Facilities

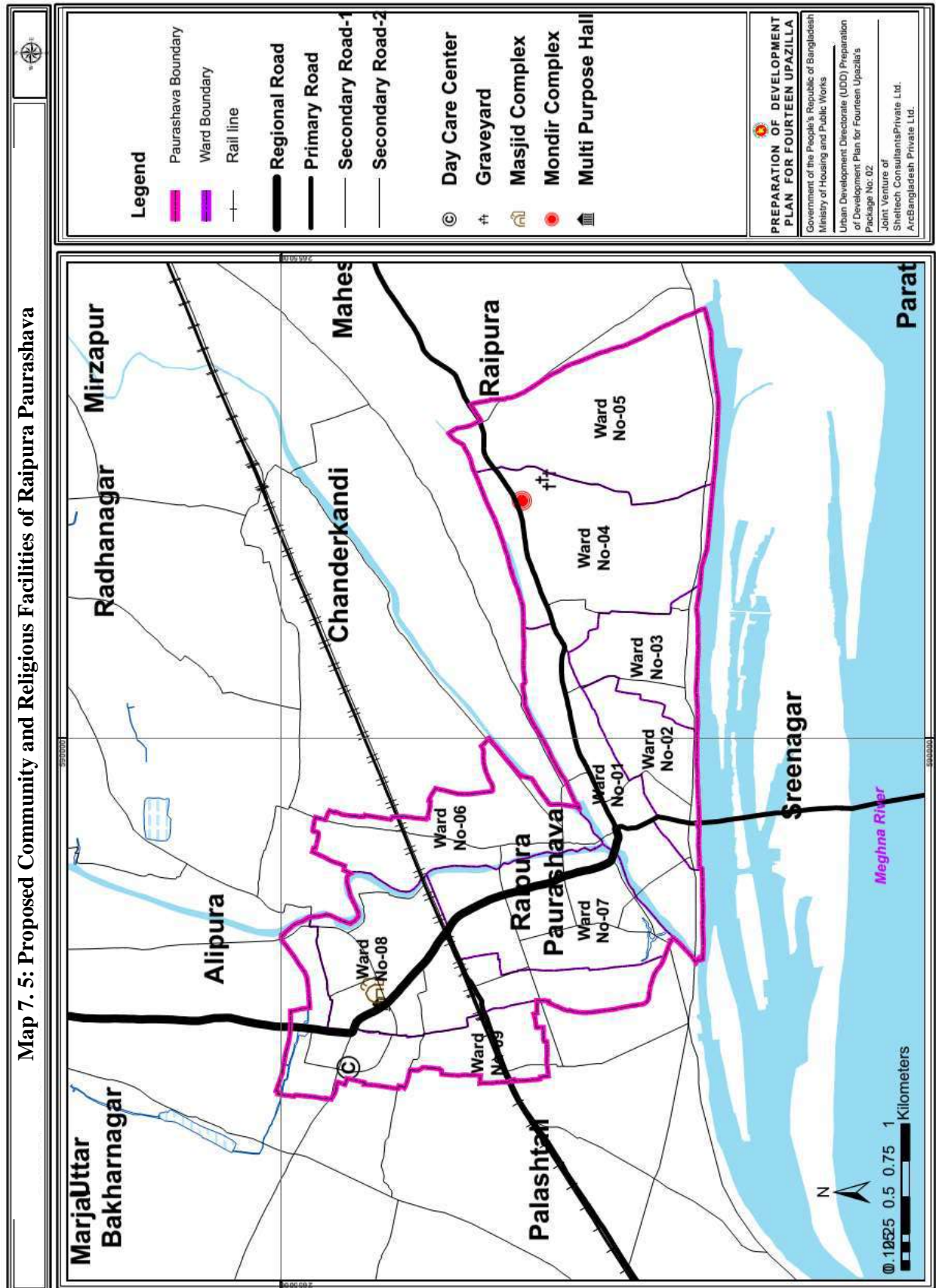
Community and Religious Facilities includes Mosque/Temple/Church, Eidgah, Community Center and Graveyard etc. To accommodate unanticipated spatial requirement of Community and Religious Facilities, total about 5.80 acres of land has been proposed. Masjid Complex, Graveyard and Multi-Purpose Hall etc. have been proposed at ward number 08, 04 and 08. **Table 7.6** and **Map 7.5** shows the proposals for of Community and Religious facilities.

**Table 7. 6:** Proposals for Community and Religious Facilities

Proposal	Ward Number.	Area (in acres)	Mauza_JL_Sheet	Plot Number
Day Care Center	9	0.74	Methikanda 073 001	324,327,328
Graveyard	4	2.03	Raipura 053 004	3887, 3888, 3897, 3898, 3902, 3903
Masjid Complex	8	0.85	Methikanda 073 002	3654, 3656,3668
Mondir Complex	4	0.42	Raipura 053 004	3544
Multi-Purpose Hall	8	0.19	Methikanda 073 002	3678
Youth Center	8	1.57	Methikanda 073 002	3775,3779,3780, 3783,3784
<b>Total</b>		<b>5.80</b>		

Source: Field Survey, 2016.





### Education and Health

Educational zone refers all kind of educational institutes; School, Colleges, Madrasha etc and Health Facilities includes Upazila Health complex, health center or maternity clinic. In the proposal, a land of 1.67 acre in total has been proposed for Education and Health services. Government College, Medical College, Clinic and Vocational Training Institute have been proposed. **Table 7.7** and **Map 7.6** shows the distribution of proposals for education and health facilities.

**Table 7. 7:** Proposals for Education and Health Facility

Proposal	Ward Number.	Area (in acres)	Mauza_JL_Sheet	Plot Number
Community Clinic	7	0.83	Pocha Boalia 060 000	1054,1055
Public Library	1	0.61	Raipura 053 001	611
Primary School	8	0.20	Nabiabad 063 003	4636, 4717
<b>Total</b>		<b>1.67</b>		

**Source:** Field Survey, 2016.

### Recreational Facilities and Open Space

Recreational facilities includes playground, park, neighborhood park, Stadium, etc. Considering future need about 8.17 acre of land has been proposed for recreational purposes. **Table 7.8** and **Map 7.7** shows the proposed lands to meet up the demand of projected people.

**Table 7. 8:** Proposals for Open Space and Recreational Facilities

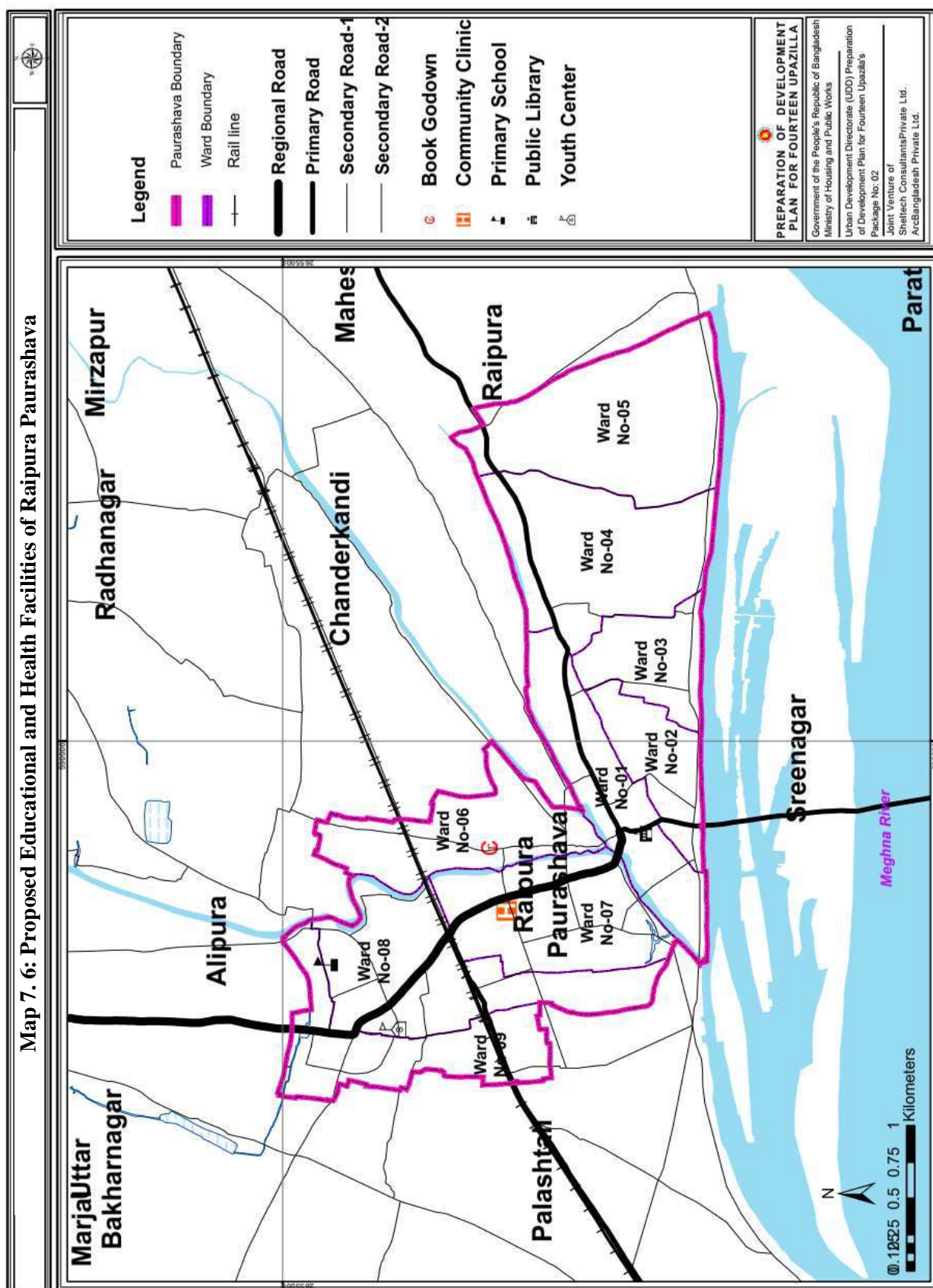
Proposals	Ward Number.	Area (in acres)	Mauza_JL_Sheet	Plot Number
Park	7,8	1.24	Raipura 053 001	611,788
Neighborhood Park	3	1.92	Raipura 053 003	2322-2330
Stadium	9	5.01	Methikanda 073 002	3095-4009,4033-4037,4041-4045
<b>Total</b>		<b>8.17</b>		

**Source:** Field Survey, 2017.

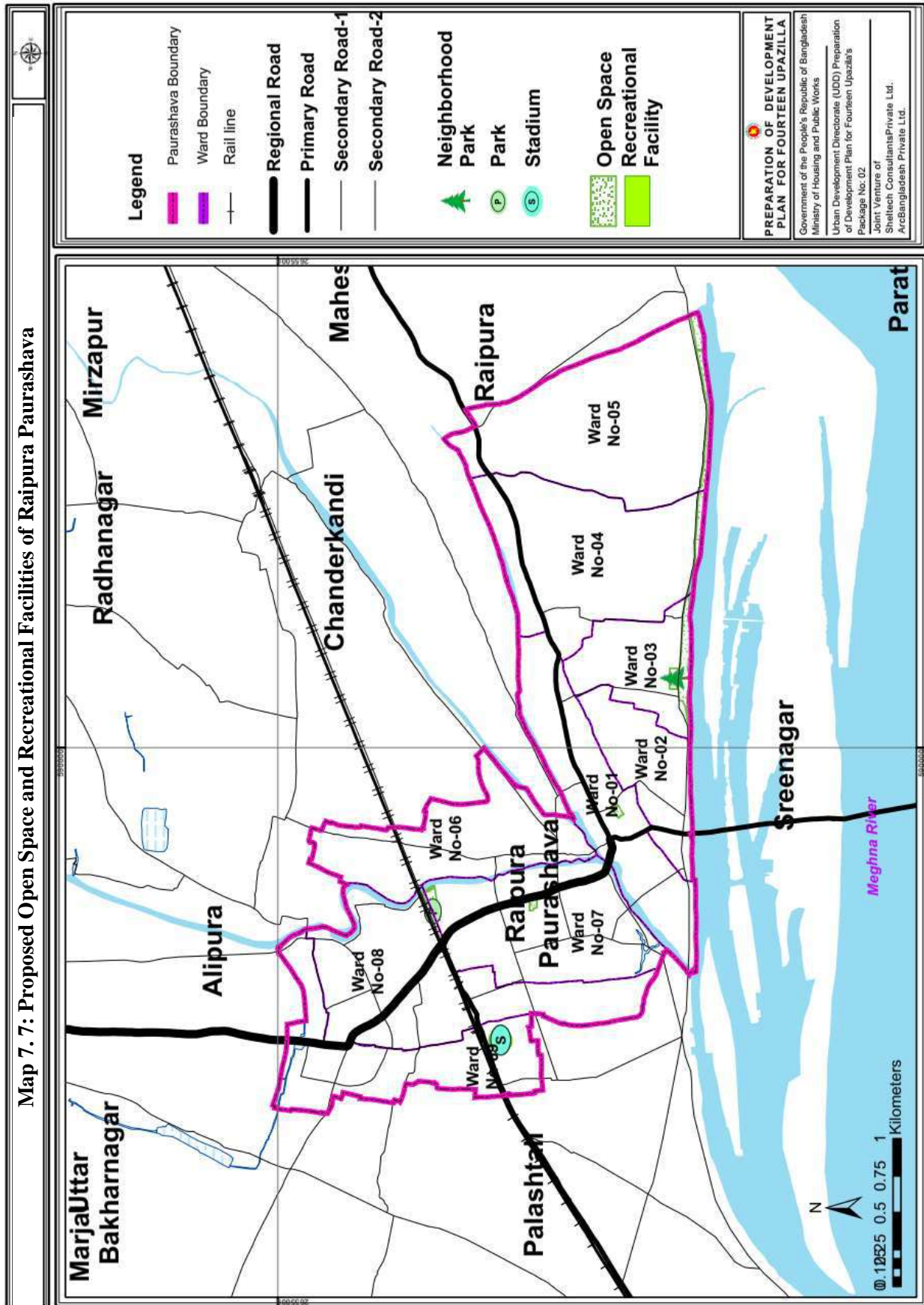
### Residential

Existing residential land of 1083.62 acre has been found for residential purposes. A land of 1113.20 acres in total has been proposed for future residential development at Paurashava and Palastali Union (proposed extension area of Paurashava area). About 7.95 acre resettlement housing has been proposed at ward number 05.





Map 7.7: Proposed Open Space and Recreational Facilities of Raipura Paurashava





### Terminus and Terminals

Transportation facilities include Bus / Truck Terminals, Other Vehicle Parking Space, Gas/ Fuel Station, etc. Total 1.84 acres of land has been proposed including various facilities such as Bus Terminal and CNG/Tempo. **Table 7.9** shows the proposed transportation proposals.

**Table 7. 9:** Proposals for Transport Facilities.

Name	Ward	Mauza	Plot Number	Area
Tempoo Stand	Ward No-09	Methikanda 073 002	3531	0.232605
Tempoo Stand	Ward No-09	Methikanda 073 002	3530	0.116351
Tempoo Stand	Ward No-09	Methikanda 073 002	3526	0.072732
Tempoo Stand	Ward No-09	Methikanda 073 002	3531	0.000382
Bus Terminal	Ward No-08	Methikanda 073 002	4064	0.000991
Bus Terminal	Ward No-08	Methikanda 073 002	4060	0.253151
Bus Terminal	Ward No-08	Methikanda 073 002	4059	0.179404
Bus Terminal	Ward No-08	Methikanda 073 002	4058	0.107363
Bus Terminal	Ward No-08	Methikanda 073 002	4057	0.152536
Bus Terminal	Ward No-08	Methikanda 073 002	4055	0.117752
Bus Terminal	Ward No-08	Methikanda 073 002	4056	0.020046
Bus Terminal	Ward No-08	Methikanda 073 002	4054	0.073221
CNG/Tempoo Stand	Ward No-07	Pocha Boalia 060 000	836	0.258009
CNG/Tempoo Stand	Ward No-07	Pocha Boalia 060 000	835	0.252814

Source: Field Survey, 2017.

### Mixed Use

Mixed use zones have been recommended to allow some flexibility in development. Total 20.20 acres of land has been proposed for mixed uses. This zone will allow residential structures together with commercial uses.

### Utility and Waste Management

Utility and Waste management includes Solid waste disposal site, waste transfer station, Water Treatment Plant and fire service etc. Total 7.48 acres of land has been proposed in the Paurashava. **Table 7.10** and **Map 7.8** shows the proposal to meet up the demand of projected people.

**Table 7. 10:** Proposals for Utility Services

Proposal	Ward Number.	Area (in acres)	Mauza_JL_Sheet	Plot Number
Night Soil Treatment Plant	4	1.45	Raipura 053 004	3072-3476
Slaughter House	1	0.3	Raipura 053 003	1091
Waste Transfer Station	8	0.15	Methikanda 073 002	3621, 3622, 3632-3635
Waste Disposal Station	5	3.45	Raipura 053 005	5700-5706, 5737-5744

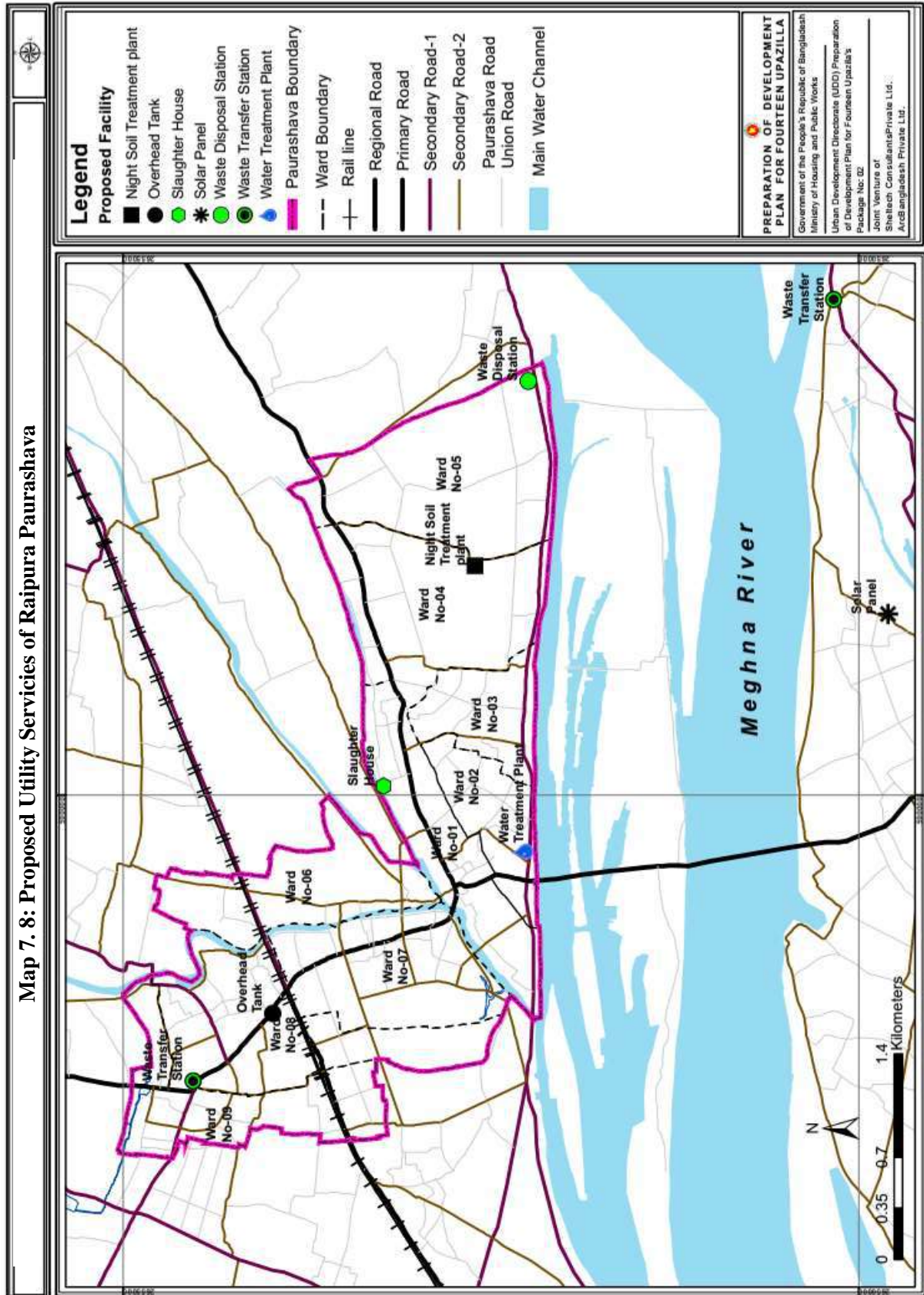
Preparation of Development Plan for Raipura Upazila (2013-2033)

Water Treatment Plant	2	2.10	Raipura 053 003	1881,1883,1884, 1910-1917
Water head Tank	6	0.03	Pocha Balia 060 000	20
<b>Total</b>		<b>7.48</b>		

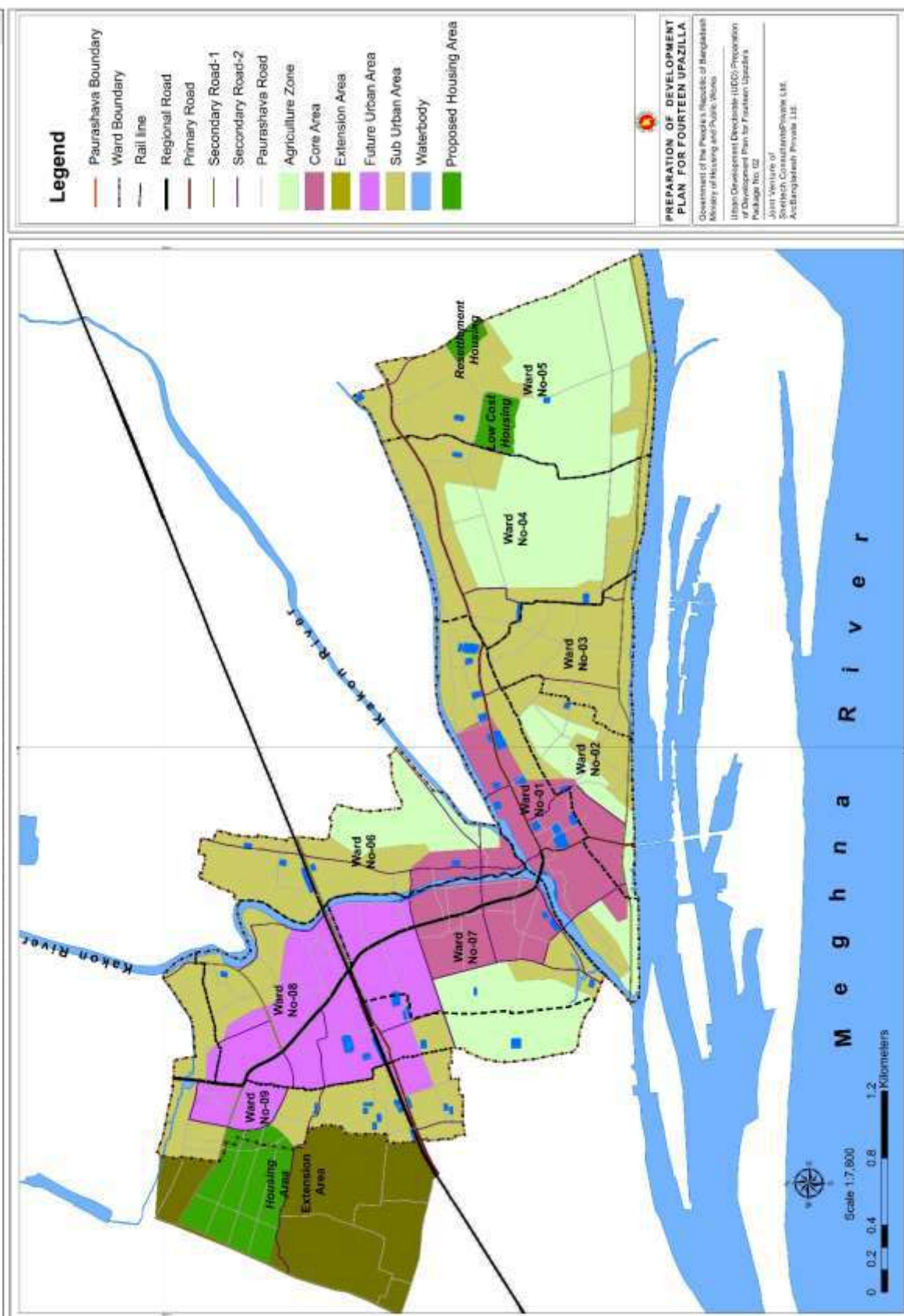
**Source:** Field Survey, 2017.

### Water Body

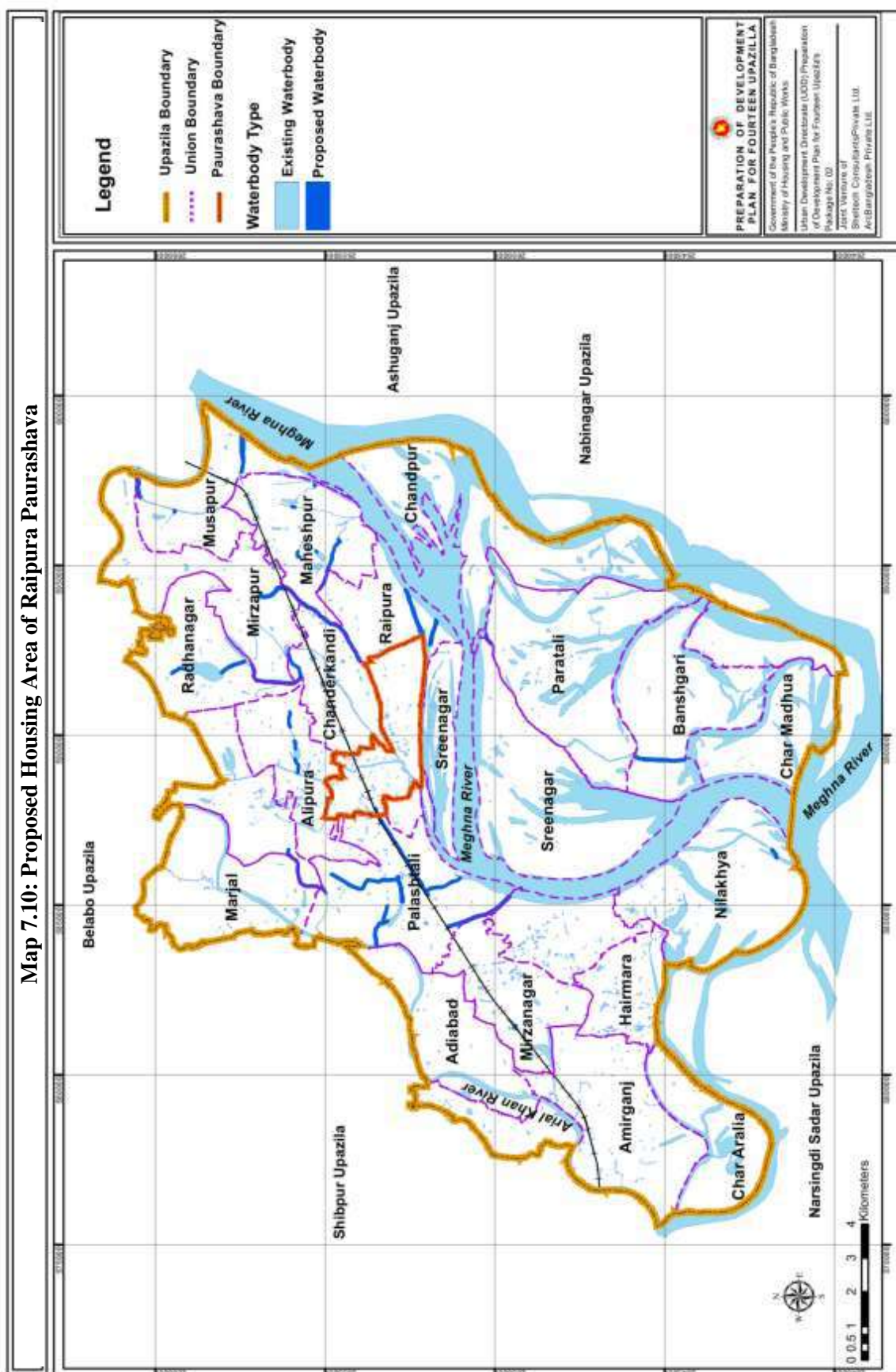
Water body contains river, canal, khal, beel, wetland, low laying areas and ponds. The plan suggest to preserve most of these water bodies for two purposes, first, to serve as source of water, second to serve as water retention area during monsoon. The ponds with an area equal to or more than 25 acres are proposed for preserving water as retention pond. In the proposal total about 118.20 acres of water body has been proposed to preserve water.



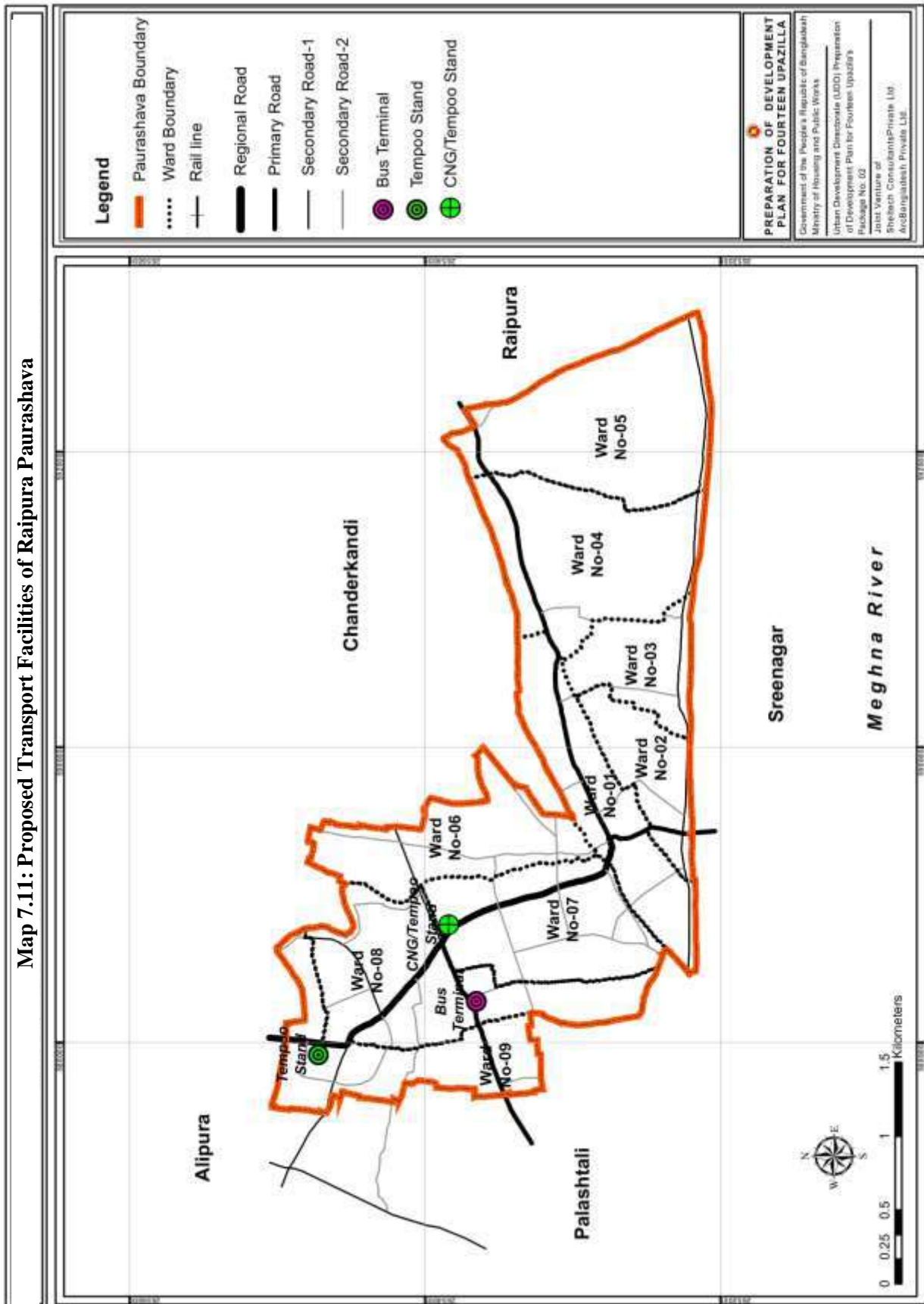
Map 7.9: Proposed Housing Area of Raipura Paurashava







Map 7.11: Proposed Transport Facilities of Raipura Paurashava





## 7.4 Transportation and Traffic Plan

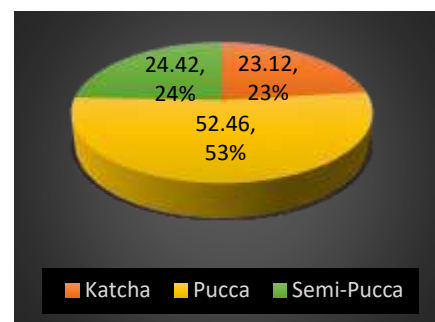
Transport planning is an important part of overall town and country planning. It deals with the transport network which is an important channel of communication. The main concern of this plan is to optimize the performance of the existing transport system. The objective is to make the town congestion free, reduction of social cost, enough parking spaces and establish appropriate traffic management system.

### 7.4.1 Existing Conditions of Road Network

Raipura Upazila and Narsingdi District are well connected with communication network of the country. The national Highway N-02 from Dhaka to Sylhet passes over at northern part of the Upazila.

#### Functional Classification of Road

In Raipura Paurashava, most of the roads are pucca. However, the overall road condition of Raipura Paurashava is satisfactory and pavement condition is good. From the survey data, it has been observed that Paurashava area comprises of about 45.969 kilometer roads. Among these about 52.46 % roads are pucca which is followed by katcha (23.12%) and semi-pucca (24.42 %) roads.



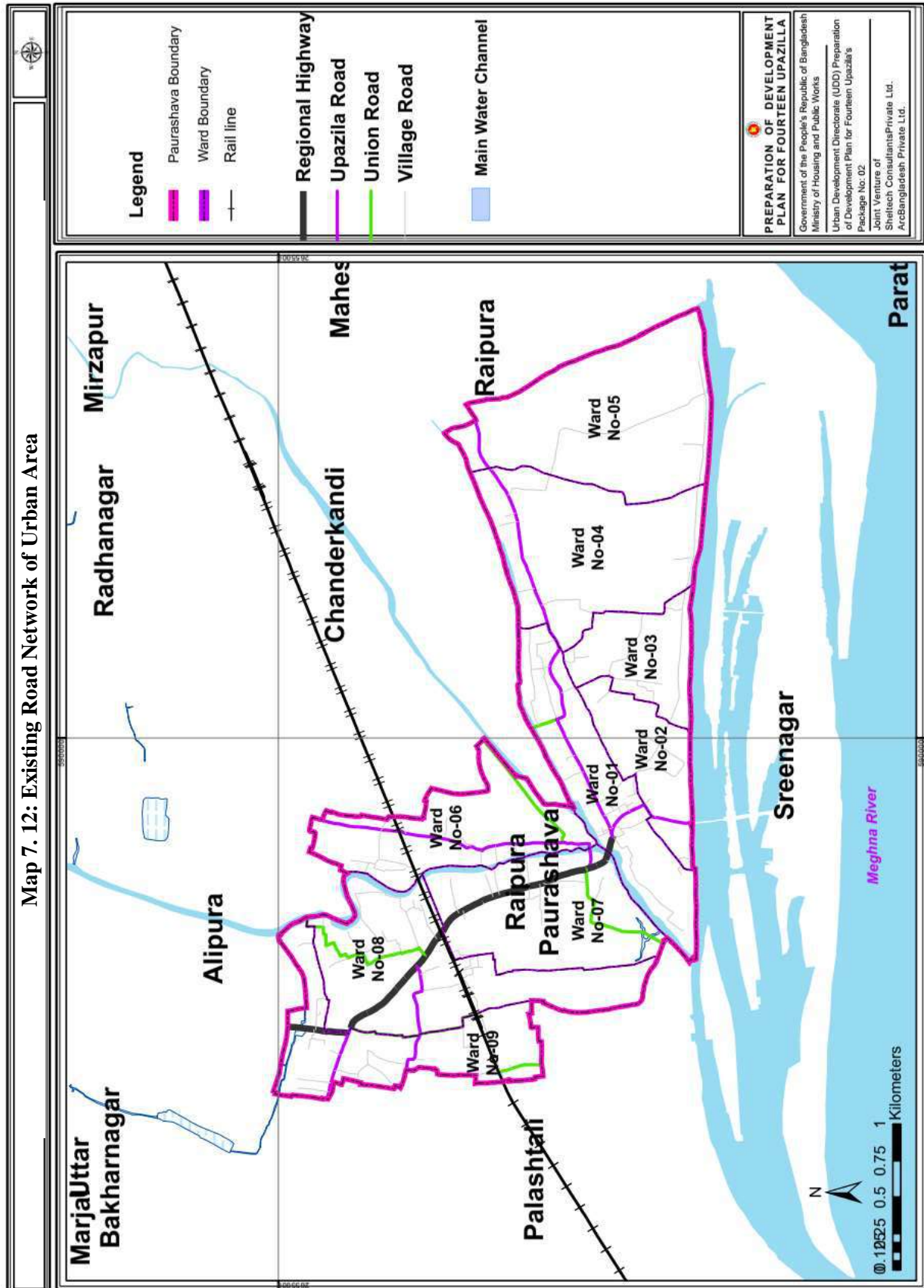
**Fig 7. 1:** Road Type

Roads of Raipura Paurashava also have been classified according to hierarchy such as Regional Road, Upazila Road, Paurashava Road and Access Road. From the survey, it has been observed that about 68.20 % are Paurashava roads followed by 5.99 % Regional roads and 7.44% Upazila roads. Existing Road network shown in **Map 7.12**.

**Table 7. 11:** Road Category

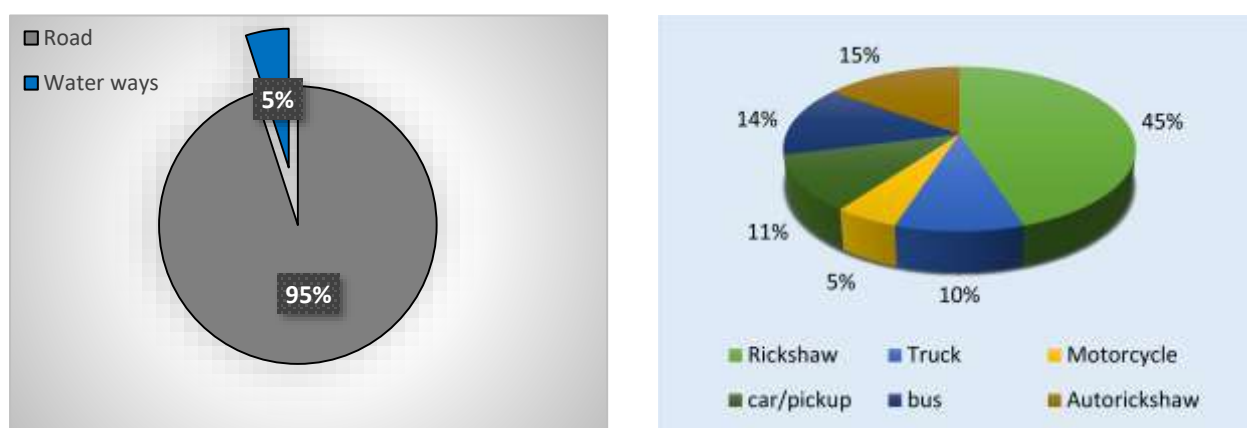
Categories of Roads	Length (kilometer)	%
Regional Highway	2.75	5.99
Upazila Road	7.44	16.21
Paurashava Road	31.31	68.20
Access Road	4.40	9.58
<b>Total</b>	<b>45.90</b>	<b>100</b>

**Source:** Field Survey, 2016



## Mode of Transport Network

Transportation and Traffic Management Survey results shows that number public and private bus service is available for internal movement of passengers. The mode of transport is mainly CNG, truck, van, motor cycle, tempo, rickshaw and auto-rickshaw etc. Van is used for carrying both passengers and goods. Major goods transport is made by truck for long distance traffic. The average percentage of traffic composition are bus 10%, Truck 5%, motorcycle 8%, car/pickup 8%, rickshaw 45% and auto rickshaw/tempo 15%. Along with this as there are very limited number of waterways are available in Raipura. A small percentage of total households also use waterways.



**Fig 7.2:** Mode of Communication

## Type and Condition of Roads

About three fourth of total roads are bituminumberus road. Concrete made roads are the second highest in urban area. About one third of total road's condition is good, on the other hand, more than about half of total roads are deteriorated.

## Transportation Network

Considered the primary road of Raipura Paurashava is well connected with other part of the Upazila areas and also connected with secondary and access roads and all these roads maintain good connectivity within the Paurashava area. But these roads are not wide enough on the basis of standard. So, the narrow roads have to be widened on the basis of and also traffic management system need improved. Besides, some new roads need proposed to accommodate the future travel demand. Moreover, footpath facilities have to be introduced to meet up the demand of pedestrians.

## Design Principals and Standards

In preparing detail design some basic principals have been followed:

### A) Intersection improvement

This measures can be categorized into 2 types, are as follows:

- a. Channelization
- b. Improvement of Intersection geometry

### Channelization

Channelization of intersection at grade is the separation or regulation of conflicting traffic movements into definite paths of travel by the use of pavement markings, raised islands, or other suitable means to facilitate the safe and orderly movements of both vehicles and pedestrians.

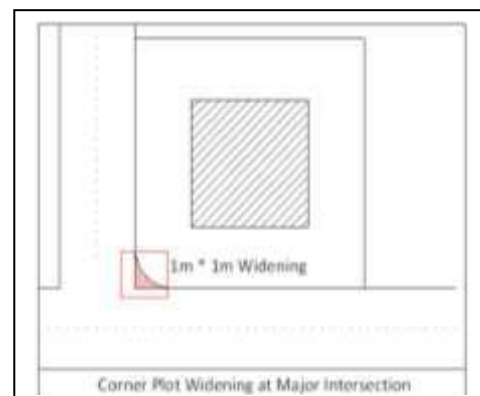
Channelization is done for:

- Separation of conflicts (by using roundabout, raised island, etc.)
- Reduction of conflict points
- Reduction of excessive pavement areas

### Improvement of intersection geometry includes

- Corner Plot widening
- Establishment of Traffic islands

According to Building Construction Act, 1996, in each Corner plot of major intersection, 1m×1m land area has to be open for traffic movement.



**Fig 7. 2:** Corner plot Widening at Intersections

### B) Land use Proposals at the Major Intersections

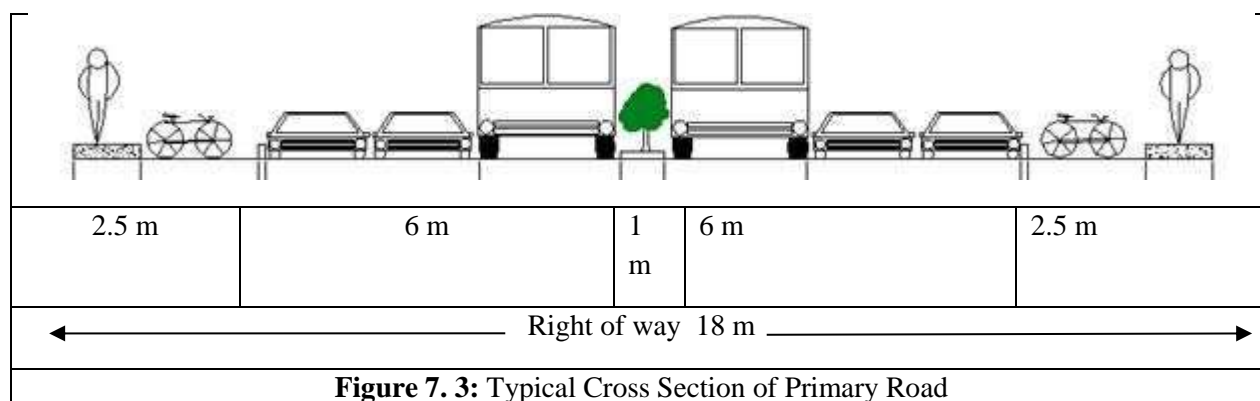
According to Building Construction Act, 1996, the construction permission of Shopping Complex, Cinema Hall or similar type of buildings are restricted within 50 m (164 ft) from major road intersections to avoid traffic congestion.

### C) Prioritization in ROW Space Allocation according to Road Hierarchy

In pertaining with the National Land Transport Policy, 2004, for promoting an efficient road transport system, provision of Motorized and Numbern-motorized vehicles is prioritized. Therefore, effective road space allocation and utilization is also emphasized in national policy.

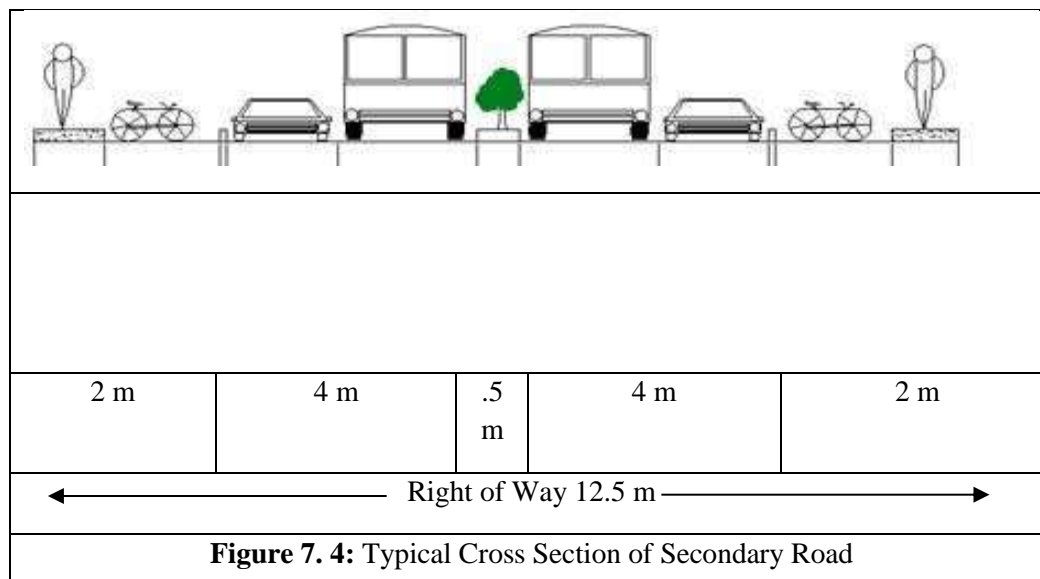
### Primary Road

Provide four lane (12 m) for motorized vehicles including Bus, Car and Jeep etc. The width of each lane is minimum 3 m depending on the availability of space. Pedestrian paths as per existing demand (minimum 1.5 m).



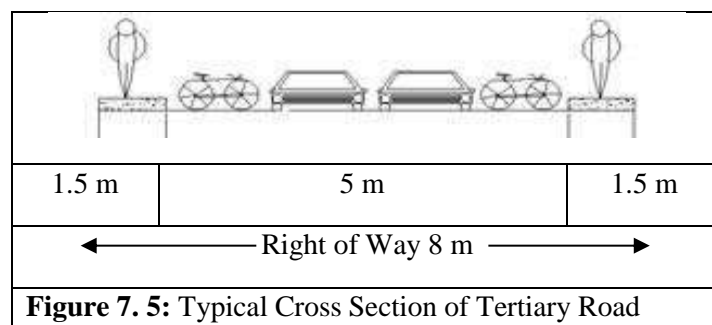
### Secondary Road

Provide four lane (8.0 m) for motorized vehicles including Bus, Car and Jeep etc. The width of each lane is minimum 2.0 m depending on the availability of space. Pedestrian paths as per existing demand (minimum 2.0 m).



### Tertiary Road

Provide one lane (5 m) for motorized and numbern- motorized vehicles including Car, Jeep, Motorcycle and Rickshaws etc. Pedestrian paths as per existing demand (minimum 1.5 m).



### Access Road

Provide one lane (3 m) for motorized and numbern- motorized vehicles including Car, Jeep, Motorcycle and Rickshaws etc. The width of each lane is minimum 2.5 m depending on the availability of space.

#### 7.4.2 Transportation Network Plan

Transportation Network Plan covering its development plan proposals and management of the project area up to the year 2033. Existing transportation facilities and proposal on the important facilities such as, bus terminal, truck terminal, rickshaw/van stands, baby taxi/tempo stands and passenger sheds for local bus users are described in this section.



### Road Network Plan

The proposed best suitable road hierarchy for the study area has been determined considering road standard by Planning Commission, 2004 and LGED, 2005. The aim of planning team is to design urban roads with a clear functional hierarchy. Primary roads (Class A & B) are those major routes specially designated to channelize large volume of traffic moving longer distances from one locality to another; Secondary collector and access roads provide for shorter journeys to schools, shops and recreation, and give access to residential plots. By creating a residential road pattern that discourages thorough traffic, residential amenity-traffic numberise, accidents, and delays to pedestrians crossing roads-can be protected.

**Table 7. 12:** Recommended Road Hierarchy.

Hierarchy (Planning Commission,2004)	Hierarchy (LGED,2005)	Recommended Hierarchy Type	Width (ft.)
National	National	National	80-200
Regional	Regional	Regional	60-100
Feeder A	Zila	Primary	40-60
Feeder A/B	Zila/Upazila	Primary	40-60
Feeder A/B	Zila/Upazila	Secondary-1	30-40
Feeder B	Upazila	Secondary-1	30-40
Union/Paurashava Road	Union Road	Secondary-2	25-35
Union/Paurashava Road	Union Road	Tertiary	20-25
Village Road	Village Road	Access Road	N.R

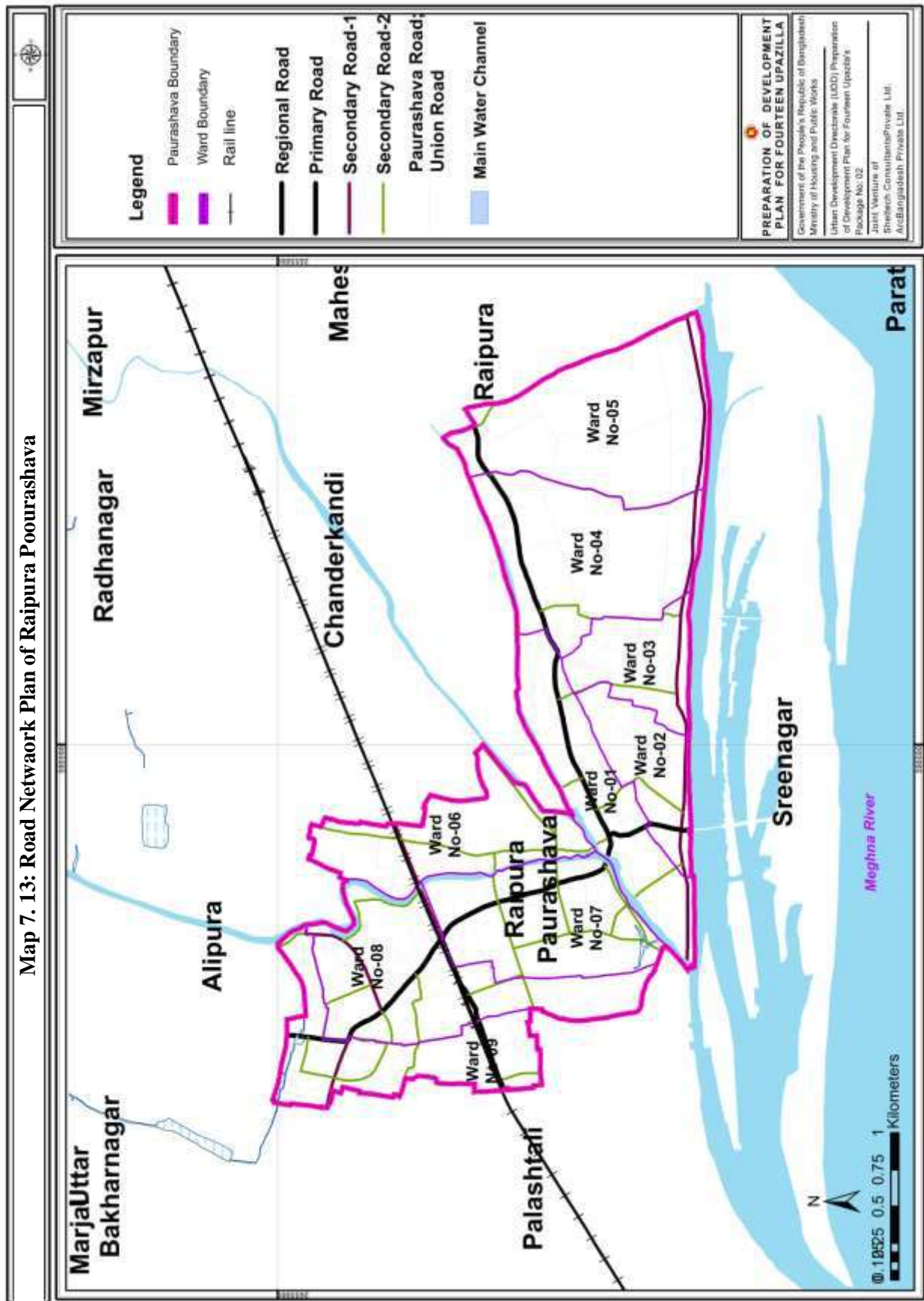
Source: Field Survey, 2016

Existing road network covers most of the area but not interconnected and in scattered condition. In the road network plan, consultants have tried to meet the problems by proper channelization and widening of roads. As a result, proposed new roads will make a planned circulation network through the connection with existing roads of total. About 67.77 kilometer new roads have been proposed and about 21.78 kilometer roads have been proposed for widening. The proposed road length has been shown in **Table 7.13**.

**Table 7. 13:** Proposed Roads in Urban Area.

Ward Number	Existing Length(KM)	Proposed Length(KM)
Ward No-01	7.54	8.90
Ward No-02	3.07	5.32
Ward No-03	3.84	5.20
Ward No-04	4.93	8.16
Ward No-05	3.40	6.61
Ward No-06	4.70	5.63
Ward No-07	4.93	9.18
Ward No-08	7.58	10.34
Ward No-09	6.00	8.19
<b>Total</b>	<b>45.99</b>	<b>67.53</b>

Source: Field Survey, 2017.



The proposal should be implemented in near future to ensure smooth traffic flow in the town. In case of major road network (primary, secondary and even collectors), it would be essential to earmark the ROW as per the UDD planning standard but not acquiring the land right at this movement. The original owner can continue to use the land for the same purpose as of now but number change in land use should be allowed. It would be essential to build “bus-bays” as part of the geometric design standards, so that buses do not stop on a traffic lane while loading and unloading of passengers. Proposed primary, secondary and collector road network have been listed below.

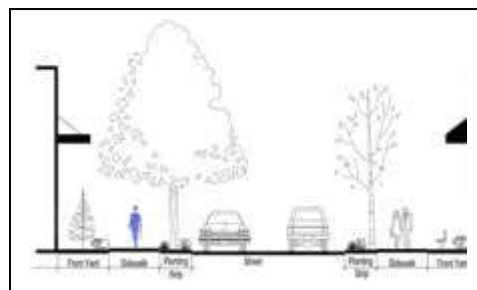
### 7.4.3 Plan for Transportation Facilities

#### Terminal Facilities

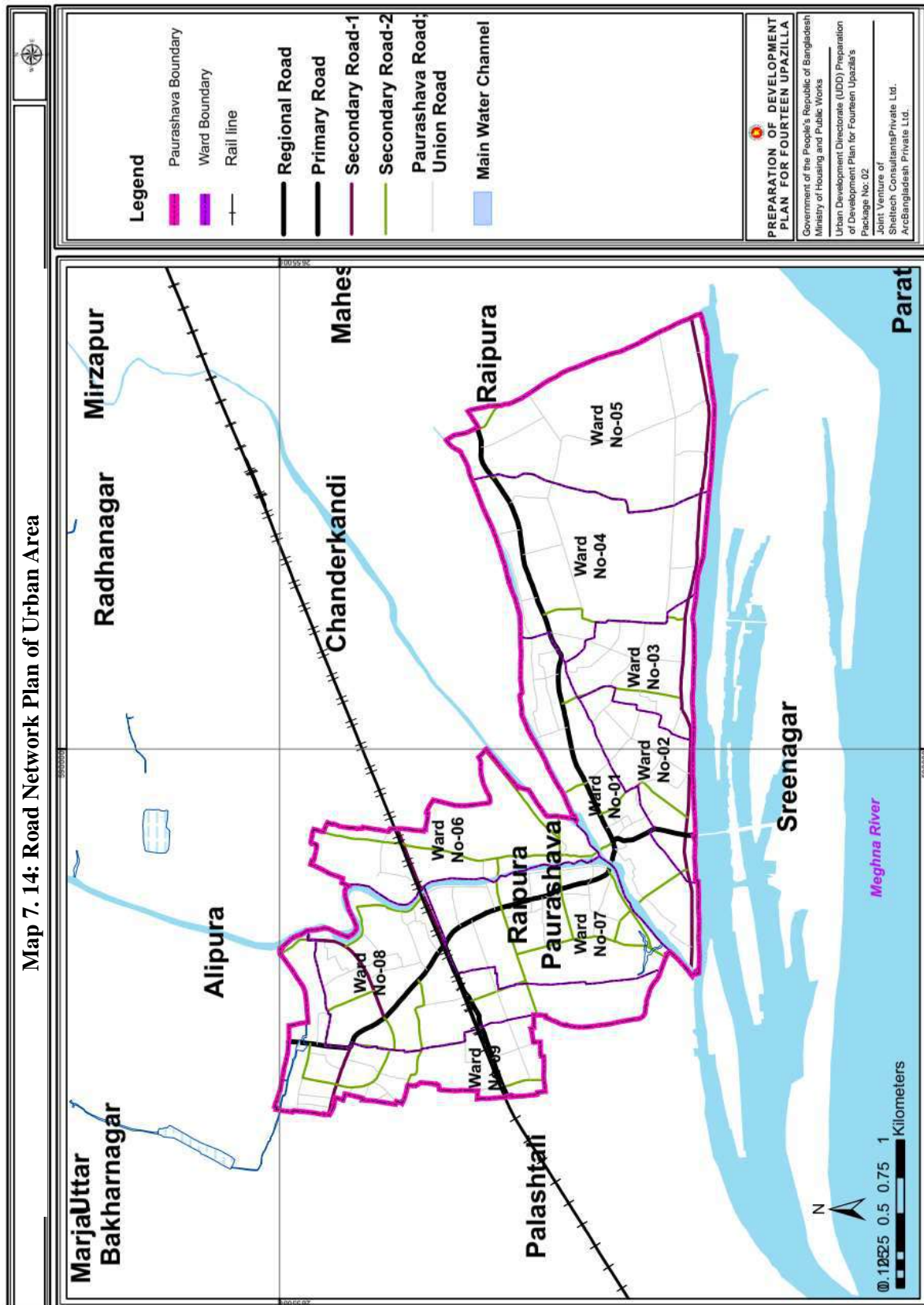
- **Bus Terminal:** One bus terminal has been proposed at ward number 08. The proposed terminal will comprise about 1.11 acre areas.
- **Auto/ Rickshaw Stand:** One Auto/Rickshaw stand has been proposed at ward number 09. The proposed terminal will comprise about 0.50 acre areas.

#### Footpath

More than one third of the total trips are performed by walking, which is a good indicator to ensure sustainability for transportation and for the city. This also indicates the compact nature of the development. The travel distance information also suggests a lower travel distance for everyday job, school and shopping. People can easily perform that by walking. However, there is absent of footpath in the Paurashava area. This study suggests a network of footpath that can connect the transport stoppage with the important activities such as commercial centers, schools, hospital etc. In such case footpath is proposed in some area. Standard Footpath width is 1.65 m. Footpath has been proposed beside primary and secondary road at Paurashava area



**Fig 7. 6:** Typical Cross Section of Footpath



## Bus Stoppage/ Bus Bays

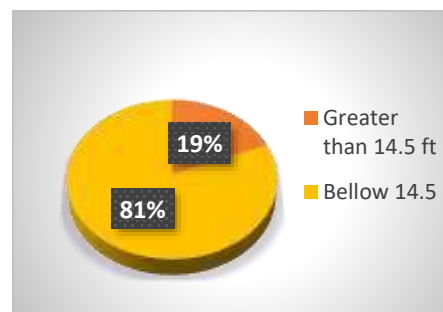
In the proposed Bus stoppage, the Bus Bay has been provided for safe embarking and disembarking. Raipura Paurashava needs to pursue with concerned authorities to prepare action plan and to conduct full length feasibility study to design, develop and construct public bus stoppage.

## Eco-friendliness and Sustainability

Use of fossil fuel and harmful emissions are a major environmental issue all over the world. That's where FFT (Fuel Free Transport) can play a vital role. Modes like walking, bicycling are in general called 'green transport' for their environmental friendliness. Promotion of these means of mobility can eliminate long-term negative impacts of fuel-based vehicles and enhance health and safety of the inhabitants.

## Fire Route

According to Fire Protection section of BNBC fire apparatus access road shall have required 14.7ft (4.5 Meter) width for free access of fire brigade vehicles and the hosepipe can cover 50m surrounding the road. It is assessed that at present fire brigade can covers about 10.02 Square kilometer of Raipura Paurashava which is 18.89% of total area.



**Figure 7. 7:** Fire Fighter Accessible Road

It has been suggested that several existing roads need to widen from 10 to 15 feet to increase to ensure access to vulnerable inhabitants. After assessing the vulnerable settlement, width of existing road and about 52.88 Kilometer of roads proposed to be widen. In addition about 27.39 Kilometer new roads have been proposed.

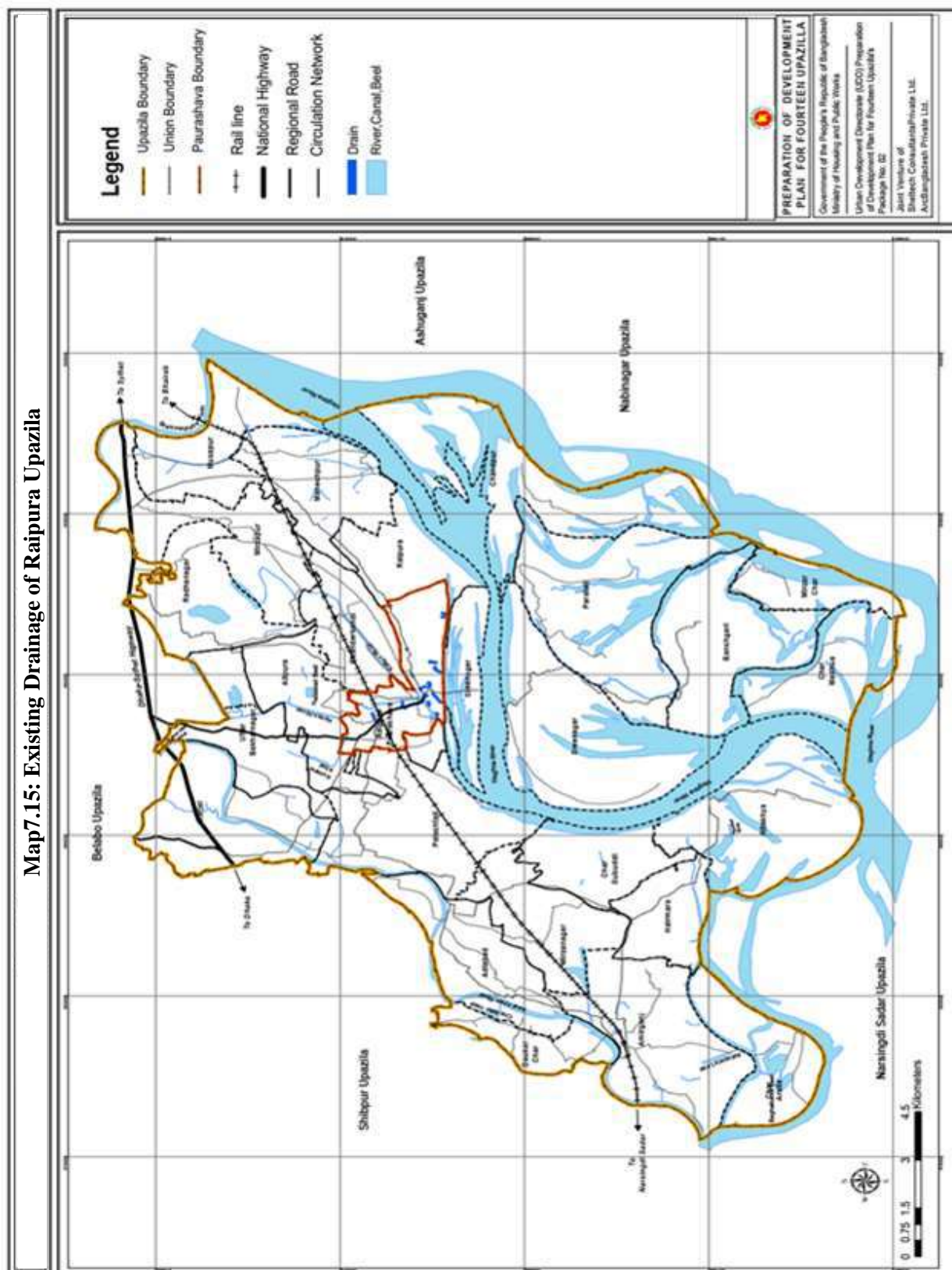
## 7.5 Drainage & Environmental Management Plan

### Existing Drainage Condition

The existing drainage condition of Raipura pourasabha was highlighted in the survey since the drainage of rural area is not well defined in any existing scale. However Bazaar area of Raipura pourasabha shows most of the existing drainage system as survey, topographic survey and physical feature survey has reached the conclusion. The total drainage system would then come at a length of meters, of 3513.67 meters. **Map 7.15** Shows Existing Drainage Condition of Raipura Upazila.



Map7.15: Existing Drainage of Raipura Upazila



**Table 7.14:** Existing Drainage of Pourashava Area

Ward	Built Type	Length (Meter)
Ward No-01	Reinforced Cement Concrete (RCC)	1186.00
Ward No-02	Reinforced Cement Concrete (RCC)	136.64
Ward No-03	Reinforced Cement Concrete (RCC)	690.59
Ward No-04	Reinforced Cement Concrete (RCC)	24.32
Ward No-05	Katcha	334.73
	Reinforced Cement Concrete (RCC)	83.67
Ward No-07	Reinforced Cement Concrete (RCC)	805.29
Ward No-08	Reinforced Cement Concrete (RCC)	252.44
	<b>Total</b>	<b>3513.68</b>

**Proposed Drainage for Pourashava**

In the planning phase for the urban area, drainage system has been additionally suggested for better drainage management for the coming years of Raipura Pourashava. It has been considered and placed as depicted on **Table 7.15** and illustration can be found on **Map 7.16**

**Table 7.15:** Proposed Drainage for Raipura Pourashava

Ward	Length(meter)
Ward No-01	2809.47
Ward No-02	950.03
Ward No-03	1071.14
Ward No-04	2967.99
Ward No-05	1075.89
Ward No-06	3169.88
Ward No-07	4423.49
Ward No-08	3580.67
Ward No-09	2283.40
<b>Total</b>	<b>22331.98</b>

Drains are proposed along the following road types:

- National highways (if any)
- Regional highways
- Primary roads
- Paurasava roads
- Secondary roads – 1
- Secondary roads – 2
  - Culvert/Bridge locations that have been identified based on the streamlines are tentative locations. Considering the accuracy and resolution of the DEM used for the study, these locations should be field verified and should be constructed after comprehensive grid survey results are available for the construction area.

- Culvert/Bridge locations should be used as drainage outlets for ease of control and management. No one should be allowed to connect drains directly to the natural channels other than these designated locations. New drains should be constructed in a way to connect to these locations for drainage discharge.
- Proposed drains are shown with a single line along the roads and with tentative directions. Based on field requirements, these drains may be constructed on both sides or on one side of the road.
- To ensure slope, alignment, locations of road crossings and to facilitate detailed design of sections, route survey should be conducted before any drains are constructed.
- Minimum land filling levels where applicable, are shown in this study. A freeboard should be added to this elevation, which is not necessarily subject to regulations.
- Water body contains river, canal, khal, beel, wetland, low lying areas and ponds. The plan suggests to preserve most of these water bodies for two purposes, first, to serve as source of water, second to serve as water retention area during monsoon. The ponds with an area equal to or more than 0.25 acres proposed for preserving water as retention pond.

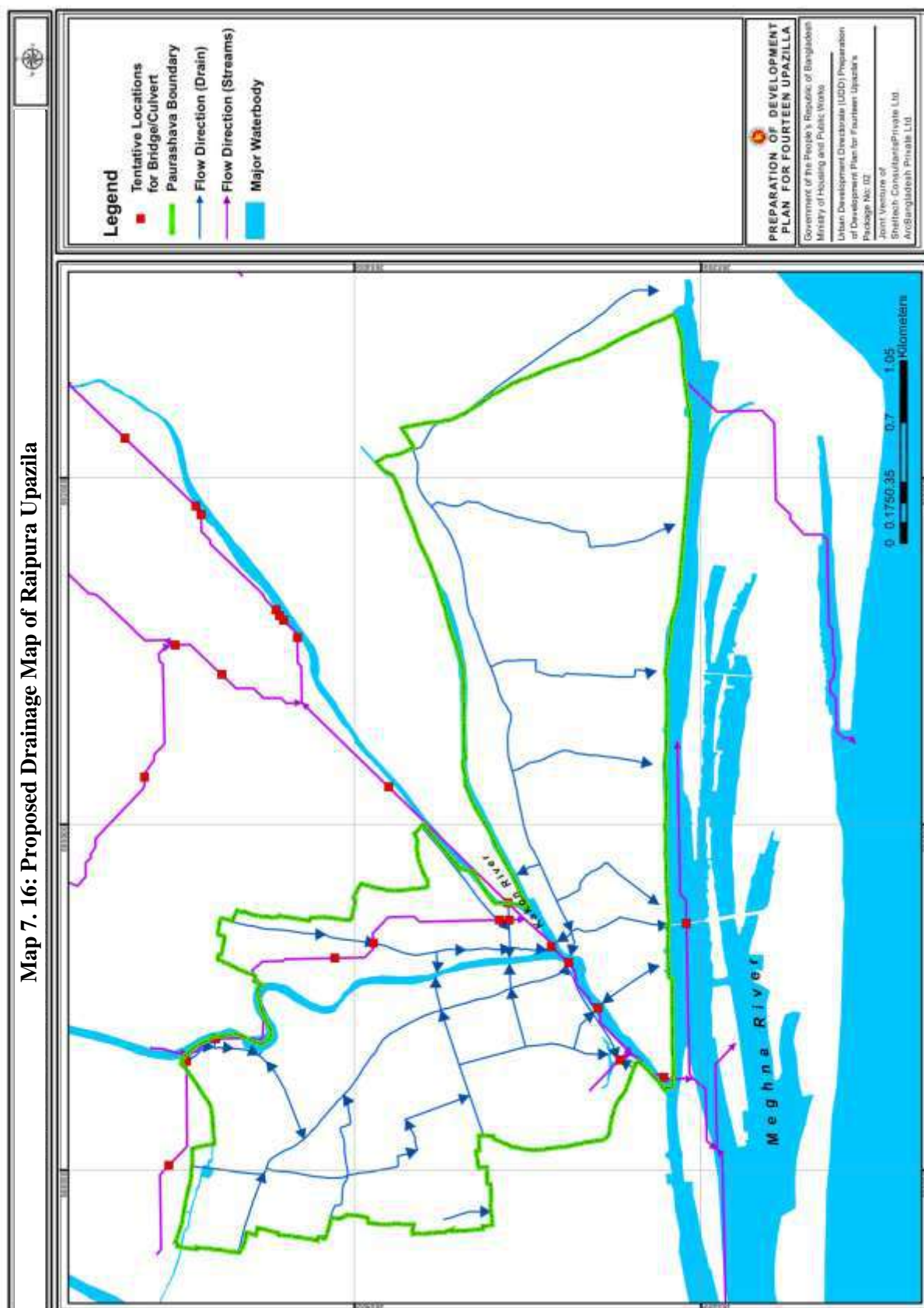
#### **Digital Elevation Model:**

In this study of Raipura Upazila, encountering the proposed facilities as discussed in this report, drainage is one of the crucial facts for planning as deemed as other aspects of the study. Nonetheless in order to manifest the condition of drainage system and propose thereby, the study should look into the work of Digital Elevation Model produced by the survey and analysis team of this project. . Digital Elevation Model (DEM) is the visual representation of terrain distributed in any area on the surface in the context of height information with three dimensional information. Digital Terrain Model points have been generated automatically from stereo pair images by software. In order to perceive urban area, Spot heights or land levels are extracted as DTM points at 10 m intervals as described in the TOR.

#### **Contour**

Contour maps containing contour lines surrounding natural features such as ground surface showing height value with a fixed interval which prevails unchanged value. In the case of the contour map of Raipura Upazila, contour lines will show the height distribution and projection of surface area. This will give the image for the proper adjustments that will be needed to call in proposed system as drainage management. From the derived data, the contour lines have been generated with 0.3 meter interval.

Map 7. 16: Proposed Drainage Map of Raipura Upazila



## Chapter 8: Rural Area Plan

### 8.1 Introduction

Rural development is the process of improving the quality of life and economic well-being of people living in rural areas. Rural development concerns geographical areas in which primary production takes place and where populations are found in various densities. Total 24 unions is considered as the area of Rural Area Plan which cover an area about 69943.11 acres that is 283.05 square kilometer.

### 8.2 Existing and Proposed Land use

In Rural Area, there is dominance of agriculture lands (about 64.90%) of the total areas followed by rural settlement (about 20.78%). Water body mainly consist of river, pond, canal, ditch etc. which covers about 9255.98 acres of land.

**Table 8. 1:** Existing and Proposed Land use.

Land use	Existing Land use		Proposed Land use	
	Area (in acre)	%	Area (in acre)	%
Agriculture	45390.61	64.90	43838.59	62.68
Circulation Network	543.46	0.78	2088.42	2.99
Growth Center & Hat Bazars	221.71	0.32	1309.88	1.87
Rural Settlement	14531.34	20.78	13450.23	19.23
Water Body	9255.98	13.23	9255.98	13.23
<b>Total</b>	<b>69943.1</b>	<b>100.00</b>	<b>69943.1</b>	<b>100.00</b>

**Source:** Field Survey, 2016.

About 62.68% (43838 acres) of the total land use has been proposed as agriculture land which is followed by rural settlement which is about 19.23% (13450.23 acres). About 2.99% of the area has been proposed as Circulation Network, 1.87 % of area for Growth Center and Hat Bazars and 13.23 % of area for water body. Existing and Proposed land use shows in **Map 8.1** and **Map 8.2** respectively.

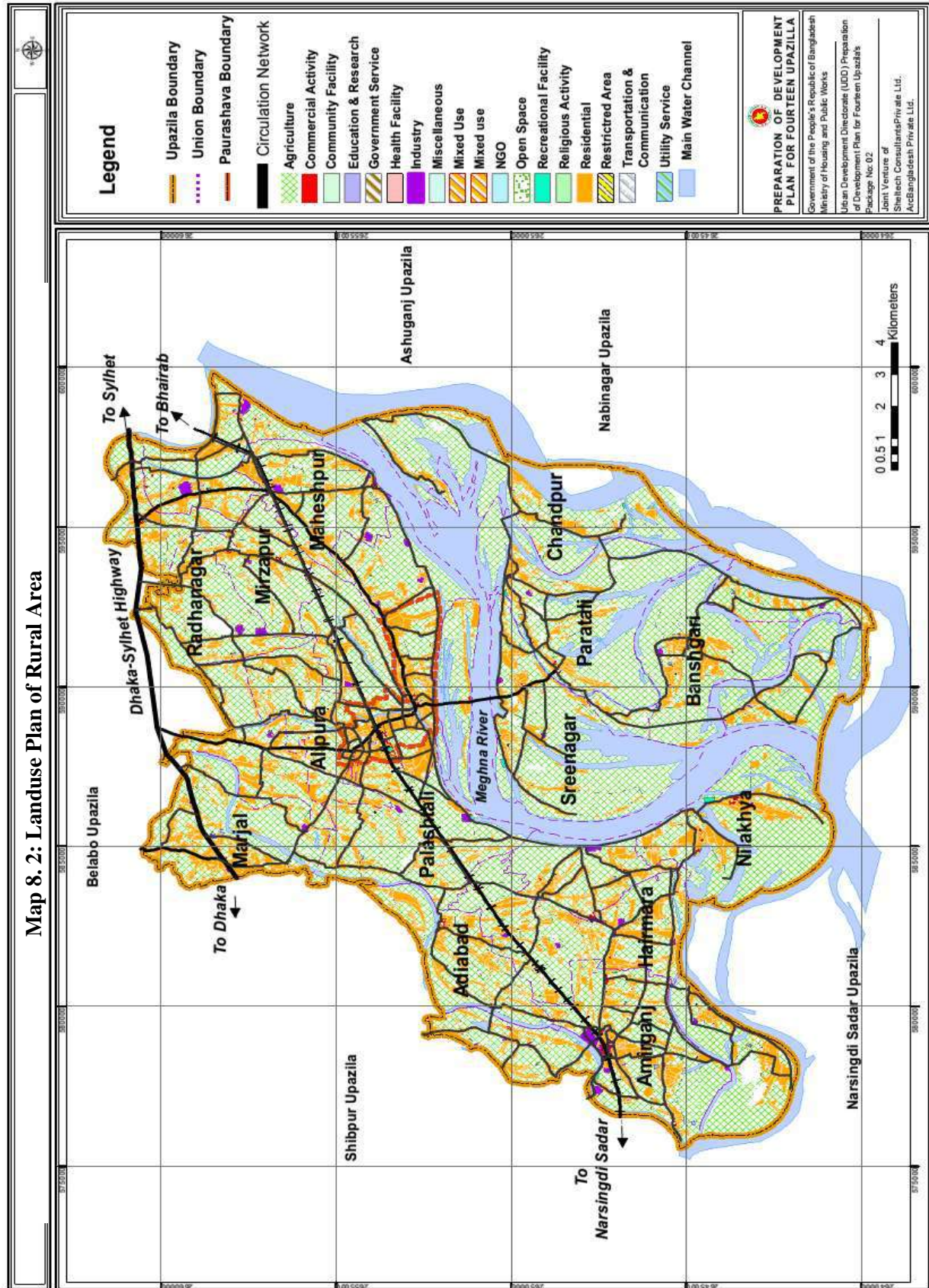
#### 8.2.1 Agriculture

The land of Raipura Upazila is dominant in agriculture and also used for poultry, fish culture, settlements with homestead forest and other infrastructural activities. Raipura Upazila gets high potentials for its land and agricultural production. This Upazila holds an important area in Narsingdi District with her natural resources and ecosystem. The Upazila has 46165.59 acres of agricultural land. The Agro-ecological zones of the Upazila are: Young Brahmaputra and Jamuna Floodplain (AEZ 8), Old Brahmaputra Floodplain (AEZ-9) and Madhupur tract (AEZ-28). Most of the people of this Upazila are directly or indirectly dependent on agriculture. Major crops are: Paddy, jute, wheat, mustard, potato, groundnut, vegetables etc. Major fruits of this Upazila are mango, jackfruit, papaya, guava, plum and melon

In Raipura Upazila maximum agriculture land is double cropped which contains about 60.44 % of double cropped area followed by triple cropped area (25.87 %), single crop area (13.68 %). **Map 8.3** Shows Cropping Pattern of Raipura Upazila.

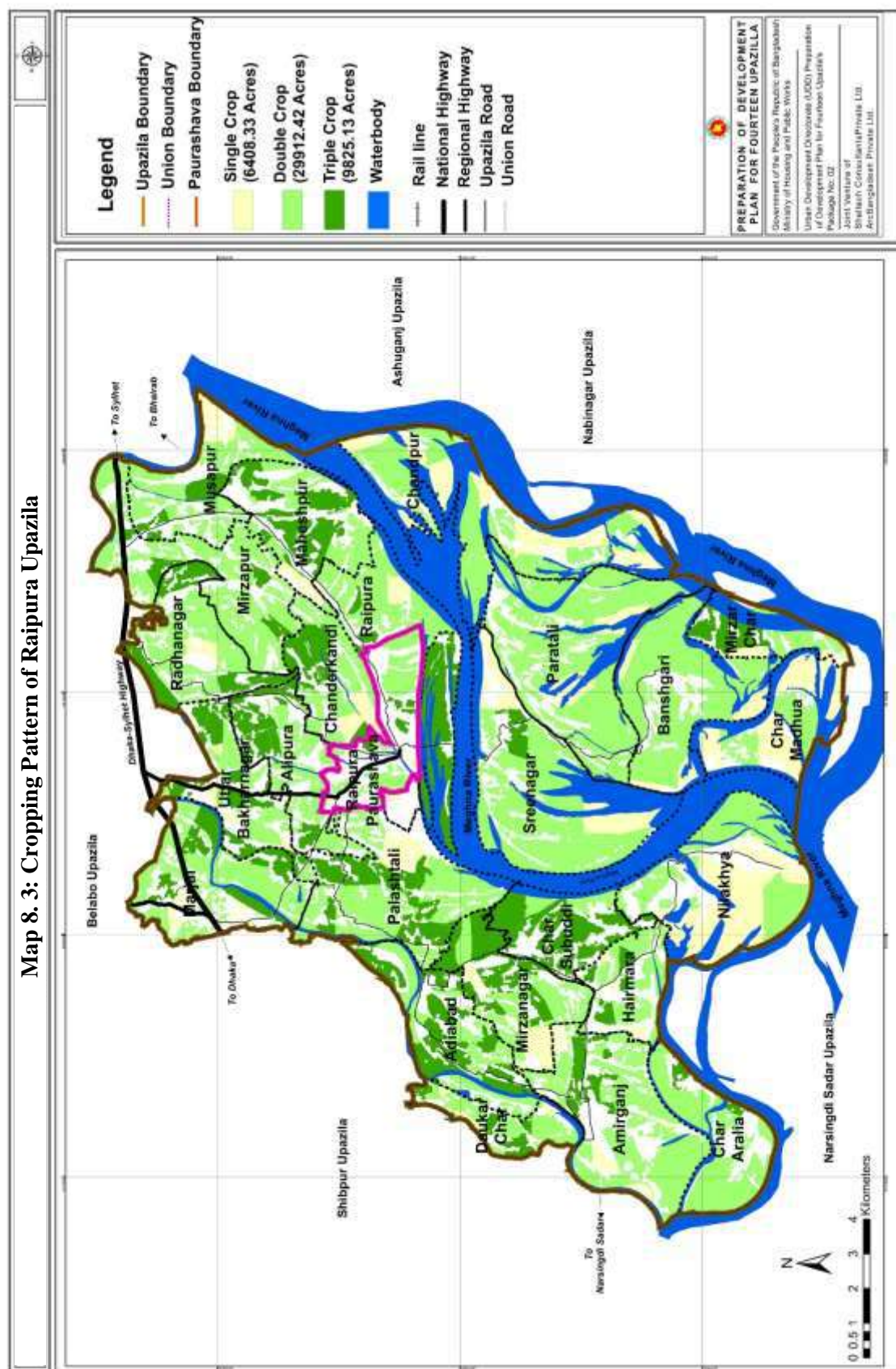


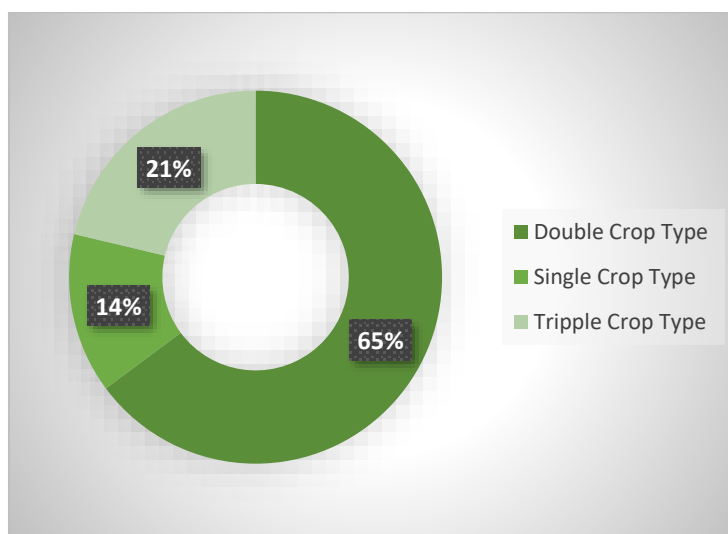






Map 8. 3: Cropping Pattern of Raipura Upazila



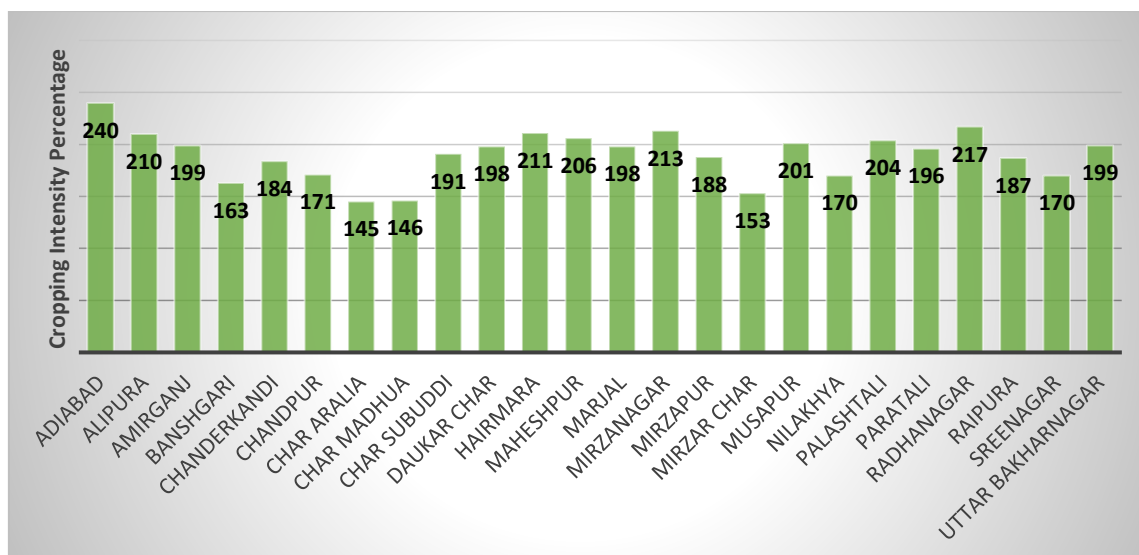
**Figure 8.1:** Percentage of Cropland Type**Table 8.2:** Crop type according to area

Union	Cropping Patern	Area
Adiabab	Double Crop Type	784.584
Adiabab	Triple Crop Type	967.788
Alipura	Double Crop Type	814.345
Alipura	Triple Crop Type	555.498
Amirganj	Double Crop Type	2039.970
Amirganj	Single Crop Type	236.625
Amirganj	Triple Crop Type	319.363
Banshgari	Double Crop Type	2339.311
Banshgari	Single Crop Type	279.172
Chanderkandi	Double Crop Type	794.654
Chanderkandi	Single Crop Type	261.378
Chanderkandi	Triple Crop Type	450.633
Chandpur	Double Crop Type	1787.791
Chandpur	Single Crop Type	1030.364
Char Aralia	Double Crop Type	1320.104
Char Aralia	Triple Crop Type	91.565
Char Madhua	Double Crop Type	487.833
Char Madhua	Single Crop Type	855.642
Char Subuddi	Double Crop Type	204.431
Char Subuddi	Triple Crop Type	993.885
Daukar Char	Double Crop Type	511.550
Daukar Char	Single Crop Type	72.311
Daukar Char	Triple Crop Type	202.848
Hairmara	Double Crop Type	683.165
Hairmara	Single Crop Type	88.135
Hairmara	Triple Crop Type	174.624
Maheshpur	Double Crop Type	689.502
Maheshpur	Single Crop Type	114.008
Maheshpur	Triple Crop Type	832.720
Marjal	Double Crop Type	1396.181
Marjal	Single Crop Type	123.909
Marjal	Triple Crop Type	538.822

Mirzanagar	Double Crop Type	772.962
Mirzanagar	Single Crop Type	294.246
Mirzanagar	Triple Crop Type	802.495
Mirzapur	Double Crop Type	1982.005
Mirzapur	Triple Crop Type	238.159
Mirzar Char	Double Crop Type	247.388
Mirzar Char	Single Crop Type	129.290
Mirzar Char	Triple Crop Type	330.241
Musapur	Double Crop Type	1129.651
Musapur	Single Crop Type	183.603
Musapur	Triple Crop Type	231.254
Nilakhya	Double Crop Type	1428.267
Nilakhya	Single Crop Type	1382.933
Palashtali	Double Crop Type	1612.907
Palashtali	Single Crop Type	229.344
Palashtali	Triple Crop Type	843.379
Paratali	Double Crop Type	3225.607
Paratali	Single Crop Type	243.661
Radhanagar	Double Crop Type	1089.893
Radhanagar	Single Crop Type	86.996
Radhanagar	Triple Crop Type	595.910
Raipura	Double Crop Type	1011.792
Raipura	Single Crop Type	114.563
Raipura	Triple Crop Type	132.057
Raipura Paurashava	Double Crop Type	621.372
Raipura Paurashava	Single Crop Type	48.080
Raipura Paurashava	Triple Crop Type	104.263
Sreenagar	Double Crop Type	2362.987
Sreenagar	Single Crop Type	525.622
Sreenagar	Triple Crop Type	841.807
Uttar Bakharnagar	Double Crop Type	574.167
Uttar Bakharnagar	Single Crop Type	108.448
Uttar Bakharnagar	Triple Crop Type	577.818

Different cropping intensity are practiced in Raipura Upazila. The average cropping intensity under Raipura Upazila is of 190% which is equal to the national average cropping intensity (190%) (Krishi Diary 2016). **Map 8.3** Shows cropping pattern of Raipura Upazila.





**Figure 8. 2:** Cropping Intensity

The major problems in cultivation are: flood, water logging, lack of quality seed, and decrease of agriculture land, erosion, changes in rainfall pattern, adverse weather condition, inadequate drainage facilities, increase insect and pest infestation and Change in rivers and canals morphology. The remedial measures are adapted from modern farming techniques, information on quality seed, observe weather conditions and follow weather forecast, follow fertilizer recommendation by soil testing, select best available seeds from market, integrated effort for industrial effluents and waste management, grow one leguminous crop (Dhaincha / Pulses/Fodder etc.) between two cereal crops, re-excavation of canals, develop market infrastructures and road communication at local level and uninterrupted power supply to irrigation pumps.

To reduce the Irrigation water wastage, proper utilization need to be converted into pucca drainage system or by introducing underground pipe irrigation system. There is need for conducting, strengthening and expanding crop demonstrations and block farming based on adaptation practices. There is number large vegetable selling center (market) under 24 Unions. As results farmers could not get good price for their produced products. There is a need to develop vegetables wholesale market and improvement of communication system with different Unions to Upazila. Ensuring planned and economic use of agriculture land, minimize agricultural land degradation and introducing regulatory measure like adopting land zoning law are necessary to protect the agriculture land.

### Proposals for Agriculture Development

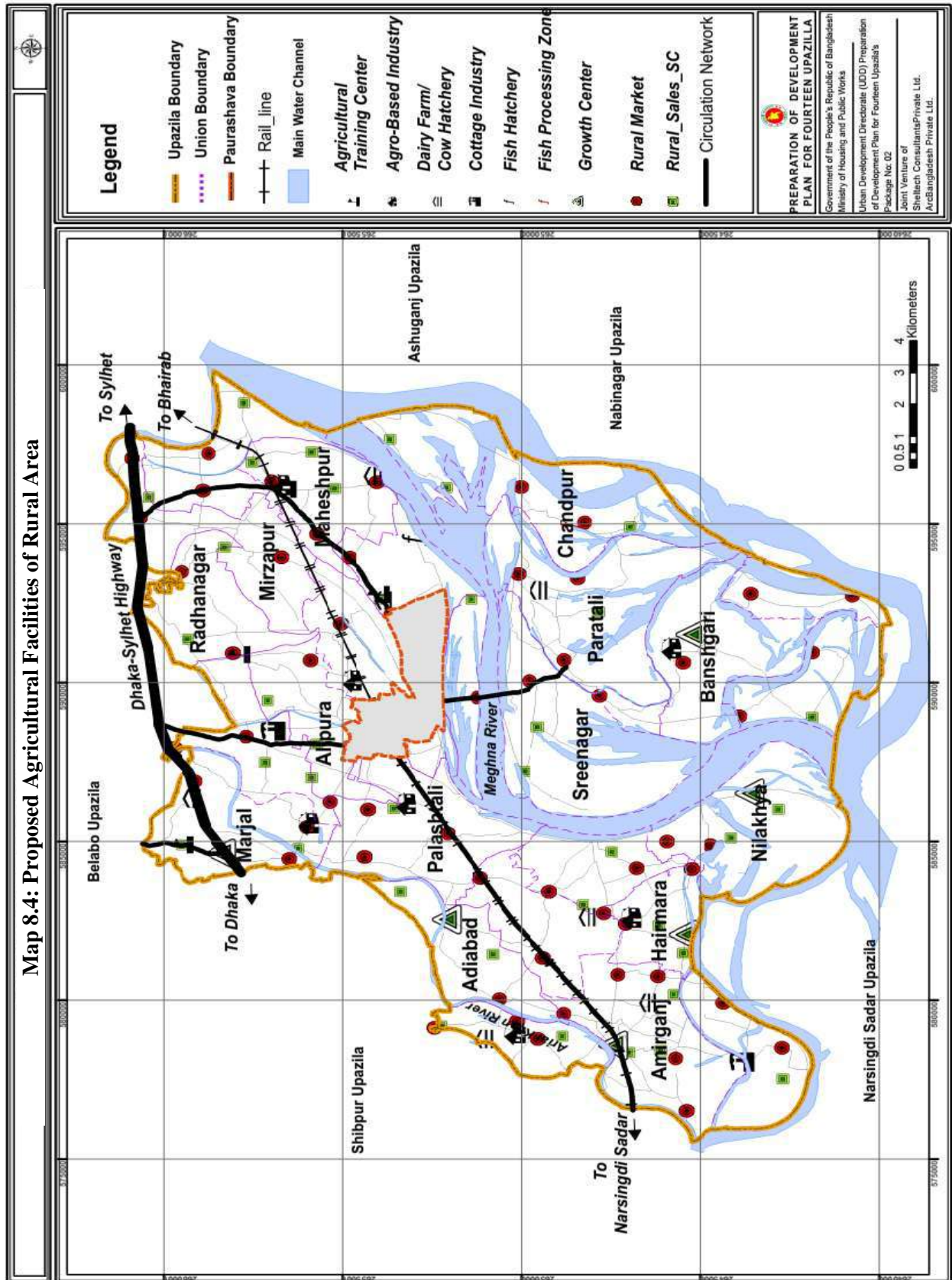
During the Consultation meeting participants opinion that some agro-based industry, cold storage and cottage industry are needed. On the basis of their demand, consultants have been proposed eight agro-based industries (49.20 acres) at Banshgari, Daukar Char, Chanderkandi, Hairmara, Maheshpur, Marjal, Palashtali, 17 cold storages (7.27 acres) for increase storage capacity, 4 agriculture training center (2.99 acres) at Maheshpur, Marjal, Radhanagar, Raipura, dairy farm/ Cow Hatchery at Amirganj, Hairmara, Maheshpur, Marjal, Mirzanagar, Paratali, Raipura Union. **Map 8.4** shows proposed agricultural facility of rural area.

**Table 8. 3:** List of Proposed Facilities

<b>Proposals</b>	<b>Area (in acres)</b>	<b>Union</b>	<b>Mauza_JL_ Sheet</b>	<b>Plot Number</b>
Agriculture Training Institute	2.67	Maheshpur, Marjal, Radhanagar, Raipura	Sapmara 042 000 Marjal 068 003 Marjal 068 001 Radhanagar 048 001 Rajprasad 051 000	984,986 4550,4552 283 4,5 203
Agro-Based Industry	47.18	Banshgari, Daukar Char, Chanderkandi, Hairmara, Maheshpur, Marjal, Palashtali	Kashimnagar 093 000 Khag Char 074 000	429 2, 22, 124,132, 133 3,36,123 25,26,32- 34,37,38
Cold Storage	6.29	Amirganj, Bannshgar, Chanderkandi, Char Madhua, Marjal, Mirzanagar, Mirzapur, Mirzar Char, Musapur, Paratali, Radhanagar, Raipura, Sreenagar, Uttar Bakharnagar	Hasnabad 095 006 Banshgari 121 002 Sreenidhi 050 001 Char Madhua 123 001 Samibad 122 001 Marjal 068 004 Uttar Mirzanagar 086 002 Mamudabad 021 002 Mirzar Char 126 004 Ramnagar 026 001 Hossain Nagar 119 002 Mamudpur 052 001 Sreenagar 112 002 Uttar Bakharnagar 065 003	16238 3136-3138,3917 241 1438,1439 492 9097 4143-4146 2593,2610 6135 1263 3422-3424 471, 472 4473 6200,6201
Dairy Farm/ Cow Hatchery/ Cattle Hat	9.95	Amirganj, Hairmara, Maheshpur, Marjal, Mirzanagar, Paratali, Raipura	Uttar Mirzanagar 086 003 Begamabad 029 003 Marjal 068 003 Mamudpur 052 001	8304-8307 5619, 377,5378,5382 5380 181-186,2139, 2141,4940, 4942

Preparation of Development Plan for Raipura Upazila (2013-2033)

<b>Proposals</b>	<b>Area (in acres)</b>	<b>Union</b>	<b>Mauza_JL_ Sheet</b>	<b>Plot Number</b>
Fish Hatchery/ Processing Zone	4.75	Chandpur, Raipura	Bakharnagar	356-359, 367,368 , 373-379, 389
Veterinary Hospital/ Development Center	1.74	Daukar Char, Hairmara, Mirzanagar, Paratali	Hairmara 102 001  Daukar Char 094 001  Hossain Nagar 119 001	372, 373  130,131  1236,1244
<b>Total</b>	<b>72.58</b>			



Source: Field Survey, 2016

### 8.2.2 Circulation Network

Communication is crucial to any dimension of discipline as it allows ideas, assets and people to diverge and translate to new arenas of hope and growth. It may not be out of turn to think that this segment of the planning have paramount significance since any idea abstracted or facility proposed will not serve its purpose unless it is positioned as it is entailed. At present the national and regional highways are playing very important role in the communication network. Intersection is an important point for traffic congestion. Traffic flow varies according to the significance of the intersections. The vehicles are diverted to the different link through the intersections. Pedestrian facility is one of the transportation facilities which are required to create a pedestrian friendly environment. No footpath and pedestrian facility is available for the rural people.

#### 8.2.2.1 Existing Road Network

##### Connectivity

Transportation is an inseparable part of any development. The future progress of an area depends mostly how the transportation of that area functions. The Upazila is well connected by National and Regional Highway. The national Highway N-02 (Dhaka to Sylhet) has passed by the side of the Upazila. At present the national and regional highways are playing very important role in the communication network. Besides the number of Upazila roads and local roads are also providing regional connectivity.

**Table 8.4:** Major Roads of Raipura Upazila

Road ID	Name of the Road	Length of Road (km)
<b>R114</b>	Nayapur-Araihasar-Narsingdi-Raipura Road	55
<b>Z3710</b>	Netrokona-Bishiura-Raipura Road	27
<b>Z8004</b>	Munshiganj(Hatimara)-Kunderbazar-Srinagar (Sanbari) Road	20

##### Road Category

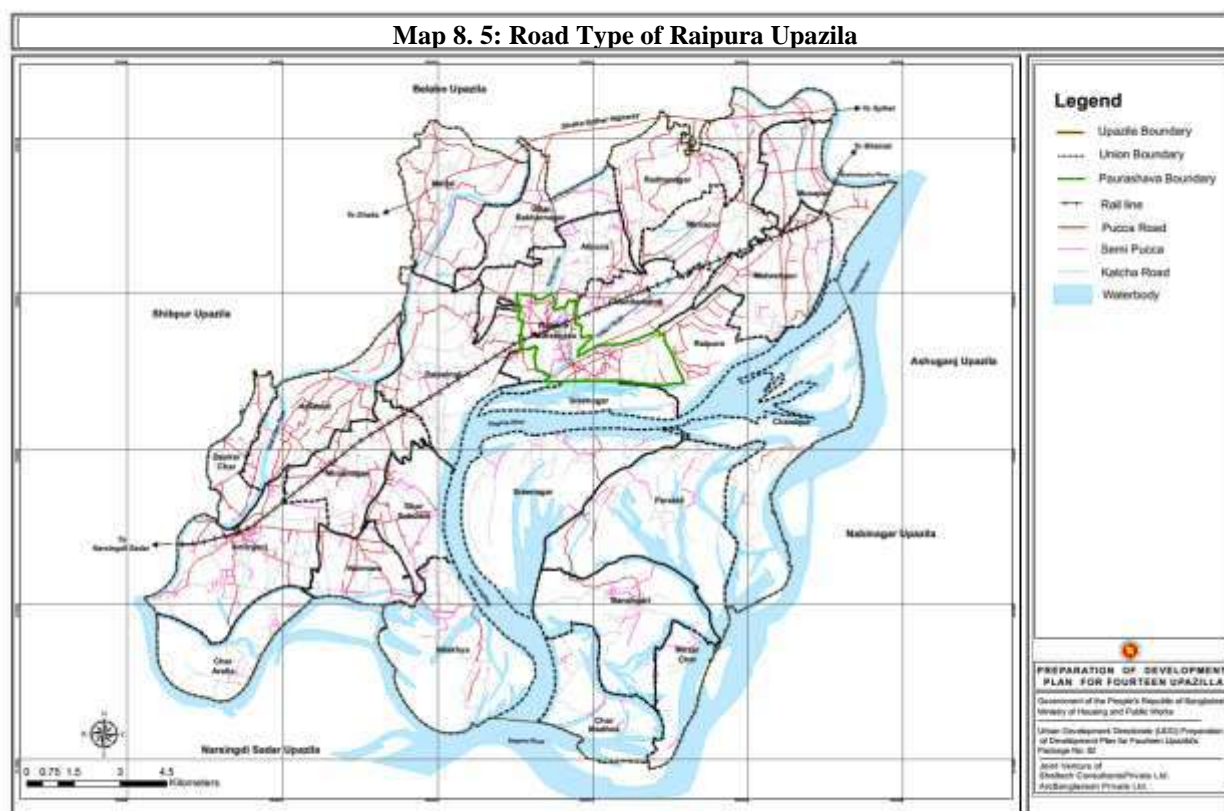
Raipura Upazila is not different than any other in case of communication and road networks where it also has pucca, kacha and semi pucca category of roads. Most prominent road category would be the Kacha type which comprises about 421 kilometers and the least prominent would be the semi pucca category existing of 106 kilometers. Rest out of total 826 kilometers of road are found to be pucca. The distribution of these road categories are well dispersed all over the Upazila, however the main road category does influence the road type residing at present condition. As the rail line shown in **Map 8.5** cuts through the Upazila it manipulates the pucca roads in the area. Similarly the semi pucca roads are also in a sense commanded by the pucca roads as one can perceive.



**Table 8.5:** Road Types in Raipura Upazila

Union	Road Type	Length(km)
Adiabad	Katcha	16.07
Alipura	Katcha	28.32
Amirganj	Katcha	31.95
Banshgari	Katcha	16.05
Chanderkandi	Katcha	6.78
Chandpur	Katcha	20.90
Char Aralia	Katcha	16.32
Char Madhua	Katcha	9.09
Char Subuddi	Katcha	7.09
Daukar Char	Katcha	5.83
Hairmara	Katcha	10.88
Maheshpur	Katcha	17.58
Marjal	Katcha	18.55
Mirzanagar	Katcha	17.40
Mirzapur	Katcha	18.69
Mirzar Char	Katcha	6.53
Musapur	Katcha	17.66
Nilakhya	Katcha	16.74
Palashtali	Katcha	34.80
Paratali	Katcha	27.34
Radhanagar	Katcha	14.70
Raipura	Katcha	0.00
Raipura Paurashava	Katcha	10.63
Sreenagar	Katcha	34.05
Uttar Bakharnagar	Katcha	17.53
Adiabad	Pucca	25.30
Alipura	Pucca	9.99
Amirganj	Pucca	24.50
Banshgari	Pucca	3.18
Chanderkandi	Pucca	13.23
Chandpur	Pucca	1.39
Char Subuddi	Pucca	10.50
Daukar Char	Pucca	8.46
Hairmara	Pucca	11.30
Maheshpur	Pucca	19.02
Marjal	Pucca	25.00
Mirzanagar	Pucca	17.78
Mirzapur	Pucca	22.67
Musapur	Pucca	12.55

Union	Road Type	Length(km)
Nilakhya	Pucca	5.36
Palashtali	Pucca	18.79
Paratali	Pucca	3.28
Radhanagar	Pucca	15.35
Raipura	Pucca	11.27
Raipura Paurashava	Pucca	24.12
Sreenagar	Pucca	2.89
Uttar Bakharnagar	Pucca	12.00
Adiabab	Semi-Pucca	3.60
Alipura	Semi-Pucca	5.26
Amirganj	Semi-Pucca	12.64
Banshgari	Semi-Pucca	5.58
Chanderkandi	Semi-Pucca	5.17
Chandpur	Semi-Pucca	0.69
Char Aralia	Semi-Pucca	2.26
Char Madhua	Semi-Pucca	2.30
Char Subuddi	Semi-Pucca	6.00
Daukar Char	Semi-Pucca	1.34
Hairmara	Semi-Pucca	3.44
Maheshpur	Semi-Pucca	4.29
Marjal	Semi-Pucca	2.68
Mirzanagar	Semi-Pucca	3.63
Mirzapur	Semi-Pucca	4.37
Mirzar Char	Semi-Pucca	2.15
Musapur	Semi-Pucca	3.08
Nilakhya	Semi-Pucca	3.03
Palashtali	Semi-Pucca	3.48
Paratali	Semi-Pucca	4.67
Radhanagar	Semi-Pucca	3.23
Raipura	Semi-Pucca	2.19
Raipura Paurashava	Semi-Pucca	11.23
Sreenagar	Semi-Pucca	5.43
Uttar Bakharnagar	Semi-Pucca	5.20



### 8.2.2.2 Road network plan

The road network should be planned to provide adequate access for vehicles and pedestrians for inter-communication among all parts of the area. Considering traffic volume and discussion with authority and local stakeholders established a road hierarchy based on the functional area within the Upazila as well as the internal and external linkage.

In the rural area intersections are main point for traffic congestion. According to Building Construction Act, 1996, the construction permit of Shopping Complex, Cinema Hall or similar type of buildings are restricted within 50 m (164 ft.) from major road intersections to avoid traffic congestion. To promote the speed and mobilize the activities, motorized vehicles (especially Bus lane) are encouraged to make an environmental and economic balance (employment pattern and Income level), provision of number-motorized vehicles are kept.

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

- A. Roads connect Paurashava with Regional Road Network
- B. Roads provide internal network of the Paurashava.

**Table 8. 6:** Union wise proposed extension of existing roads.

Union	Existing Road (Kilometer)	Proposed Road (kilometer)	
		New	Total
Adiabab	44.96	7.54	51.83
Alipura	43.57	8.84	52.51
Amirganj	69.09	17.89	85.95
Banshgari	24.81	7.77	34.33
Chanderkandi	25.19	9.44	35.80
Chandpur	22.98	16.25	33.97
Char Aralia	18.58	7.94	25.95
Char Madhua	11.39	12.20	20.02
Char Subuddi	23.59	6.82	29.64
Daukar Char	15.62	0.88	17.99
Hairmara	25.62	4.11	28.57
Maheshpur	40.90	11.59	53.16
Marjal	46.22	6.44	53.88
Mirzanagar	38.81	6.96	45.02
Mirzapur	45.73	11.68	54.79
Mirzar Char	8.69	6.96	14.78
Musapur	33.30	7.08	39.83
Nilakhya	25.13	12.79	39.32
Palashtali	57.07	15.41	72.01
Paratali	35.29	18.92	48.90
Radhanagar	33.29	5.69	36.12
Raipura	13.46	3.72	17.54
Sreenagar	42.37	9.82	55.14
Uttar Bakharnagar	34.73	4.07	39.63
<b>Total</b>	<b>780.38</b>	<b>220.80</b>	<b>986.67</b>

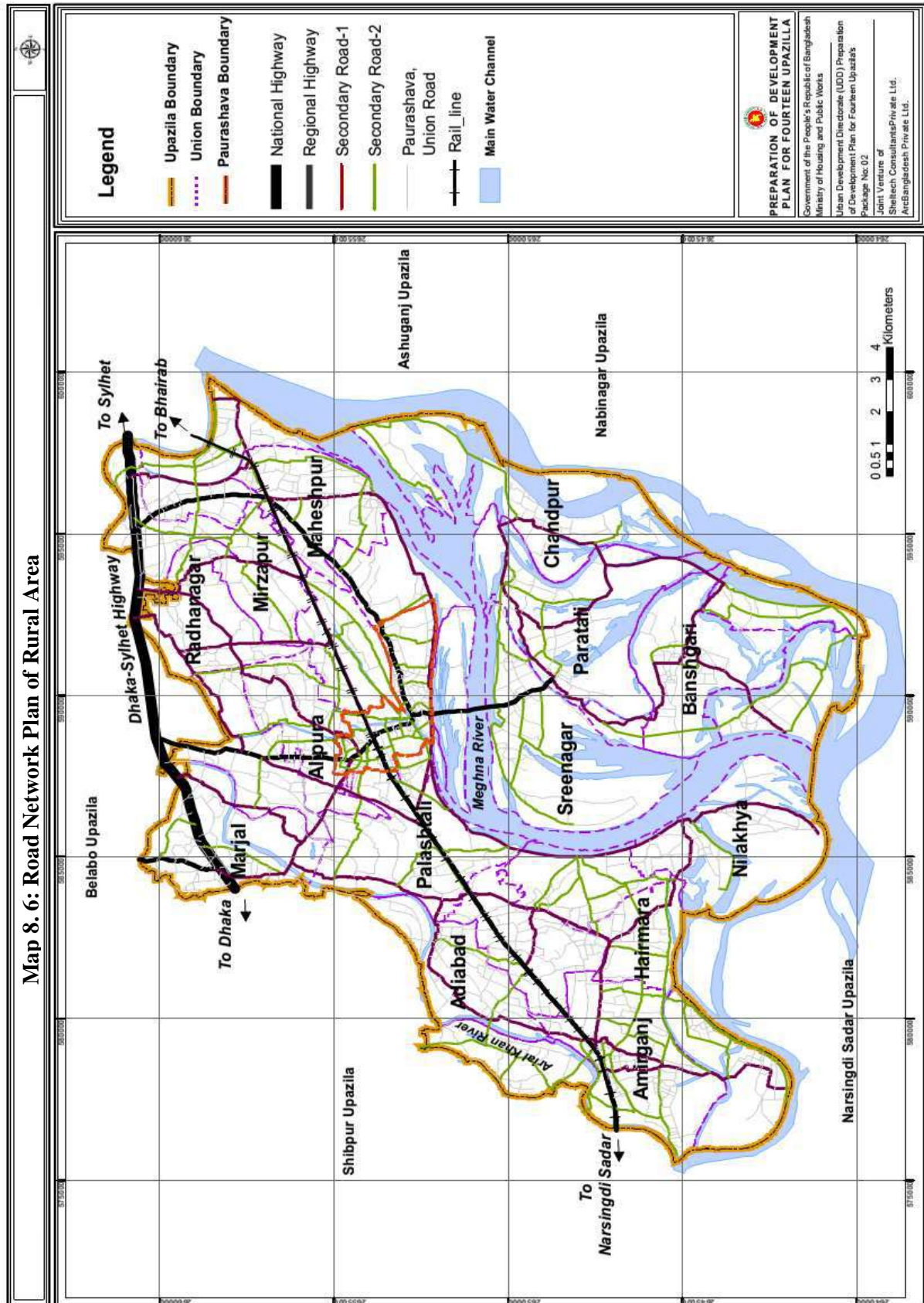
**Source:** Field Survey, 2016.

Hierarchically, the following types of roads have been proposed in the plan:

- major road having rights of way from 80 to 100 feet
- secondary road having rights of way from 30 to 60 feet of the right of way

**Map 8.6** Shows Road network plan of rural area. To accommodate the traffic volumes about 220.80 kilometers new roads have been proposed to ensure accessibility in the area. Existing road network covers most of the area but not interconnected and in scattered condition. In the road network plan, have tried to meet the problem with proper channelization and widening. As a result, proposed new roads will make a planned circulation network through the connection with existing roads of total.

Considering future travel demand in next 20 years; Bus Terminal, Tempo Stand, Mini Bus/CNG Terminal and Passenger Shed has been proposed at Amirganj, Adiabab, Hairmara, Maheshpur, Marjal, Mirzanagar, Mirzapur, Mirzar Char, Sreenagar, Uttar Bakharnagar Union.





**Table 8.7: Existing Road Category**

Hierarchy	Length	Percentage
National Highway	14.41	1.73
Regional Highway	10.72	1.28
Union Road	128.37	15.37
Upazila Road	80.32	9.62
Village Road	601.44	72.01
<b>Total</b>	<b>835.26</b>	<b>100.00</b>

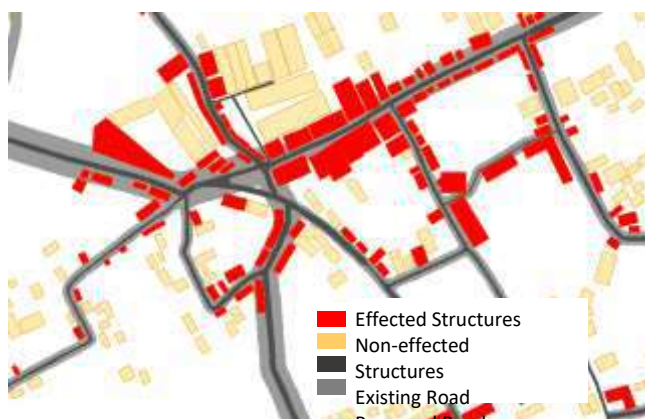
Source: Field Survey, 2016

**Road Intersection Considerations**

On the other hand, the major intersection of Raipura Upazila has been brought under special treatment to ensure the continuous traffic flow. In order to achieve that objectives different types of physical measures have been proposed in the intersection area. Some of these includes curvature at road intersection, proposal of roundabout in those intersections etc. About 17 link road has been proposed in the total Upazila area to build up connection between roads with dead end. Thus the mobility of the area will increase tremendously. Moreover, about 7 embankment roads have been proposed along the major river area to prevent the erosion and other damages due to river flow.

**Effected Structures Due to Road Widening:**

All of the roads of Raipura Upazila has been widened as per the standard delineated before. Hence the major problem is it conflicts with many structures. About 10853 structures are to be affected due to road widening and new road proposal. Among them 1334 structures are pucca, 1768 structures are semi-pucca, 7729 structures are katcha and 22 are in under construction. Following table shows the no of conflicted structures with their respective landuse.

**Figure 8.3:** Effected Structures due to Road Widening (Paurashava Area)**Table 8.8: Conflicted Structures with their respective use**

Landuse	Number
Agricultural	122
Commercial	2113
Community Facilities	5
Education & Research	157
Government Service	30
Health Facilities	15
Industrial	57
Mischellaneous	140
Mixed Use	162
Non-Government Organization	12
Religious Facilities	205
Residential & Homestead	7823
Transportation & Communication	12
<b>Total</b>	<b>10853</b>

Source: Field Survey, 2016

**Transport Facilities**

Considering future travel demands of the coming 20 years, disparate facilities have been proposed to aid and sustain the transportation system in Raipura Upazila. The basic attempts include Bus Terminal, Tempo Stand, Mini Bus/CNG Terminal and Passenger Shed which are suggested in more or less all union.

**Table 8.9:** List of Proposed Transport Facilities

Name	Union	Mauza	Plot Number	Area
Auto/Rickshaw Stand	Sreenagar	Sreenagar 112 002	3728	0.334
Auto/Rickshaw Stand	Sreenagar	Sreenagar 112 002	3729	0.122
Auto/Rickshaw Stand	Sreenagar	Sreenagar 112 002	3732	0.184
Auto/Rickshaw Stand	Sreenagar	Sreenagar 112 002	3818	0.000
Auto/Tempoo Stand	Marjal	Marjal 068 004	9154	0.256
Auto/Tempoo Stand	Marjal	Marjal 068 004	9155	0.140
Auto/Tempoo Stand	Marjal	Marjal 068 004	9156	0.022
Auto/Tempoo Stand	Marjal	Marjal 068 004	9169	0.000
Auto/Tempoo Stand	Marjal	Marjal 068 004	9170	0.000
Boat Ghat	Chanderkandi	Sreenidhi 050 002	2208	0.130
Boat Ghat	Chanderkandi	Sreenidhi 050 002	2222	0.000
Boat Ghat	Chandpur	Majher Char 030 003	1927	0.002
Boat Ghat	Chandpur	Majher Char 030 003	1929	0.049
Boat Ghat	Chandpur	Majher Char 030 003	1930	0.116
Boat Ghat	Chandpur	Majher Char 030 003	1931	0.032
Boat Ghat	Chandpur	Majher Char 030 003	1932	0.136
Boat Ghat	Chandpur	Majher Char 030 003	1936	0.039
Boat Ghat	Chandpur	Majher Char 030 003	2130	0.001
Boat Ghat	Char Madhua	Char Madhua 123 001	1310	0.004
Boat Ghat	Char Madhua	Char Madhua 123 001	1372	0.000
Boat Ghat	Char Madhua	Char Madhua 123 001	1373	0.105
Boat Ghat	Char Madhua	Char Madhua 123 001	1388	0.005
Boat Ghat	Char Madhua	Char Madhua 123 002	4029	0.044
Boat Ghat	Char Madhua	Char Madhua 123 002	4030	0.037
Boat Ghat	Char Madhua	Char Madhua 123 002	4031	0.025
Boat Ghat	Char Madhua	Char Madhua 123 002	4032	0.239
Boat Ghat	Char Madhua	Char Madhua 123 002	4033	0.232
Boat Ghat	Char Madhua	Char Madhua 123 002	4040	0.001
Boat Ghat	Char Madhua	Char Madhua 123 002	4064	0.003
Boat Ghat	Mirzar Char	Mirzar Char 126 001	375	0.026
Boat Ghat	Mirzar Char	Mirzar Char 126 001	1150	0.003
Boat Ghat	Mirzar Char	Mirzar Char 126 001	1158	0.125

Preparation of Development Plan for Raipura Upazila (2013-2033)

Boat Ghat	Mirzar Char	Mirzar Char 126 001	1159	0.242
Boat Ghat	Muksudpur	Mirzar Char 126 004	6389	0.005
Boat Ghat	Muksudpur	Mirzar Char 126 004	6390	0.212
Boat Ghat	Paratali	Hossain Nagar 119 002	3207	0.009
Boat Ghat	Paratali	Hossain Nagar 119 002	3219	0.003
Boat Ghat	Paratali	Hossain Nagar 119 002	3220	0.002
Boat Ghat	Paratali	Hossain Nagar 119 002	3221	0.031
Boat Ghat	Paratali	Hossain Nagar 119 002	3222	0.023
Boat Ghat	Paratali	Hossain Nagar 119 002	3223	0.017
Boat Ghat	Paratali	Hossain Nagar 119 002	3224	0.050
Boat Ghat	Paratali	Hossain Nagar 119 002	3225	0.153
Boat Ghat	Paratali	Hossain Nagar 119 002	3234	0.300
Boat Ghat	Roytura	Bakharnagar 034 000	616	0.052
Boat Ghat	Roytura	Bakharnagar 034 000	617	0.052
Boat Ghat	Sreenagar	Char Sadarland 055 002	1164	0.037
Boat Ghat	Sreenagar	Char Sadarland 055 002	1165	0.193
Boat Ghat	Sreenagar	Char Sadarland 055 002	1166	0.114
Boat Ghat	Sreenagar	Char Sadarland 055 002	1167	0.134
Boat Ghat	Sreenagar	Rangpur 054 002	1766	0.083
Boat Ghat	Sreenagar	Rangpur 054 002	1772	0.083
Boat Ghat	Sreenagar	Sreeangar 112 003	8362	0.130
Boat Ghat	Sreenagar	Sreeangar 112 003	8363	0.112
Boat Ghat	Sreenagar	Sreeangar 112 003	8366	0.075
Boat Ghat	Sreenagar	Sreeangar 112 003	8367	0.133
Bus Terminal	Amirganj	Hasnabad 095 003	1876	0.000
Bus Terminal	Amirganj	Hasnabad 095 003	1884	0.004
Bus Terminal	Amirganj	Hasnabad 095 003	1885	0.583
CNG/Tempoo Stand	Adiabab	Adiabab 089 002	3964	0.102
CNG/Tempoo Stand	Adiabab	Adiabab 089 002	3968	0.228
CNG/Tempoo Stand	Adiabab	Adiabab 089 002	3969	0.448
CNG/Tempoo Stand	Adiabab	Adiabab 089 002	3970	0.000
CNG/Tempoo Stand	Adiabab	Adiabab 089 002	3972	0.007
CNG/Tempoo Stand	Adiabab	Adiabab 089 002	3981	0.003
CNG/Tempoo Stand	Amirganj	Hasnabad 095 001	570	0.143
CNG/Tempoo Stand	Amirganj	Hasnabad 095 001	571	0.316
CNG/Tempoo Stand	Amirganj	Hasnabad 095 001	572	0.046
CNG/Tempoo Stand	Hairmara	Hairmara 102 001	373	0.001
CNG/Tempoo Stand	Hairmara	Hairmara 102 001	374	0.231
CNG/Tempoo Stand	Hairmara	Hairmara 102 001	375	0.000
CNG/Tempoo Stand	Hairmara	Hairmara 102 001	376	0.000
CNG/Tempoo Stand	Mirzanagar	Hatubhanga 082 001	852	0.001
CNG/Tempoo Stand	Mirzanagar	Hatubhanga 082 001	853	0.001
CNG/Tempoo Stand	Mirzanagar	Hatubhanga 082 001	868	0.004
CNG/Tempoo Stand	Mirzanagar	Hatubhanga 082 001	869	0.002

CNG/Tempoo Stand	Mirzanagar	Hatubhanga 082 001	870	0.001
CNG/Tempoo Stand	Mirzanagar	Hatubhanga 082 001	872	0.287
CNG/Tempoo Stand	Mirzanagar	Hatubhanga 082 001	873	0.032
CNG/Tempoo Stand	Mirzanagar	Hatubhanga 082 001	874	0.295
CNG/Tempoo Stand	Mirzapur	Mamudabad 021 001	264	0.119
CNG/Tempoo Stand	Mirzapur	Mamudabad 021 001	265	0.113
CNG/Tempoo Stand	Mirzapur	Mamudabad 021 001	266	0.041
CNG/Tempoo Stand	Mirzapur	Mamudabad 021 001	267	0.001
CNG/Tempoo Stand	Mirzapur	Mamudabad 021 001	270	0.003
CNG/Tempoo Stand	Mirzapur	Mamudabad 021 001	271	0.136
CNG/Tempoo Stand	Mirzapur	Mamudabad 021 001	272	0.001
CNG/Tempoo Stand	Mirzapur	Mamudabad 021 001	294	0.060
CNG/Tempoo Stand	Mirzapur	Mamudabad 021 001	295	0.195
CNG/Tempoo Stand	Mirzapur	Mamudabad 021 001	297	0.000
Passenger Shed	Amirganj	Rahimabad 088 001	106	0.023
Passenger Shed	Amirganj	Rahimabad 088 001	107	0.028
Passenger Shed	Amirganj	Rahimabad 088 001	108	0.034
Passenger Shed	Amirganj	Rahimabad 088 001	109	0.447
Passenger Shed	Mirzanagar	Hatubhanga 082 001	872	0.000
Passenger Shed	Mirzanagar	Hatubhanga 082 001	874	0.000
Passenger Shed	Mirzanagar	Hatubhanga 082 001	878	0.011
Passenger Shed	Mirzanagar	Hatubhanga 082 001	879	0.024
Passenger Shed	Mirzanagar	Hatubhanga 082 001	880	0.050
Passenger Shed	Mirzanagar	Hatubhanga 082 001	881	0.059
Passenger Shed	Mirzanagar	Hatubhanga 082 001	882	0.030
Passenger Shed	Mirzanagar	Hatubhanga 082 001	883	0.031
Passenger Shed	Mirzanagar	Hatubhanga 082 001	884	0.059
Passenger Shed	Mirzanagar	Hatubhanga 082 001	885	0.000
Passenger Shed	Mirzanagar	Hatubhanga 082 001	888	0.000
River Port	Char Subuddi	Char Subuddi 084 002	4046	0.037
River Port	Char Subuddi	Char Subuddi 084 002	4265	0.000
River Port	Char Subuddi	Char Subuddi 084 002	4266	0.084
River Port	Char Subuddi	Char Subuddi 084 002	4267	0.053
River Port	Char Subuddi	Char Subuddi 084 002	4268	0.113
River Port	Char Subuddi	Char Subuddi 084 002	4269	0.175
River Port	Char Subuddi	Char Subuddi 084 002	4271	0.164
River Port	Char Subuddi	Char Subuddi 084 002	4272	0.398
River Port	Char Subuddi	Char Subuddi 084 002	4353	0.000
River Port	Char Subuddi	Char Subuddi 084 002	4354	0.018
River Port	Char Subuddi	Char Subuddi 084 002	4355	0.135
River Port	Char Subuddi	Char Subuddi 084 002	4356	0.097
River Port	Char Subuddi	Char Subuddi 084 002	4357	0.312
River Port	Char Subuddi	Char Subuddi 084 002	4358	0.073
River Port	Char Subuddi	Char Subuddi 084 002	4359	0.248

Preparation of Development Plan for Raipura Upazila (2013-2033)

River Port	Char Subuddi	Char Subuddi 084 002	4360	0.044
River Port	Char Subuddi	Char Subuddi 084 002	4361	0.011
River Port	Char Subuddi	Char Subuddi 084 002	4362	0.354
River Port	Char Subuddi	Char Subuddi 084 002	4363	0.140
River Port	Char Subuddi	Char Subuddi 084 002	4364	0.105
River Port	Char Subuddi	Char Subuddi 084 002	4365	0.598
River Port	Char Subuddi	Lalpur 105 000	36	0.000
River Port	Char Subuddi	Lalpur 105 000	37	0.101
River Port	Char Subuddi	Lalpur 105 000	38	0.082
River Port	Char Subuddi	Lalpur 105 000	39	0.045
River Port	Char Subuddi	Lalpur 105 000	40	0.031
River Port	Char Subuddi	Lalpur 105 000	41	0.152
River Port	Char Subuddi	Lalpur 105 000	42	0.105
River Port	Char Subuddi	Lalpur 105 000	43	0.067
River Port	Char Subuddi	Lalpur 105 000	65	0.054
River Port	Maheshpur	Begamabad 029 003	5561	0.169
River Port	Maheshpur	Begamabad 029 003	5562	0.087
River Port	Maheshpur	Begamabad 029 003	5563	0.125
River Port	Maheshpur	Begamabad 029 003	5592	0.000
River Port	Maheshpur	Begamabad 029 003	5594	0.001
River Port	Maheshpur	Begamabad 029 003	5596	0.000
Tempoo Stand	Amirganj	Baluakandi 097 001	1773	0.059
Tempoo Stand	Amirganj	Baluakandi 097 001	1776	0.238
Tempoo Stand	Maheshpur	Sapmara 042 000	133	0.404
Tempoo Stand	Maheshpur	Sapmara 042 000	134	0.001
Tempoo Stand	Uttar Bakharnagar	Uttar Bakharnagar 065 003	6191	0.000
Tempoo Stand	Uttar Bakharnagar	Uttar Bakharnagar 065 003	6206	0.001
Tempoo Stand	Uttar Bakharnagar	Uttar Bakharnagar 065 003	6207	0.004
Tempoo Stand	Uttar Bakharnagar	Uttar Bakharnagar 065 003	6208	0.207
Tempoo Stand	Uttar Bakharnagar	Uttar Bakharnagar 065 003	6209	0.005
Tempoo Stand	Uttar Bakharnagar	Uttar Bakharnagar 065 003	6210	0.196
Tempoo Stand	Uttar Bakharnagar	Uttar Bakharnagar 065 003	6211	0.094
Truck Terminal	Amirganj	Hasnabad 095 003	1868	0.206
Truck Terminal	Amirganj	Hasnabad 095 003	1869	0.071
Truck Terminal	Amirganj	Hasnabad 095 003	1871	0.075
Truck Terminal	Amirganj	Hasnabad 095 003	1872	0.089
Truck Terminal	Amirganj	Hasnabad 095 003	1873	0.107
Truck Terminal	Amirganj	Hasnabad 095 003	1875	0.079
Truck Terminal	Amirganj	Hasnabad 095 003	1876	0.055
Truck Terminal	Amirganj	Hasnabad 095 003	1877	0.150



Truck Terminal	Amirganj	Hasnabad 095 003	1878	0.165
Truck Terminal	Amirganj	Hasnabad 095 003	1879	0.145
Truck Terminal	Amirganj	Hasnabad 095 003	1880	0.150
Truck Terminal	Amirganj	Hasnabad 095 003	1881	0.082
<b>Total</b>				<b>15.617</b>

Source: Field Survey, 2016.

### 8.2.3 Growth Center and Hat Bazar

Growth center may be defined as a service center which has potential for future development. These center provides goods and services to its own population as well as its surroundings. In Raipura Upazila there are 7 main growth center, which is located at Paurashava and Amirganj Union.

To sustain economic activity and economic development of rural area new growth center should be proposed at suitable location. New five growth center have been proposed respectively at Adiabad, Banshgari, Hairmara, Marjal and Nilakhya union. Proposed Growth centers are well connected within the union as well as whole Upazila.

### Existing and proposed Hat Bazar and Rural Market

Hat, is an open-air market that serves as a trading venue for local people in rural area. Hat bazars are conducted on a regular basis, i.e. once, twice, or three times a week. At present 2 growth center and 24 hat bazar in the Upazila. Marjal Bazar, Gopinathpur Bazar, Char Madhua Bazar, Banshgari Bazar, Panthashala Bazar, and Tulatali Bazar etc. are most important bazars in the Upazila.

**Table 8. 10:** Existing and Proposed Growth Center and Hat Bazar.

Union	Existing		Proposed	
	Number of Growth Center	Number of Hat Bazar	Number of Growth Center	Number of Rural Sells and Service Center (RSSC)
Adiabad	-	1	1	2
Alipura	-	1	-	2
Amirganj	1	1	1	3
Banshgari	-	1	1	1
Chanderkandi	-	1	-	1
Chandpur	-	1	-	3
Char Aralia	-	1	-	2
Char Madhua	-	1	-	1
Char Subuddi	-	1	-	2
Daukar Char	-	1	-	2
Hairmara	-	1	1	2
Maheshpur	-	1	-	3
Marjal	-	2	1	2
Mirzanagar	-	1	-	1

Union	Existing		Proposed	
	Number of Growth Center	Number of Hat Bazar	Number of Growth Center	Number of Rural Sells and Service Center (RSSC)
Mirzapur	-	1	-	2
Mirzar Char	-	1	-	1
Musapur	-	1	-	2
Nilakhya	-	1	1	2
Palashtali	-	1	-	1
Paratali	-	1	-	1
Radhanagar	-	1	-	1
Raipura	-	1	-	1
Sreenagar	-	-	-	3
Uttar Bakharnagar	-	-	-	2
<b>Total</b>	<b>1</b>	<b>23</b>	<b>6</b>	<b>43</b>

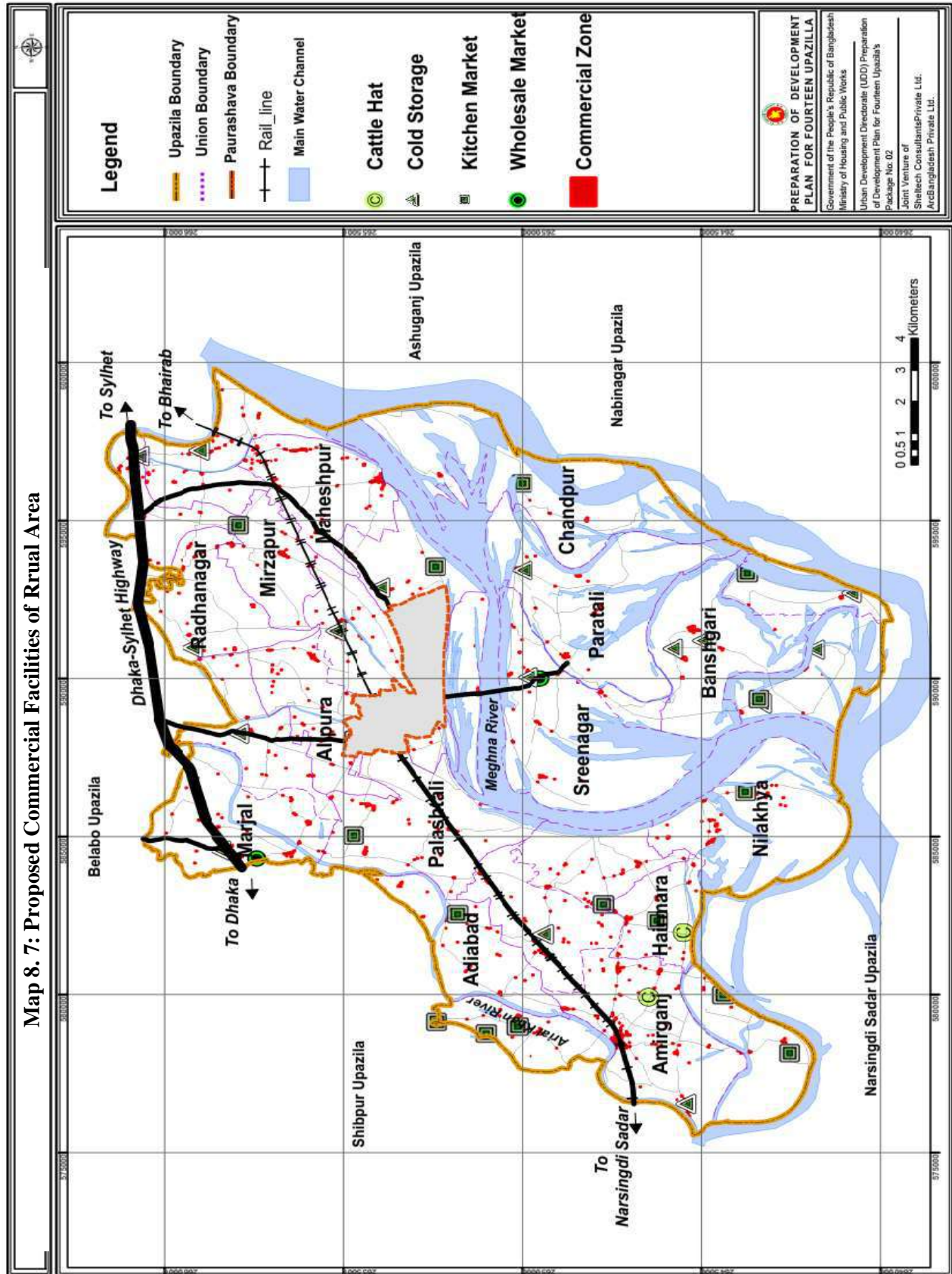
Rural Service Center is a place that provides certain functions and services to fulfill the basic demands of the local area. Rural Service Center has been proposed at every union an area of 0.5 acre and on average 2 to 4 total of 43 Rural Service Center (RSC) have been proposed at different union.

About 17 market have been proposed in the Rural Area of Raipura Upazila. 13 kitchen market (8.03 acres) have been proposed at Adiabab, Chandpur, Char Aralia, Char Subuddi, Daukar Char, Hairmara, Mirzapur, Mirzar Char, Nilakhya and Palashtali unions. Katcha Bazar and Wholesale market also proposed at Char Madhua, Marjal, Raipura and Sreenagar union.

**Table 8. 11:** Proposed Market.

Name	Area (in Acres)	Mauza	Plot Number
Kitchen Market	8.60	Adiabab 089 004	11413-11415
		Bagh Duariakandi 116 001	895 13701-13704
		Char Aralia 098 003	1437,1143
		Battali 099 001	522,2762,2763
		Char Madhua 123 001	4, 747
		Kashimnagar 093 000	1744
		Hairmara 102 002	1130
		Chhota Mirzapur 022 000	1074-1076 8311-8314
		Mirzar Char 126 001	1533,1534,1539,646,1654
		Nilakhya 109 003	2301, 2303,2285-2287
		Phuldi 071 001	
		Mamudpur 052 001	
Wholesale Market	2.97	Marjal 068 004 Sreenagar 112 002	9658-9663 4923,4928,4931,4951
<b>Total</b>	<b>11.57</b>		

Source: Field Survey, 2016.



### 8.2.4 Rural Settlement/Homestead or Housing

To prevent the random settlement of people in rural area, new rural housing planning in that area (130.14acre) has been proposed at Amirganj, Chanderkandi, Mirzapur, Uttar Bakharnagar union. Cluster villages (24.68 acre) has been proposed at Nilkhya, Char Madhua union. Waste disposal condition of the industries of this Upazila is unhealthy and unplanned. Waste disposal site and waste transfer station has been proposed. Industrial Zone has been proposed at Amirganj, Musapur union. Community clinic has been proposed at every union. Park, Playground, Neighborhood Park, Village Park, Police Box, Police Furry, Vocational Training institute, Mosjid Complex, Recreation Zone, and Tourist Spot etc. have been proposed according to present need and PRA demand.

**Table 8. 12:** List of proposed facilities in Rural Area.

Proposals	Union	Area (in acre)	Mauza_JL_ Sheet	Plot Number
Land Office	Adiabab, Char Madhua	0.81	Adiabab 089 002	5791-5793
New Union Parishad	Alipura	0.43	Nabiabad 063 002	2275,2280, 2281
Police Fari	Char Madhua	0.34	Char Madhua 123 001	1060
Police Investigation Centre	Banshgari	0.74	Banshgari 121 002	5342, 5345
Eidgah	Char Aralia, Chandpur, Hairmara	2.74	Majher Char 030 002 Char Aralia 098 003 Birkandi 101 000	697-699 13527, 13641 539, 540,623-628
Graveyard	Adiabab, Amirganj, Banshgari, Char Aralia, Char Subuddi, Daukar Char, Maheshpur, Marjal, Mirzapur, Mirzar Char, Musapur, Nilakhya, Palashtali, Radhanagar, Chandpur, Char Madhua	13.16	Adiabab 089 001 Baluakandi 097 001 Hasnabad 095 005 Banshgari 121 003 Purba Hossainnagar 117 002 Char Aralia 098 003  Char Madhua 123 001 Abdullapur 104 001 Daukar Char 094 001 Algi 035 000 Marjal 068 002 Chhota Mirzapur 022 000 Mirzar Char 126 001 Ramnagar 026 001 Nilakhya 109 002 Khag Char 074 000  Chhota Lakshmipur 014 001	2154,2155 2471-2473 9393, 9394,99999 11528 1536,1672, 1673  12173,12174, 12205,12206,12210  1453,1455,1457  1321,1320 1410  2213-2215 3220, 3221,3227 361-363,317 1093,1094 1243,1244 5594,5595 31,32  223,224

Preparation of Development Plan for Raipura Upazila (2013-2033)

Proposals	Union	Area (in acre)	Mauza_JL_ Sheet	Plot Number
Public Toilet	Amirganj	0.21	Hasnabad 095 003	1890
Shamshan Ghat	Mirzar Char	0.15	Mirzar Char 126 001	1106
College	Maheshpur, Marjal, Musapur, Paratali	9.97	Algi 035 000 Sapmara 042 000 Marjal 068 003 Purba Haripur 024 001 Hossain Nagar 119 001	1317, 1318,1327 990-993 5814-5816 586-592 41,49
High School	Alipura, Chanderkandi, Maheshpur, Palashtali	2.39	Nabiabad 063 002  Algi 035 000 Phuldi 071 002	2277-2282 1323,1324 3280, 3285,3286 3281,3284,4395
Madrasah	Mirzar Char, Chandpur	0.72	Bagh Duariakandi 116 002 Mirzar Char 126 001	1410 545
Primary School	Chanderkandi, Daukar Char, Uttar Bakharnagar, Chandpur	6.43	Najarpur 058 000 Bagh Duariakandi 116 001 Majher Char 030 002 Daukar Char 094 001 Char Khainkut 092 000 Uttar Bakharnagar 065 002	85-88,256,266, 267,737 270-274,266 800, 801 451 106, 107 2865,2866,2916,2917, 2922,2923
Public Library	Mirzanagar	0.31	Bangalinagar 085 001	771,773
Vocational Training Institute	Amirganj, Uttar Bakharnagar, Chandpur	2.14	Hasnabad 095 005 Purba Hossainnagar 117 002 Uttar Bakharnagar 065 003	9770, 9771,9778 2279,2280 6150-6153
Cyclone Shelter	Banshgari, Mirzar Char, Char Madhua	1.59	Char Madhua 123 002 Mirzar Char 126 001	5566,5600 543, 544,555
Community Clinic	All Except Chanderkandi, Marjal, Mirzanagar, Musapur, Radhanagar, Paratali	14.81	Char Subuddi 084 001	200
Hospital	Paratali	6.65	Hasnabad 095 005	11168-11176, 2616, 2617, 2622



Preparation of Development Plan for Raipura Upazila (2013-2033)

Proposals	Union	Area (in acre)	Mauza_JL_ Sheet	Plot Number
			Char Subuddi 084 002 Uttar Mirzanagar 086 003 Purba Haripur 024 001 Hossain Nagar 119 001	8339  719-725  6027-6033, 1136,1139  6026, 6028
Sattelite Clinic	Paratali	0.55	Hossain Nagar 119 001	280,279
Brick Field Zone	Amirganj, Char Subuddi, Maheshpur, Palashtali, Radhanagar	42.40	Hasnabad 095 001  Lalpur 105 000   Algi 035 000   Asarampur 077 000   Birampur 076 000  Radhanagar 048 001	201, 206-208,215, 238- 240, 247, 248 71-85, 88,90-93,97,99, 259- 261,282,290, 296,297,300- 303,308,314-316, 1445, 1672-1675 1528-1540,1545- 1549,1567-1570,1668- 1671  1168-1177,1181- 1187,1190-1195,1200- 1205,1212-1216  309- 311,315,316,320,321,32 6-331,335-337,344,345 1864-1868,1870- 1877,1882- 1894,1898,1899,1902- 1906,1924
Industrial Zone	Amirganj, Musapur	25.20	Musapur 025 000  Purba Haripur 024 001	628- 636,639,740,745,746 174-195,342-403,409- 417
Small Scale Industries	Adiabab, Alipura, Char Aralia, Mirzanagar, Mirzapur, Mirzar Char, Raipura, Sreenagar, Uttar Bakharnagar, Chandpur, Char Madhua	16.88	Adiabab 089 005 Purba Hossainnagar 117 002 Battali 099 002  Char Madhua 123 001 Uttar Mirzanagar 086 003	13497 1722-1727, 441,442  3422  1450-1452,1456,1461  3289-3291,3296- 3299,6244,6246

Preparation of Development Plan for Raipura Upazila (2013-2033)

Proposals	Union	Area (in acre)	Mauza_JL_ Sheet	Plot Number
			Bangalinagar 085 001	126
			Pirpur 047 002	2215-2221
			Mirzar Char 126 004	5678,5679,5681,5682,5686, 5687, 6012, 6015, 6019
			Sreenagar 112 002	2847- 2854
Park	Amirganj, Chanderkandi, Daukar Char, Maheshpur, Mirzanagar, Mirzapur, Musapur, Radhanagar, Uttar Bakharnagar, Chandpur	5.68	Purba Hossainnagar 117 002 Begamabad 029 003 Uttar Mirzanagar 086 003 Bangalinagar 085 001 Hatubhanga 082 001	2272,2276 5587,5589,5628 7591 431-436,662-665 782,783
Playground	Adiabab, Alipura, Amirganj, Char Subuddi, Daukar Char, Hairmara, Mirzapur, Palashtali, Raipura, Uttar Bakharnagar, Chandpur	6.55	Adiabab 089 003 Bahadurpur 064 002 Purba Hossainnagar 117 002 Char Subuddi 084 001 Kabirpur 091 000 Hairmara 102 002 Phuldi 071 002 Rajprasad 051 000 Bara Char 010 002	8200,8207 3900 2247,2248,2251 782,787 257 1743,1744,1748 2526,2527 288 3683
Recreational Zone	Alipura, Amirganj, Sreenagar	19.03	Nabiabad 063 002 Baluakandi 097 002	2306,2377,2380 5116,5127, 5128, 5131, 5137,5138,5141
Tourist Resort	Nilakhya, Paratali, Chandpur	11.18	Nilakhya 109 002	6088-6119
Mosque	Chanderkani	0.29	Chanderkandi 62	359,360
Cluster Village	Nilkhya, Char Madhua	23.69	Char Meghna 120 001	562-566,570,597,598,601,607,1852-1857,1962

Preparation of Development Plan for Raipura Upazila (2013-2033)

Proposals	Union	Area (in acre)	Mauza_JL_ Sheet	Plot Number
			Char Madhua 123 002 Nilakhya 109 006	1959-1961,4081- 4085,4088,4118-4125 17532-17535,18248- 18256
Housing Area	Amirganj, Chanderkandi, Mirzapur, Uttar Bakharnagar	85.41	Tulatuli 072 001  Rahimabad 088 001 Methikanda 073 001	1608,1698,1699,1704- 1794,1804-1824 737-799,800-853 31-674,2843
Electric Substation	Banshgari	0.26	Char Meghna 120 001	558
Godown	Maheshpur	0.56	Begamabad 029 003	5594-5596
Solar Panel	Mirzarchar, Nilakhya, Paratali, Sreenagar, Chandpur, Char Madhua	5.65	Bagh Duariakandi 116 002 Char Madhua 123 001 Nilakhya 109 003 Hossain Nagar 119 005 Sreeangar 112 003	1426-1428, 1435  1906,1920-1922  9487, 9488, 9496 13753-13758  6801,6871-6877
Waste Disposal Site	Amirganj	2.42	Hasnabad 095 006	15403,15404,15413- 15415, 15438-15442
Waste Transfer Station	Adiabab, Alipura, Amirganj, Harimara, Marjal, Mirzapur, Nilakhya, Palashtali, Paratali, Radhanagar, Raipura, Uttar Bakharnagar	3.48	Nabiabad 063 001 Baluakandi 097 001 Hasnabad 095 003 Hairmara 102 001 Marjal 068 004 Mamudabad 021 001 Nilakhya 109 003 Phuldi 071 002 Hossain Nagar 119 002 Chhota Lakshmipur 014 001	1545 1187 1562 432 9395 282 8299 2968  3241 529,941, 942,948
<b>Total</b>		<b>312.82</b>		

### 8.3 Union wise Existing and Proposed Land Uses

#### Adiabab Union

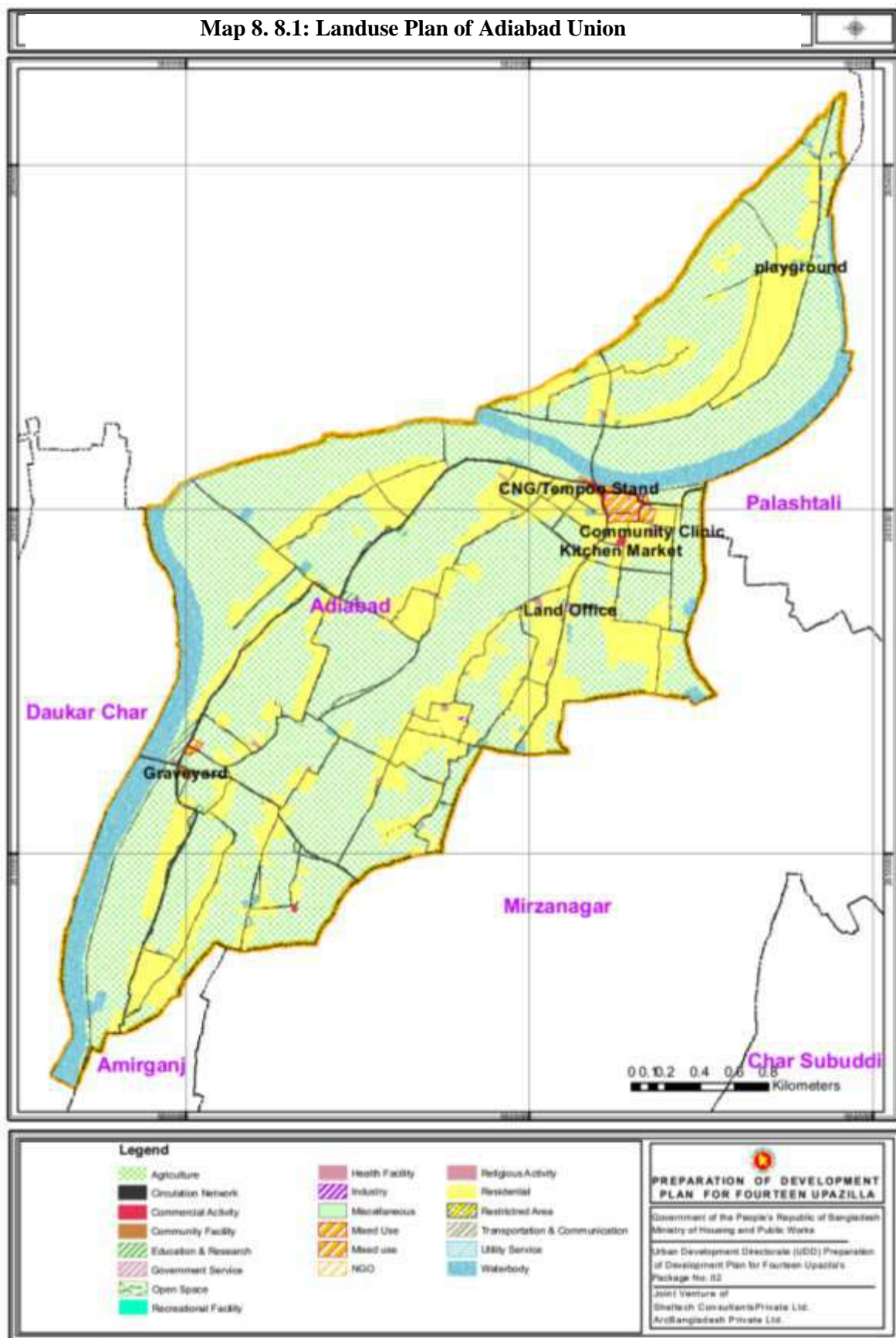
Out of total 2737.18 acres of land in this union, more than 1751.81 acres of land i.e. 64% is used as agriculture purpose. The residential use with 709.77 acres, occupies 25.93 % of total land, water bodies 7.58 %, commercial use 0.04 %, and circulation 1.20 %. **Table 8.13.1** shows existing and proposed landuse of Adiabab Union. **Map 8.6.1** shows proposed land use of Adiabab union.

**Table 8. 13.1:** Existing and Proposed Land Uses of Adiabab Union.

Landuse	Existing Landuse		Proposed Landuse	
	Area (in acre)	%	Area (in acre)	%
Administrative	0.93	0.03	0.93	0.03
Agricultural	1751.81	64.00	1549.29	56.6
Circulation Network	32.89	1.20	245.12	8.96
Commercial	1.00	0.04	5.50	0.20
Education & Research	11.38	0.42	12.25	0.45
Health Facilities	0.65	0.02	2.20	0.08
Industrial	0.26	0.01	10.55	0.39
Mixed use	16.51	0.60	20.22	0.74
Religious	4.52	0.17	5.52	0.2
Residential	709.77	25.93	678.14	25.03
Waterbody	207.46	7.58	207.46	7.32
<b>Total</b>	<b>2737.18</b>	<b>100</b>	2737.18	100

**Source:** Field Survey, 2016.

In the plan about 8 proposed facilities has been incorporated according to the PRA demand and suggestions in the consultation meeting. About 5.73 Acres area has been covered with these proposals. Among those proposals there are 1 Graveyard, 1 Auto Stand, 1 Community Clinic, 1 Playground, 1 Land office, 1 Kitchen Market, 1 Waste Transfer Station and 1 Small Scale Industry. These proposals provide community, health, recreational, industrial, transportations, market and administrative facilities in the union.





**Alipura Union**

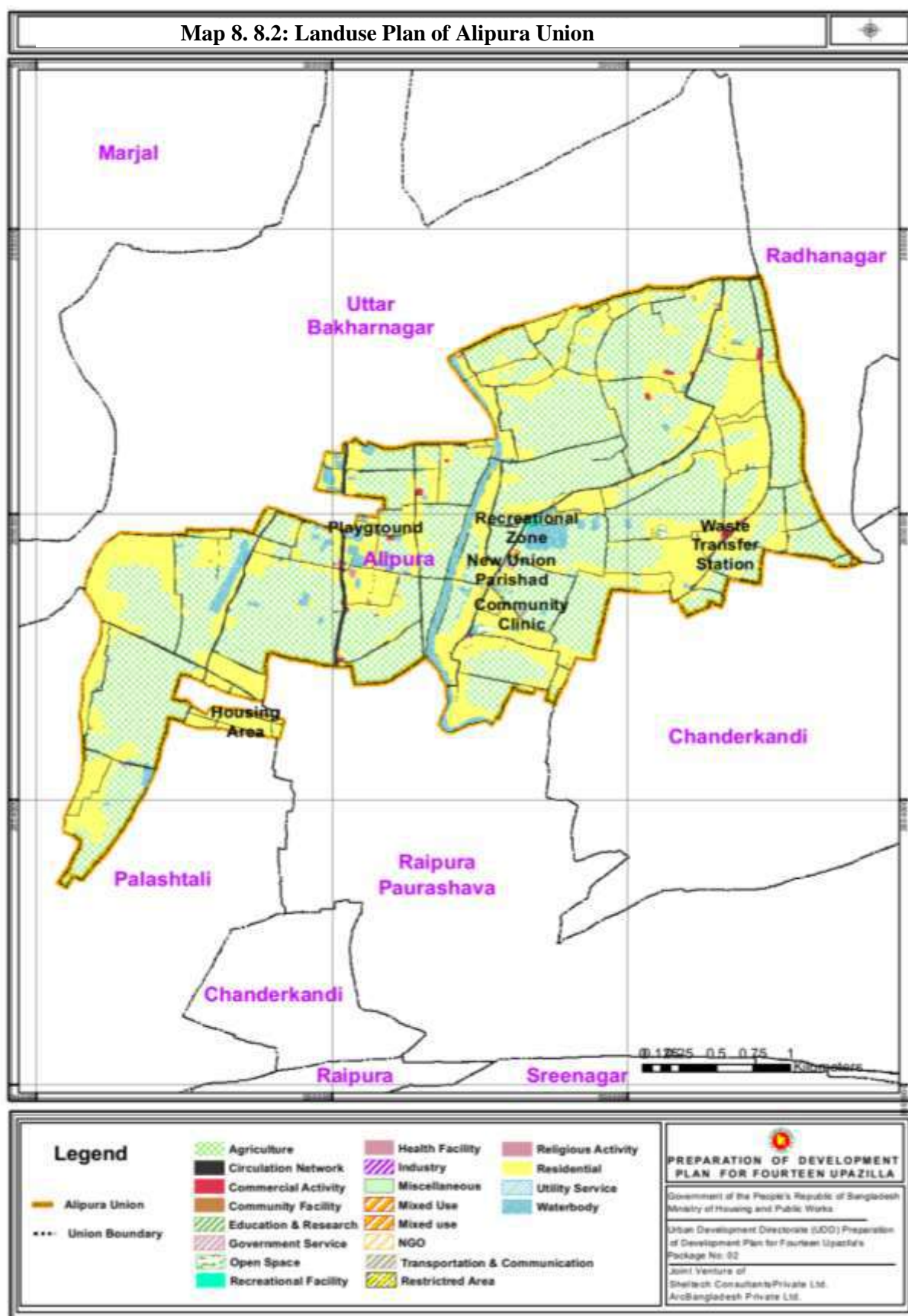
Out of total 2210.87 acres of land in this union, more than 1372.01 acres of land i.e. 62.06 % is used as agriculture purpose. The residential use with 706.14 acres, occupies 31.94 % of total land, water bodies 3.94 %, commercial use 0.28 %, and circulation 1.33 %. **Table 8.13.2** shows existing and proposed landuse of Alipura Union. **Map 8.8.2** shows proposed land use of Alipura union.

**Table 8. 13.2:** Existing and Proposed Land Uses of Alipura Union.

Landuse	Existing Landuse		Propsoed Landuse	
	Area (in acre)	%	Area (in acre)	%
Administrative	0.12	0.01	0.12	0.01
Agricultural	1372.01	62.06	1351.21	61.12
Circulation Network	29.36	1.33	88.25	3.99
Commercial	6.17	0.28	10.45	0.47
Education & Research	2.60	0.12	2.80	0.13
Health Facilities	0.35	0.02	1.25	0.06
Miscellaneous	0.16	0.01	1.50	0.07
Mixed use	0.57	0.03	2.26	0.10
Open Space	3.82	0.17	5.53	0.25
Religious	2.57	0.12	2.98	0.13
Residential	706.14	31.94	657.52	31.22
Waterbody	87.00	3.94	87.00	2.45
<b>Total</b>	<b>2210.87</b>	<b>100</b>	<b>2210.87</b>	<b>100.00</b>

**Source:** Field Survey, 2016.

In the plan about 10 proposed facilities has been incorporated according to the PRA demand and suggestions in the consultation meeting. About 92.42 Acres area has been covered with these proposals. Among those proposals there are 1 housing area, 1 high school, 3 Community Clinic, 1 recreational zone, 1 Union Parishad, 1 playground, 1 Waste Transfer Station and 1 Small Scale Industry. These proposals provide health, education, rural settlements, and administrative, recreational and utility facilities in the union.



**Amirganj Union**

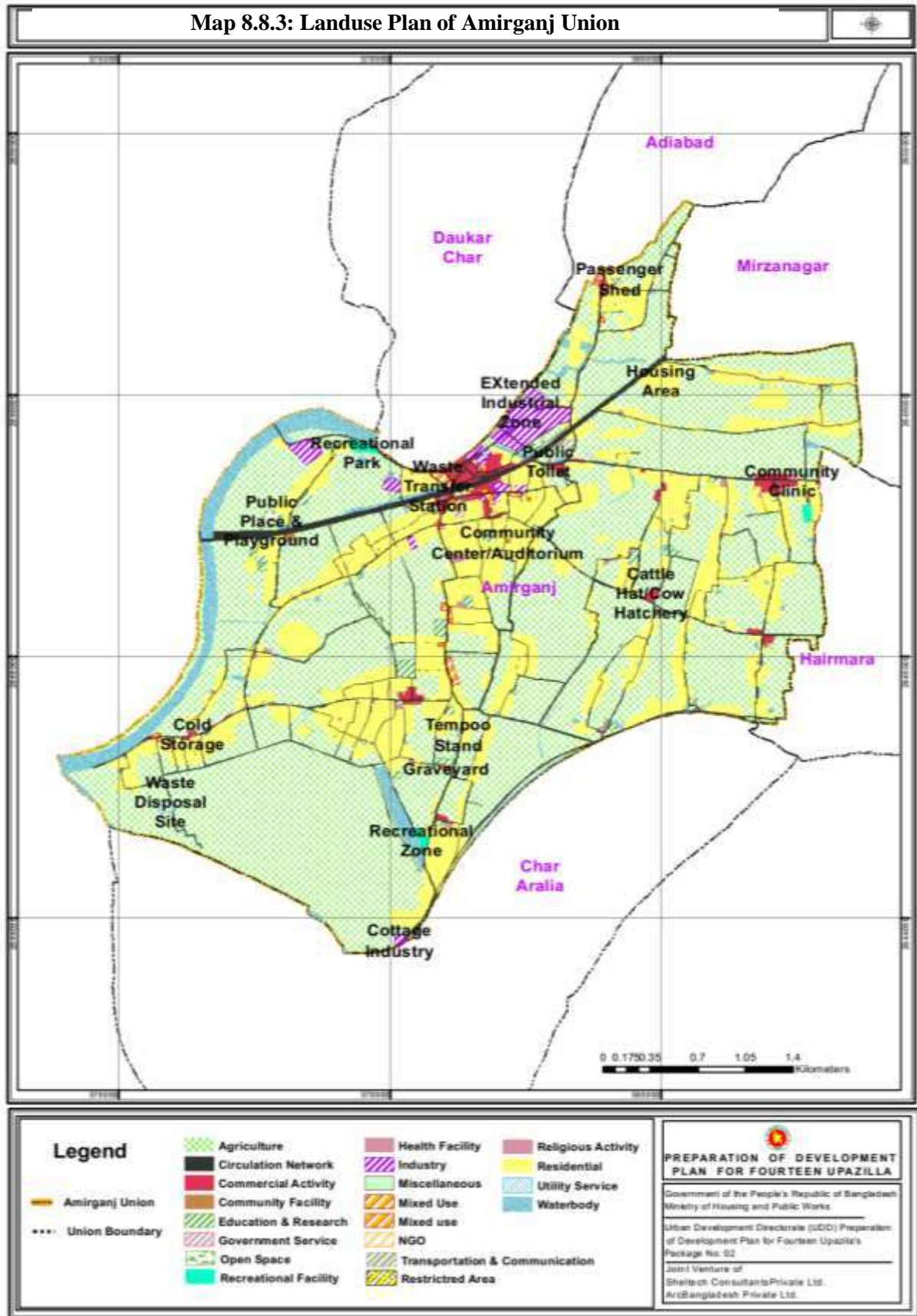
Out of total 3921.21 acres of land in this union, more than 2588.39 acres of land i.e. 66.01 % is used as agriculture purpose. The residential use with 973.41 acres, occupies 24.82 % of total land, water bodies 4.17 %, commercial use 1.22 %, and circulation 1.89 %. **Table 8.13.3** shows existing and proposed landuse of Amirganj Union. **Map 8.8.3** shows proposed land use of Amirganj union.

**Table 8.13.3:** Existing and Proposed Land Uses of Amirganj Union.

Landuse	Existing Landuse		Proposed Landuse	
	Area (in acre)	%	Area (in acre)	%
Administrative	1.15	0.03	1.15	0.03
Agricultural	2588.39	66.01	2442.9	62.30
Circulation Network	74.18	1.89	225.25	5.74
Commercial	47.94	1.22	55.56	1.42
Education & Research	33.53	0.86	35.65	0.91
Health Facilities	1.72	0.04	2.25	0.06
Industrial	13.06	0.33	20.25	0.52
Mixed use	15.67	0.40	22.25	0.57
Recreational Facility	0.22	0.01	2.25	0.06
Religious	8.38	0.21	9.56	0.24
Residential	973.41	24.82	940.58	23.99
Waterbody	163.56	4.17	163.56	4.17
<b>Total</b>	<b>3921.21</b>	<b>100</b>	<b>3921.21</b>	<b>100.00</b>

**Source:** Field Survey, 2016.

In the plan about 30 proposed facilities has been incorporated according to the PRA demand and suggestions in the consultation meeting. About 90.99 Acres area has been covered with these proposals. Among those proposals there are 1 brick field zone, 1 bus terminal, 1 cow-hatchery, 2 auto stand, 1 cold storage, 3 community clinic, 1 industrial zone extension, 2 graveyards, 1 hospital, 1 housing area, 1 neighborhood park, 1 passenger shed, 1 playground, 2 public toilets, 2 recreational park, 1 recreational zone, 1 cottage industry, 1 truck terminal, 1 vocational training institute, 1 waste disposal site and 3 waste transfer station. These proposals provide industrial, transportation, agricultural, community, health, settlement, recreational, educational and utility facilities in the union.



**Banshgari Union**

Out of total 3687.57 acres of land in this union, more than 2618.15 acres of land i.e. 71 % is used as agriculture purpose. The residential use with 449.22 acres, occupies 12.18 % of total land, water bodies 15.96%, commercial use 0.20 %, and circulation 0.39 %. **Table 8.13.4** shows existing and proposed landuse of Banshgari Union. **Map 8.8.4** shows proposed land use of Banshgari union.

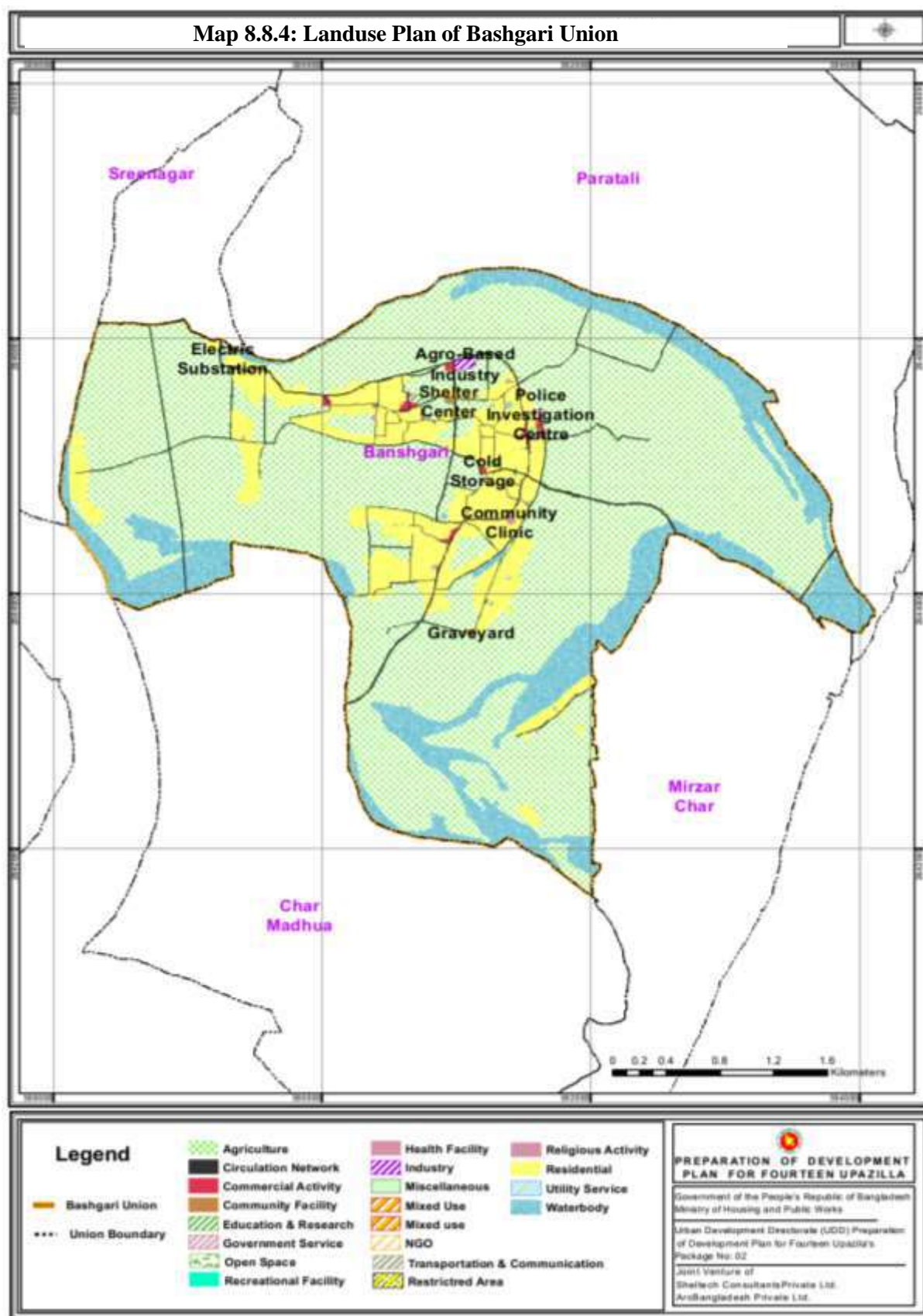
**Table 8. 13.4:** Existing and Proposed Land Uses of Banshgari Union.

Landuse	Existing Landuse		Proposed Landuse	
	Area	%	Area	%
Administrative	0.97	0.03	0.97	0.03
Agricultural	2618.15	71.00	2501.61	67.84
Circulation Network	14.32	0.39	178.2	4.83
Commercial y	7.51	0.20	9.23	0.25
Education & Research	6.96	0.19	6.96	0.19
Religious	2.04	0.06	3.20	0.09
Residential	449.22	12.18	398.99	10.82
Waterbody	588.41	15.96	588.41	15.96
<b>Total</b>	<b>3687.57</b>	<b>100</b>	<b>3687.57</b>	100.00

**Source:** Field Survey, 2016.

In the plan about 10 proposed facilities has been incorporated according to the PRA demand and suggestions in the consultation meeting. About 10.73 Acres area has been covered with these proposals. Among those proposals there are 1 agro-based industry, 1 cluster village, 2 cold storages, 2 community clinic, 1 electrical substation, 1 graveyard, 1 police investigation center and 1 cyclone shelter. These proposals provide Agricultural, settlement, health, utility, community, administrative and emergency facilities in the union.





**Chanderkandi Union**

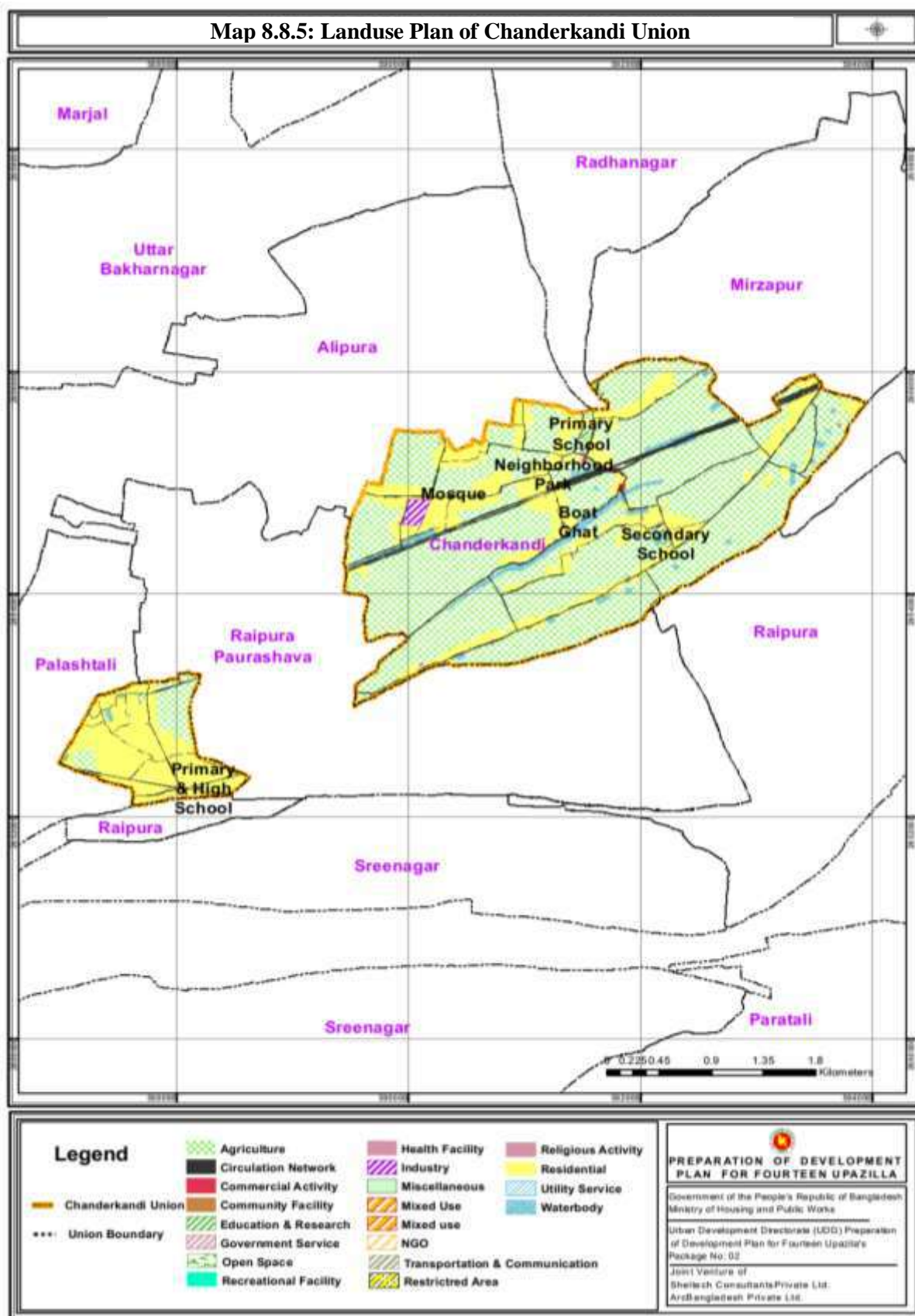
Out of total 2160.27 acres of land in this union, more than 1455.01 acres of land i.e. 67.35 % is used as agriculture purpose. The residential use with 583.56 acres, occupies 27.01 % of total land, water bodies 3.41 %, commercial use 0.15% and circulation 1.67%. **Table 8.13.5** shows existing and proposed landuse of Chanderkandi Union. **Map 8.8.5** shows proposed land use of Chanderkandi union.

**Table 8. 13.5:** Existing and Proposed Land Uses of Chanderkandi Union.

Landuse	Existing Landuse		Proposed Landuse	
	Area	%	Area	%
Agricultural	1455.01	67.35	1346.93	62.35
Circulation Network	35.98	1.67	178.25	8.25
Commercial	3.28	0.15	10.20	0.47
Education & Research	4.40	0.20	6.23	0.29
Health Facilities	0.22	0.01	1.50	0.07
Religious	3.54	0.16	5.56	0.26
Residential	583.56	27.01	536.78	24.85
Transportation & Communication	0.65	0.03	1.20	0.06
Waterbody	73.62	3.41	73.62	3.41
<b>Total</b>	<b>2160.27</b>	<b>100</b>	<b>2160.27</b>	<b>100.00</b>

**Source:** Field Survey, 2016.

In the plan about 10 proposed facilities has been incorporated according to the PRA demand and suggestions in the consultation meeting. About 29.53 Acres area has been covered with these proposals. Among those proposals there are 1 agro-based industry, 1 cold storage, 1 mosque, 1 neighborhood park, 2 high school, 2 primary school, 1 boat ghat and 1 rural housing. These proposals provide agricultural, transportation, religious, recreational, educational and settlements facilities in the union.



**Chandpur Union**

Out of total 4903.59 acres of land in this union, more than 2817.95 acres of land i.e. 57.47 % is used as agriculture purpose. The residential use with 450.58 acres, occupies 9.19 % of total land, water bodies 32.81 %, commercial use 0.11 %, and circulation 0.24%. **Table 8.13.6** shows existing and proposed landuse of Chandpur Union. **Map 8.8.6** shows proposed land use of Chandpur union.

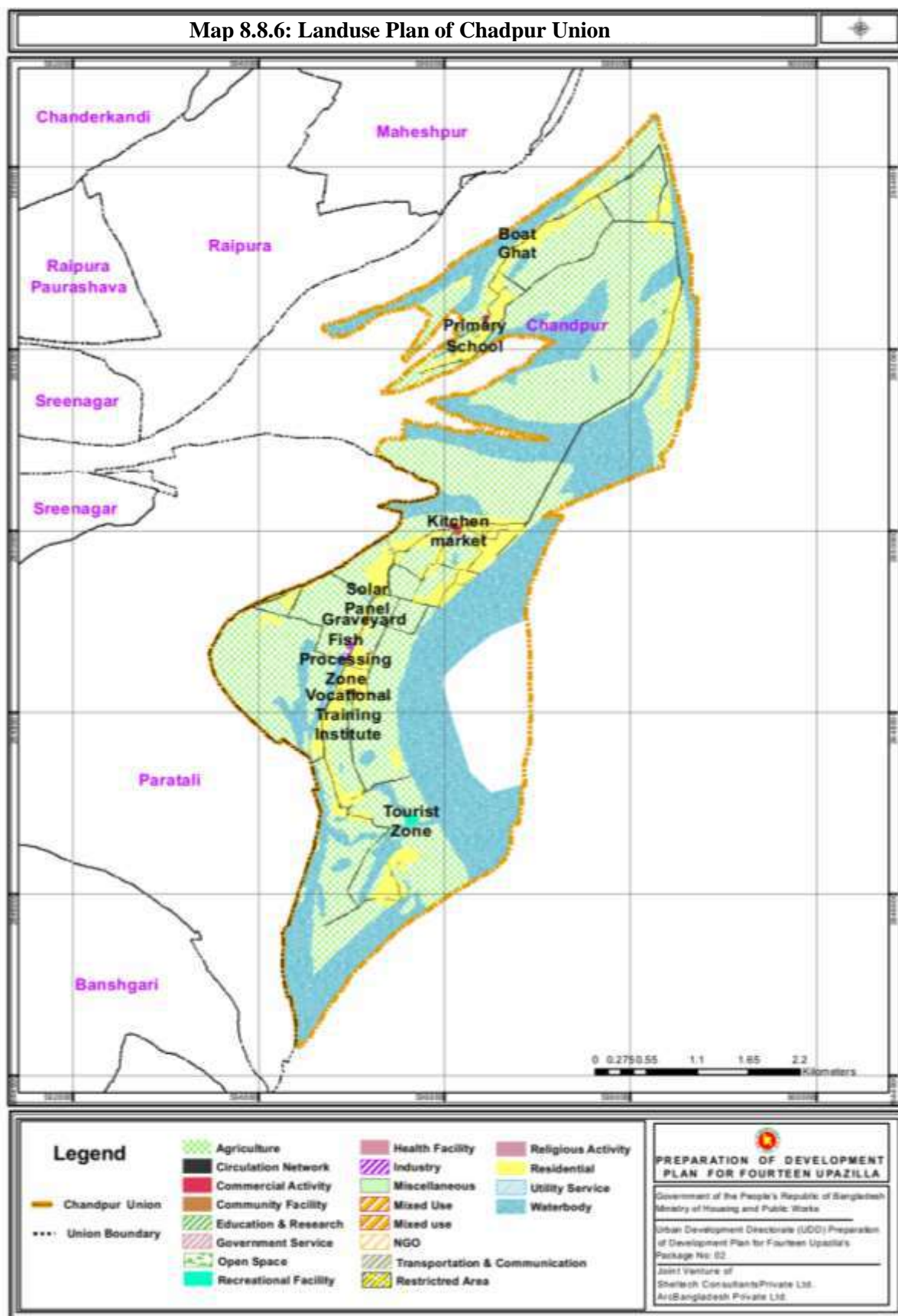
**Table 8. 13.6:** Existing and Proposed Land Uses of Chandpur Union.

Landuse	Existing Landuse		Proposed Landuse	
	Area (in acre)	%	Area (in acre)	%
Government Services	0.52	0.01	0.20	0.00
Agricultural	2817.95	57.47	2627.14	53.58
Circulation Network	11.53	0.24	220.25	4.49
Commercial	5.59	0.11	11.56	0.24
Education & Research	5.26	0.11	6.25	0.13
Health Facilities	0.24	0.00	2.20	0.04
Religious	3.04	0.06	5.56	0.11
Residential	450.58	9.19	421.43	8.59
Waterbody	1609.00	32.81	1609.00	32.81
<b>Total</b>	<b>4903.59</b>	<b>100</b>	<b>4903.59</b>	<b>100.00</b>

**Source:** Field Survey, 2016.

In the plan about 15 proposed facilities has been incorporated according to the PRA demand and suggestions in the consultation meeting. About 14.43 Acres area has been covered with these proposals. Among those proposals there are 1 community clinic, 1 eidgah, 1 fish processing zone, 1 graveyard, 1 kitchen market, 1 madrassah, 1 park, 1 playground, 2 primary school, 1 boat ghat, 1 small scale industry, 1 solar panel, 1 tourist zone, 1 vocational training institute. These proposals provide community, agricultural, market, educational, recreational, transportation, industrial and utility services in the union.







**Char Aralia Union**

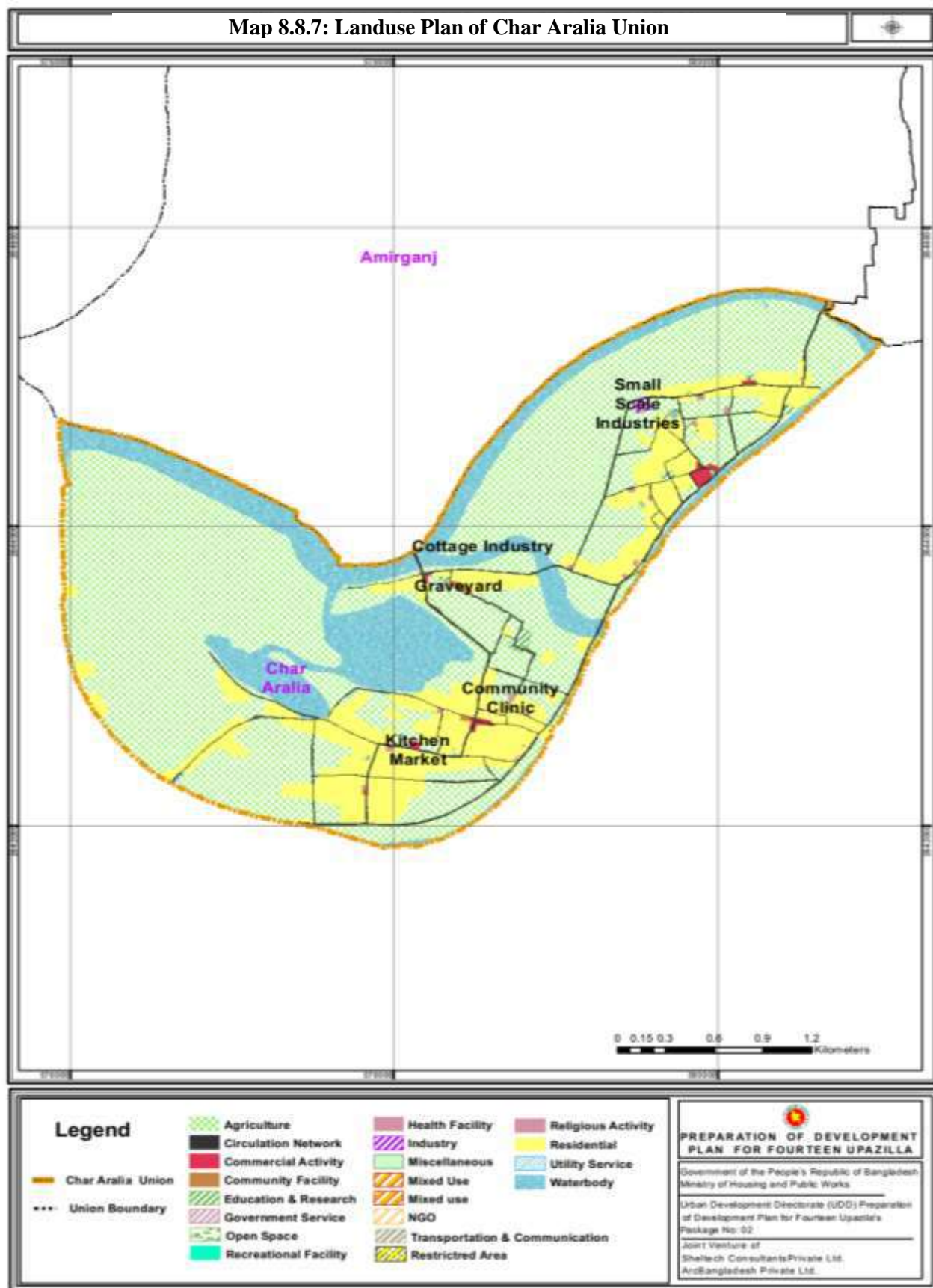
Out of total 2199.45 acres of land in this union, more than 1411.67 acres of land i.e. 64.18 % is used as agriculture purpose. The residential use with 370.85 acres, occupies 16.86 % of total land, water bodies 17.65%, commercial use 0.28 %, and circulation 0.51 %. **Table 8.13.7** shows existing and proposed landuse of Char Aralia Union. **Map 8.8.7** shows proposed land use of Char Aralia union.

**Table 8. 13.7:** Existing and Proposed Land Uses of Char Aralia Union.

Landuse	Existing Landuse		Proposed Landuse	
	Area (in acre)	%	Area (in acre)	%
Administrative	0.24	0.01	0.24	0.01
Agricultural	1411.67	64.18	1267.53	57.63
Circulation Network	11.31	0.51	176.23	8.01
Commercial	6.26	0.28	8.26	0.38
Education & Research	7.51	0.34	8.20	0.37
Health Facilities	0.30	0.01	1.25	0.06
Mixed use	0.10	0.00	2.20	0.10
Religious	3.02	0.14	4.50	0.20
Residential	370.85	16.86	342.86	15.95
Waterbody	388.18	17.65	388.18	17.29
<b>Total</b>	<b>2199.45</b>	<b>100</b>	<b>2199.45</b>	<b>100</b>

**Source:** Field Survey, 2016.

In the plan about 10 proposed facilities has been incorporated according to the PRA demand and suggestions in the consultation meeting. About 5.63 Acres area has been covered with these proposals. Among those proposals there are 2 community clinic, 1 Eidgah, 1 graveyard, 2 kitchen market and 1 small scale industry. These proposals provide community, health, market and industrial facilities in the union.



**Char Madhua Union**

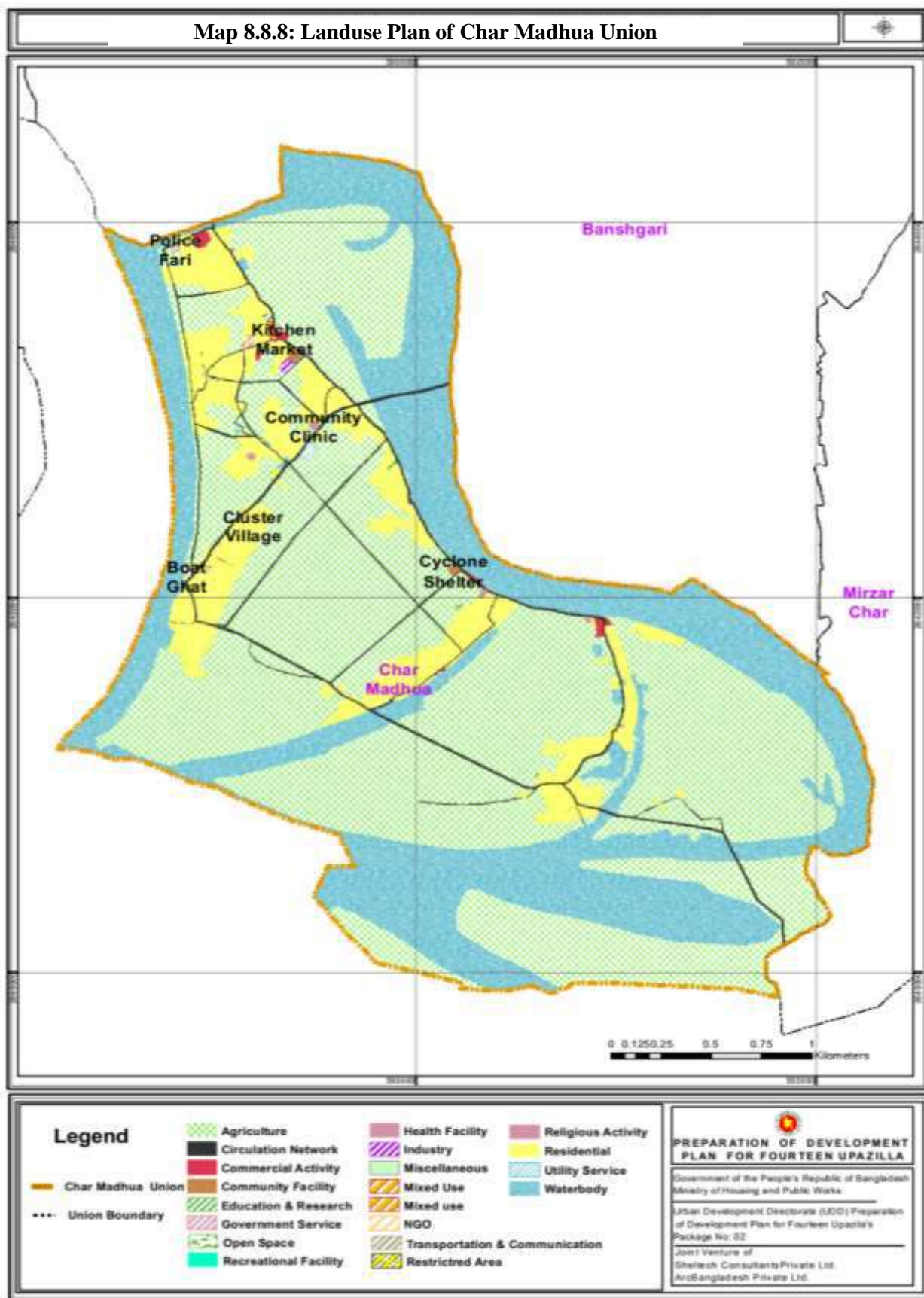
Out of total 2357.85 acres of land in this union, more than 1342.73 acres of land i.e. 56.95 % is used as agriculture purpose. The residential use with 247.39 acres, occupies 10.49 % of total land, water bodies 31.97 %, commercial use 0.14 %, and circulation 0.30 %. **Table 8.13.8** shows existing and proposed landuse of Char Madhua Union. **Map 8.8.8** shows proposed land use of Char Madhua union.

**Table 8. 13.8:** Existing and Proposed Land Uses of Char Madhua Union.

Landuse	Existing Landuse		Proposed Landuse	
	Area (in acre)	%	Area (in acre)	%
Administrative	0.49	0.02	0.49	0.02
Agricultural	1342.73	56.95	1209.61	51.30
Circulation Network	6.99	0.30	145.20	6.16
Commercial Facility	3.25	0.14	5.75	0.24
Education & Research	1.60	0.07	2.65	0.11
Mixed use	0.74	0.03	2.20	0.09
Religious	0.86	0.04	1.50	0.06
Residential	247.39	10.49	236.65	10.04
Waterbody	753.8	31.97	753.8	31.97
<b>Total</b>	<b>2357.85</b>	<b>100</b>	<b>2357.85</b>	100.00

Source: Field Survey, 2016.

In the plan about 17 proposed facilities has been incorporated according to the PRA demand and suggestions in the consultation meeting. About 15.30 Acres area has been covered with these proposals. Among those proposals there are 2 cluster village, 2 cold storages, 3 community clinic, 1 cyclone shelter, 1 graveyard, 1 katcha bazar, 1 land office, 1 police fari, 2 boat ghat, 1 small scale industries, 1 solar panel and 1 toll house. These proposals provide settlement, agricultural, health, emergency, community, market, administrative, transportation, industrial and utility services in the union.



**Char Subuddi Union**

Out of total 1922.37 acres of land in this union, more than 1198.32 acres of land i.e. 62.34% is used as agriculture purpose. The residential use with 497.63 acres, occupies 25.89 % of total land, water bodies 9.43%, commercial use 0.46 %, and circulation 0.80 %. **Table 8.13.9** shows existing and proposed land use of Char Subuddi Union. **Map 8.8.9** shows proposed land use of Char Subuddi union.

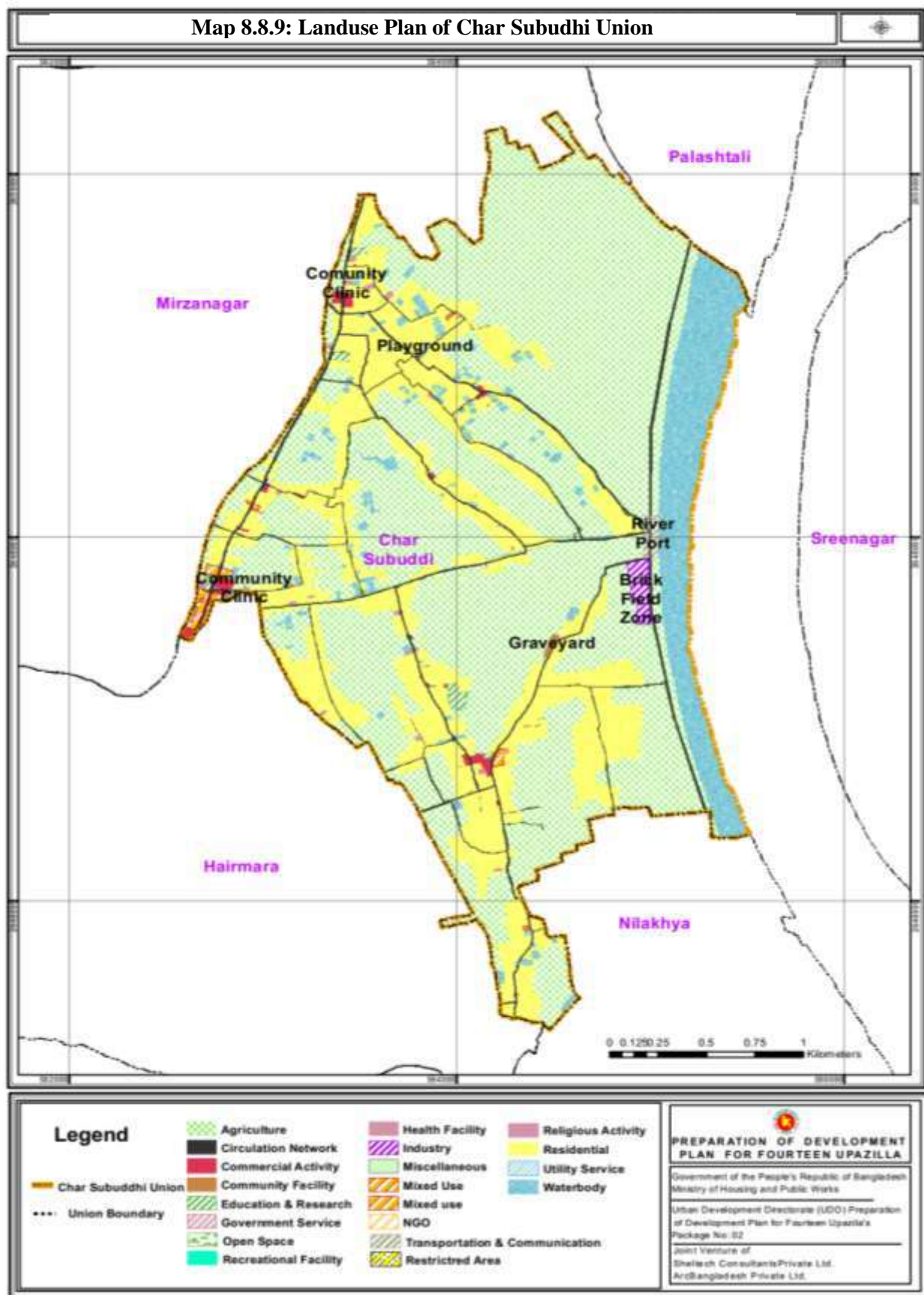
**Table 8.13.9:** Existing and Proposed Land Uses of Char Subuddi Union.

Landuse	Existing Landuse		Proposed Landuse	
	Area (in acre)	%	Area (in acre)	%
Administrative	0.21	0.01	0.21	0.01
Agricultural	1198.32	62.34	1028.13	53.48
Circulation Network	15.39	0.80	212.20	11.04
Commercial	8.82	0.46	10.20	0.53
Education & Research	6.88	0.36	8.20	0.43
Health Facilities	0.32	0.02	1.52	0.08
Industrial	0.05	0.00	2.20	0.11
Mixed use	8.50	0.44	10.40	0.54
Religious	4.86	0.25	5.86	0.30
Residential	497.63	25.89	462.10	24.04
Waterbody	181.35	9.43	181.35	9.43
<b>Total</b>	<b>1922.37</b>	<b>100</b>	<b>1922.37</b>	<b>100.00</b>

**Source:** Field Survey, 2016.

In the plan about 12 proposed facilities has been incorporated according to the PRA demand and suggestions in the consultation meeting. About 15.53 Acres area has been covered with these proposals. Among those proposals there are 1 brick field zone, 2 community clinic, 1 graveyard, 1 kitchen market, 1 playground and 1 boat ghat. These proposals provide industrial, health, community, market, recreational and transportation facilities in the union.





**Daukar Char Union**

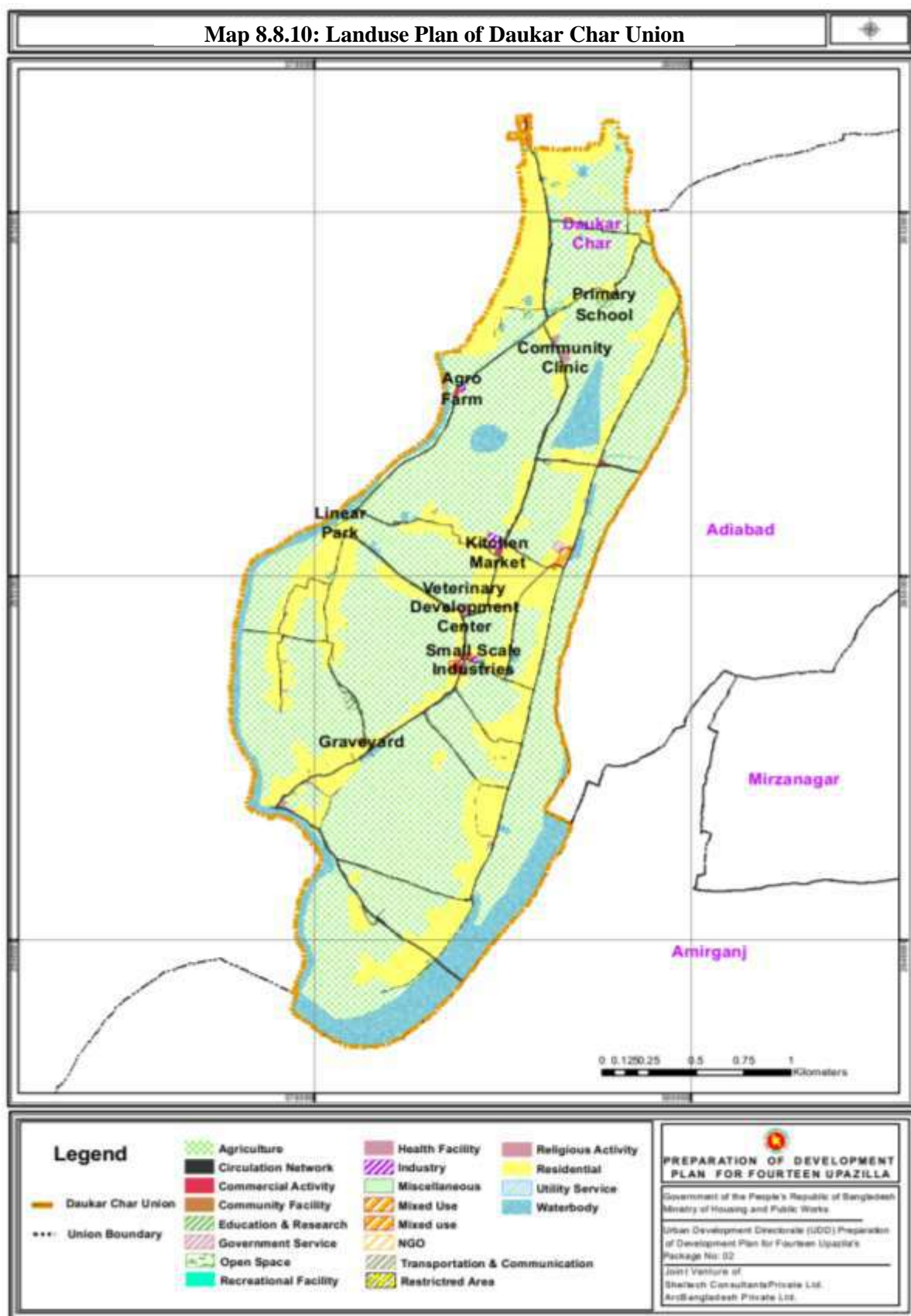
Out of total 1191.18 acres of land in this union, more than 786.71 acres of land i.e. 66.04% is used as agriculture purpose. The residential use with 255.24 acres, occupies 21.43 % of total land, water bodies 10.93 %, commercial use 0.03 %, and circulation 0.93 %. **Table 8.13.10** shows existing and proposed land use of Daukar Char Union. **Map 8.8.10** shows proposed land use of Daukar Char union.

**Table 8.13.10:** Existing and Proposed Land Uses of Daukar Char Union.

Landuse	Existing Landuse		Proposed Landuse	
	Area (in acre)	%	Area (in acre)	%
Administrative	0.16	0.01	0.16	0.01
Agricultural	786.71	66.04	669.28	56.19
Circulation Network	11.07	0.93	145.21	12.19
Commercial	0.35	0.03	2.20	0.18
Education & Research	2.18	0.18	3.20	0.27
Miscellaneous	0.15	0.01	1.23	0.10
Mixed use	3.22	0.27	4.20	0.35
Religious	1.92	0.16	2.20	0.18
Residential	255.24	21.43	233.32	19.59
Waterbody	130.18	10.93	130.18	10.93
<b>Total</b>	<b>1191.18</b>	<b>100</b>	<b>1191.18</b>	<b>100.00</b>

**Source:** Field Survey, 2016.

In the plan about 13 proposed facilities has been incorporated according to the PRA demand and suggestions in the consultation meeting. About 6.30 Acres area has been covered with these proposals. Among those proposals there are 1 agro-based industry, 1 agro farm, 2 community clinic, 1 graveyard, 3 kitchen market, 1 playground, 1 linear park, 2 primary school and 1 veterinary training center. These proposals provide industrial, agricultural, community, market, recreational, educational facilities in the union.



**Hairmara Union**

Out of total 1573.77 acres of land in this union, more than 945.92 acres of land i.e. 60.11 % is used as agriculture purpose. The residential use with 499.05 acres, occupies 31.71 % of total land, water bodies 5.26 %, commercial use 0.83 %, and circulation 1.11 %. **Table 8.13.11** shows existing and proposed land use of Hairmara Union. **Map 8.8.11** shows proposed land use of Hairmara union.

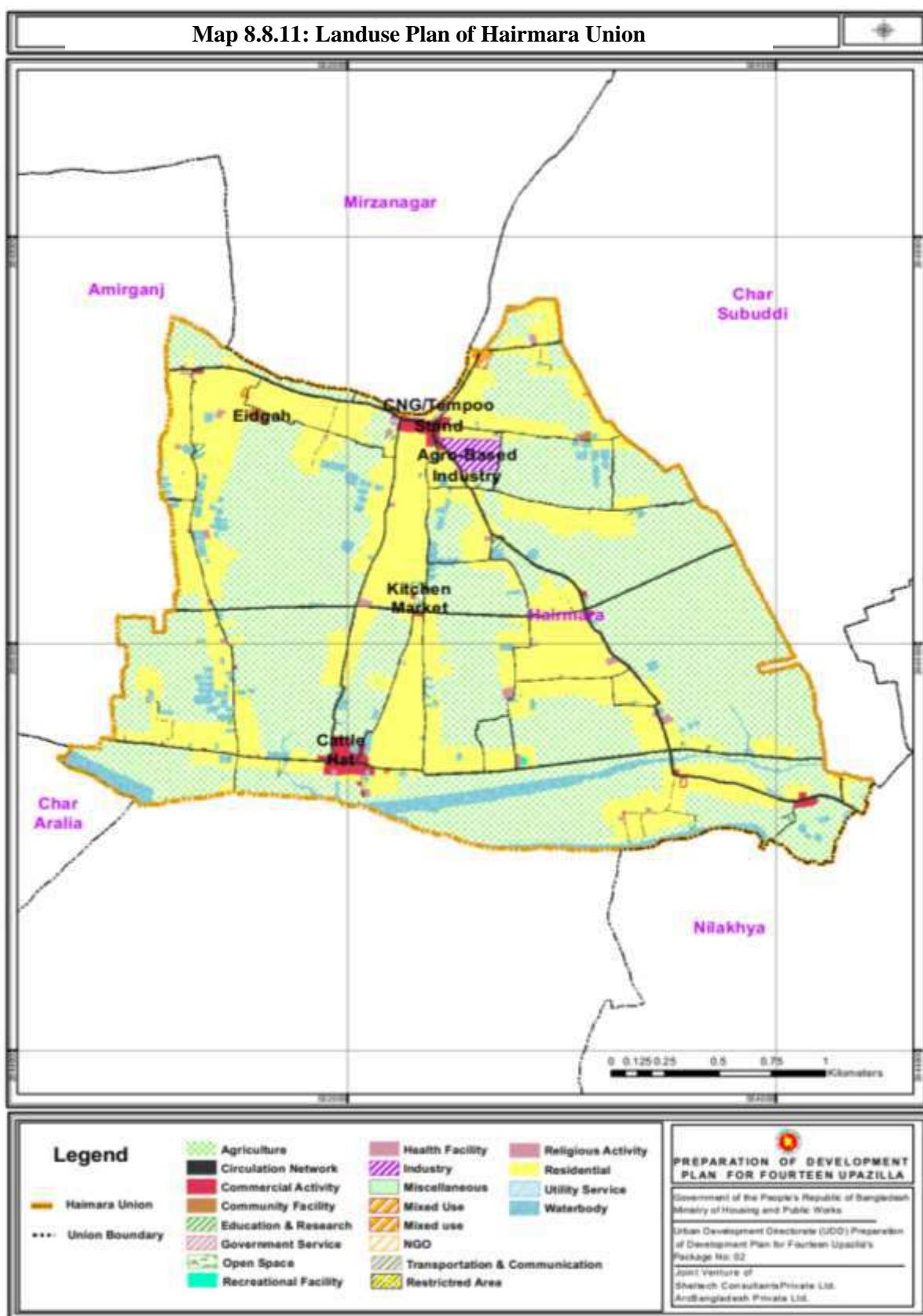
**Table 8.13.11:** Existing and Proposed Land Uses of Hairmara Union.

Landuse	Existing Landuse		Proposed Landuse	
	Area (in acre)	%	Area (in acre)	%
Administrative	0.14	0.01	0.14	0.01
Agricultural	945.92	60.11	874.68	55.58
Circulation Network	17.52	1.11	123.25	7.83
Commercial	13.10	0.83	14.68	0.93
Community Facility	0.46	0.03	1.20	0.08
Education & Research	5.41	0.34	5.41	0.34
Health Facilities	0.72	0.05	1.25	0.08
Industrial	0.29	0.02	2.20	0.14
Mixed use	2.68	0.17	3.56	0.23
Recreational Facility	0.21	0.01	2.50	0.16
Religious	5.42	0.34	6.50	0.41
Residential	499.05	31.71	455.58	28.95
Waterbody	82.85	5.26	82.85	5.26
<b>Total</b>	<b>1573.77</b>	<b>100</b>	<b>1573.8</b>	<b>100.00</b>

**Source:** Field Survey, 2016.

In the plan about 9 proposed facilities has been incorporated according to the PRA demand and suggestions in the consultation meeting. About 15.37 Acres area has been covered with these proposals. Among those proposals there are 1 agro-based industry, 1 cattle hat, 1 auto stand, 1 community clinic, 1 eidgah, 1 kitchen market, 1 playground, 1 veterinary hospital and 1 waste transfer station. These proposals provide agricultural, recreational and utility services in the union.







**Maheshpur Union**

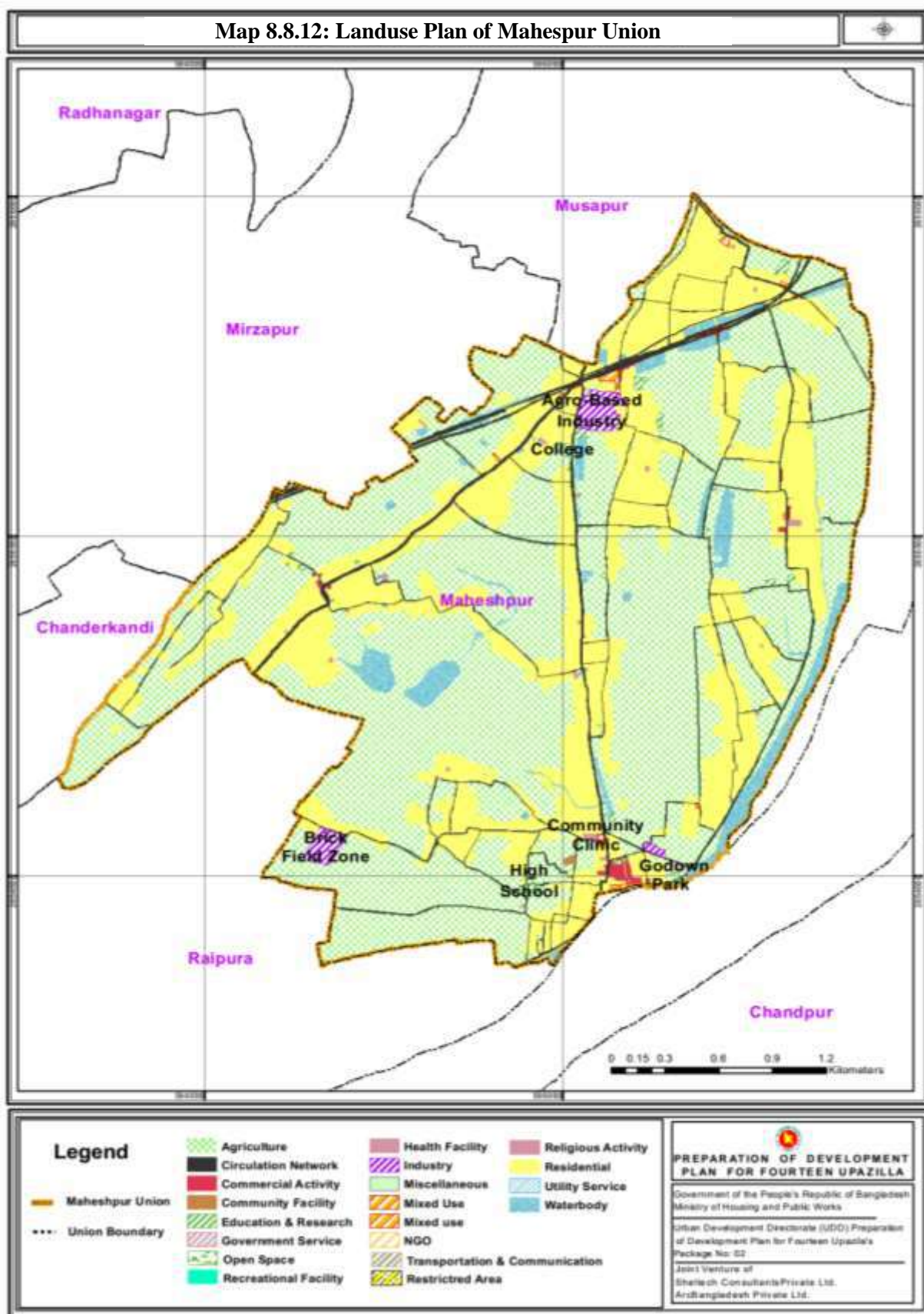
Out of total 2628.79 acres of land in this union, more than 1630.83 acres of land i.e. 62.04 % is used as agriculture purpose. The residential use with 828.58 acres, occupies 31.52 % of total land, water bodies 3.81 %, commercial use 0.32 %, and circulation 1.58 %. **Table 8.13.12** shows existing and proposed landuse of Maheshpur Union. **Map 8.8.12** shows proposed land use of Maheshpur union.

**Table 8.13.12:** Existing and Proposed Land Uses of Maheshpur Union.

Landuse	Existing Landuse		Proposed Landuse	
	Area (in acre)	%	Area (in acre)	%
Administrative	0.20	0.01	0.20	0.01
Agricultural	1630.83	62.04	1541.98	58.66
Circulation Network	41.60	1.58	155.20	5.90
Commercial Facility	8.48	0.32	9.20	0.35
Community Facility	0.04	0.00	1.20	0.05
Education & Research	9.50	0.36	10.50	0.40
Health Facilities	0.62	0.02	1.50	0.06
Mixed use	5.66	0.22	6.50	0.25
Religious	3.31	0.13	3.31	0.13
Residential	828.58	31.52	799.04	30.40
Waterbody	100.16	3.81	100.16	3.81
<b>Total</b>	<b>2628.79</b>	<b>100</b>	<b>2628.79</b>	<b>100.00</b>

**Source:** Field Survey, 2016.

In the plan about 14 proposed facilities has been incorporated according to the PRA demand and suggestions in the consultation meeting. About 30.80 Acres area has been covered with these proposals. Among those proposals there are 1 agricultural training center, 1 agro-based industry, 1 brick field zone, 1 auto stand, 2 colleges, 2 community clinic, 1 dairy farm, 1 godown, 1 graveyard, 1 high school, 1 park and 1 boat ghat. These proposals provide agricultural, industrial, transportation, educational, health, community facilities in the union.



**Marjal Union**

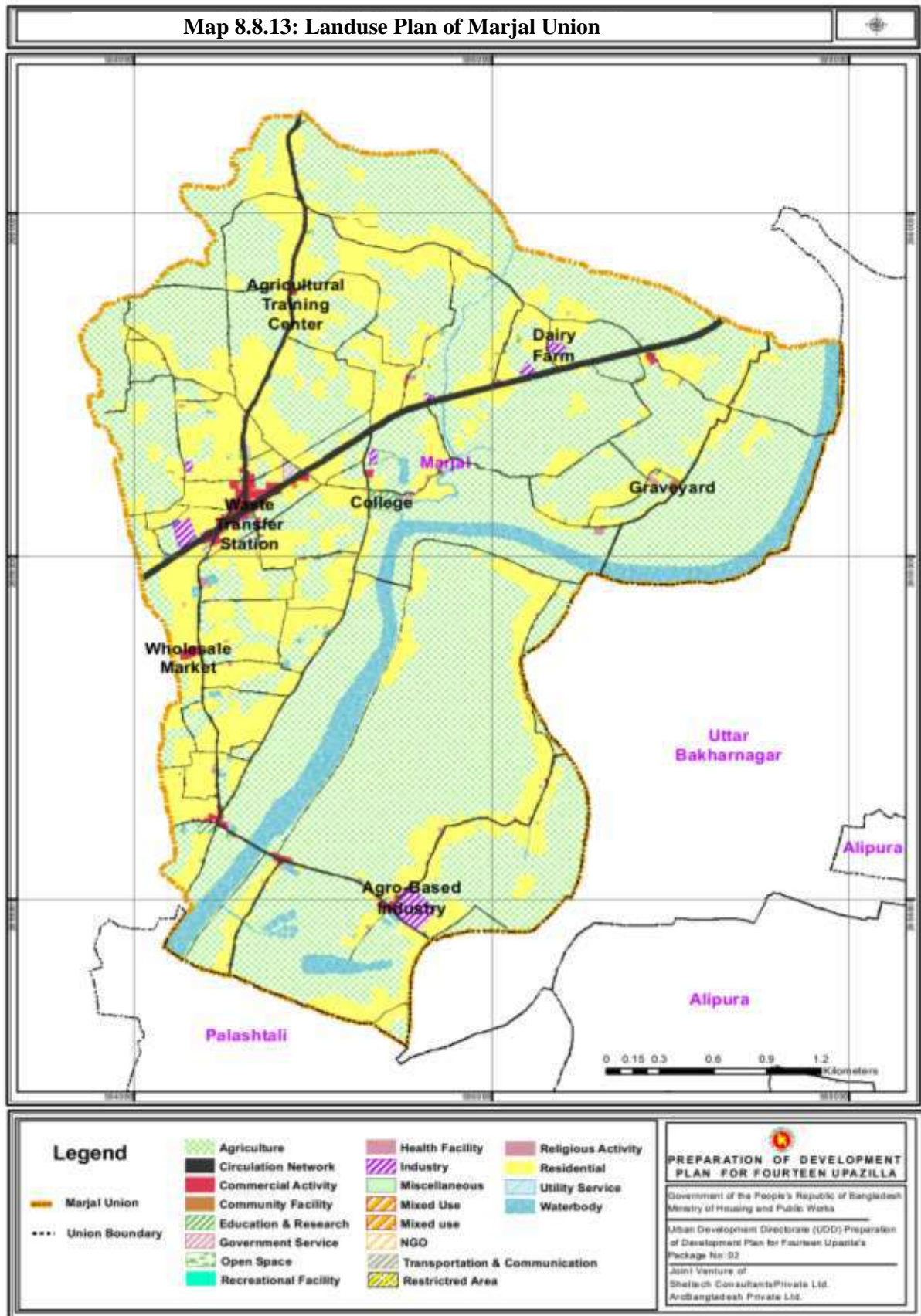
Out of total 3220.83 acres of land in this union, more than 2058.50 acres of land i.e. 63.91 % is used as agriculture purpose. The residential use with 883.88 acres, occupies 27.44 % of total land, water bodies 5.94 %, commercial use 0.63 %, and circulation 1.25 %. **Table 11.20** shows existing and proposed landuse of Marjal Union. **Map 8.8.13** shows proposed land use of Marjal union.

**Table 8.13.13:** Existing and Proposed Land Uses of Marjal Union.

Landuse	Existing Landuse		Proposed Landuse	
	Area(acre)	%	Area(acre)	%
Administrative	3.78	0.12	3.78	0.12
Agricultural	2058.5	63.91	2008.63	62.36
Circulation Network	40.33	1.25	120.20	3.73
Commercial	20.17	0.63	21.20	0.66
Education & Research	5.83	0.18	6.20	0.19
Health Facilities	0.45	0.01	1.20	0.04
Industrial	7.48	0.23	10.45	0.32
Miscellaneous	3.16	0.10	4.16	0.13
Mixed use	0.62	0.02	1.25	0.04
Religious	5.29	0.16	6.20	0.19
Residential	883.88	27.44	846.22	26.27
Waterbody	191.34	5.94	191.34	5.94
<b>Total</b>	<b>3220.83</b>	<b>100</b>	<b>3220.83</b>	<b>100.00</b>

**Source:** Field Survey, 2016.

In the plan about 9 proposed facilities has been incorporated according to the PRA demand and suggestions in the consultation meeting. About 18.29 Acres area has been covered with these proposals. Among those proposals there are 1 agricultural training center, 1 agro-based industry, 1 auto stand, 1 cold storage, 1 college, 1 dairy farm, 1 graveyard, 1 waste transfer station and 1 wholesale market. These proposals provide agricultural, transportation, educational, community, utility and market facilities in the union.





**Mirzanagar Union**

Out of total 2397.86 acres of land in this union, more than 1839.20 acres of land i.e. 76.70 % is used as agriculture purpose. The residential use with 441.85 acres, occupies 18.43 % of total land, water bodies 1.70 %, commercial use 0.06 %, and circulation 2.23 %. **Table 8.13.14** existing and proposed landuse of Mirzanagar Union. **Map 8.8.14** shows proposed land use of Mirzanagar union.

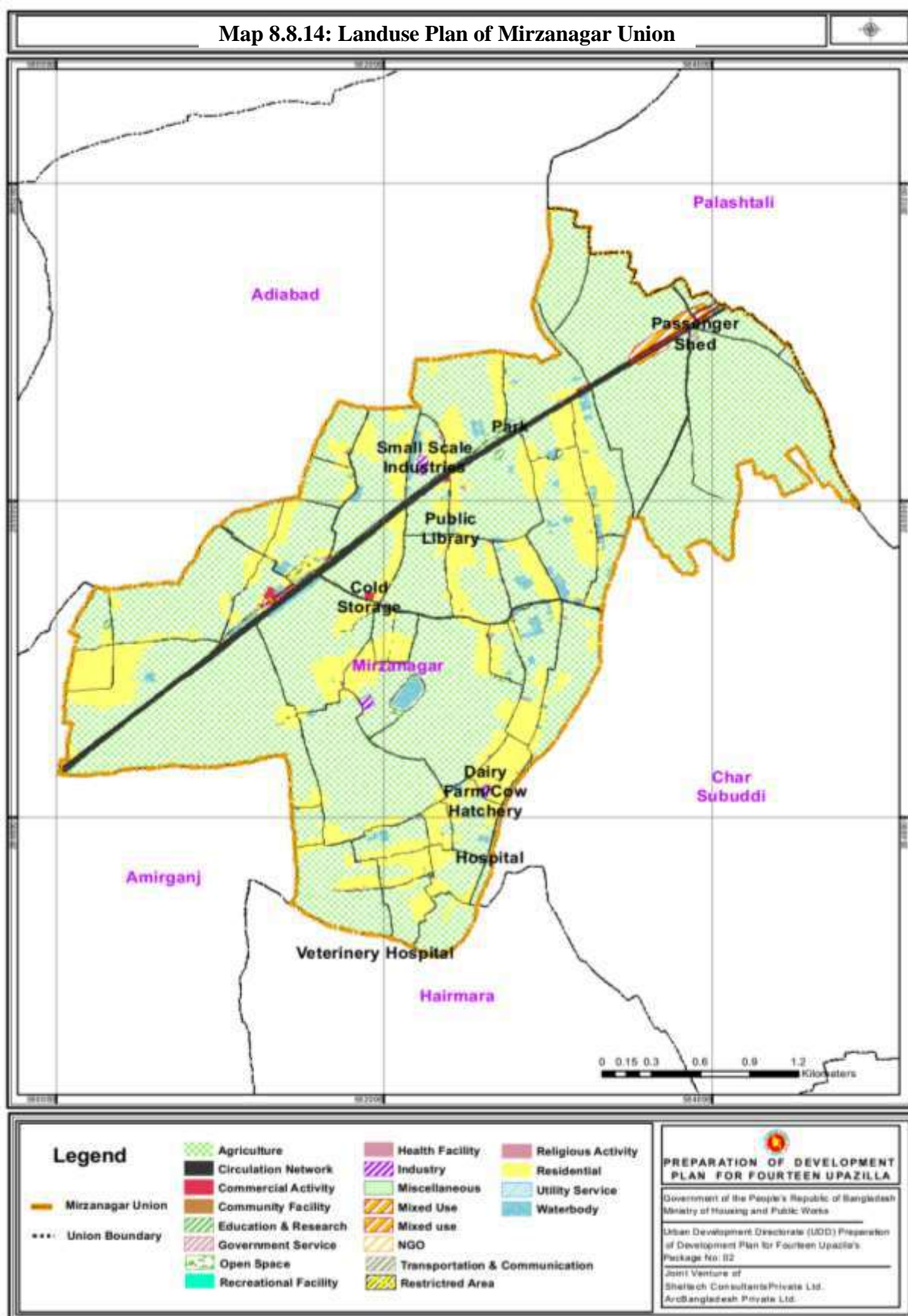
**Table 8.13.14:** Existing and Proposed Land Uses of Mirzanagar Union.

Landuse	Existing Landuse		Proposed Landuse	
	Area (in acre)	%	Area (in acre)	%
Administrative	0.16	0.01	0.16	0.01
Agricultural	1839.20	76.70	1773.02	73.94
Circulation Network	53.35	2.23	125.25	5.22
Commercial	1.37	0.06	5.58	0.23
Education & Research	3.93	0.16	4.20	0.18
Health	0.32	0.01	1.20	0.05
Mixed use	13.38	0.56	15.56	0.65
Religious	3.37	0.14	4.20	0.18
Residential	441.85	18.43	427.47	17.83
Transportation & Communication	0.26	0.01	0.55	0.02
Waterbody	40.67	1.70	40.67	1.70
<b>Total</b>	<b>2397.86</b>	<b>100</b>	<b>2397.86</b>	<b>100.00</b>

**Source:** Field Survey, 2016.

In the plan about 11 proposed facilities has been incorporated according to the PRA demand and suggestions in the consultation meeting. About 11.60 Acres area has been covered with these proposals. Among those proposals there are 1 auto stand, 1 cold storage, 1 dairy farm, 1 hospital, 3 parks, 1 passenger shed, 1 public library, 2 small scale industries. These proposals provide transportation, agricultural, health, recreational, educational and industrial facilities in the union.





**Mirzapur Union**

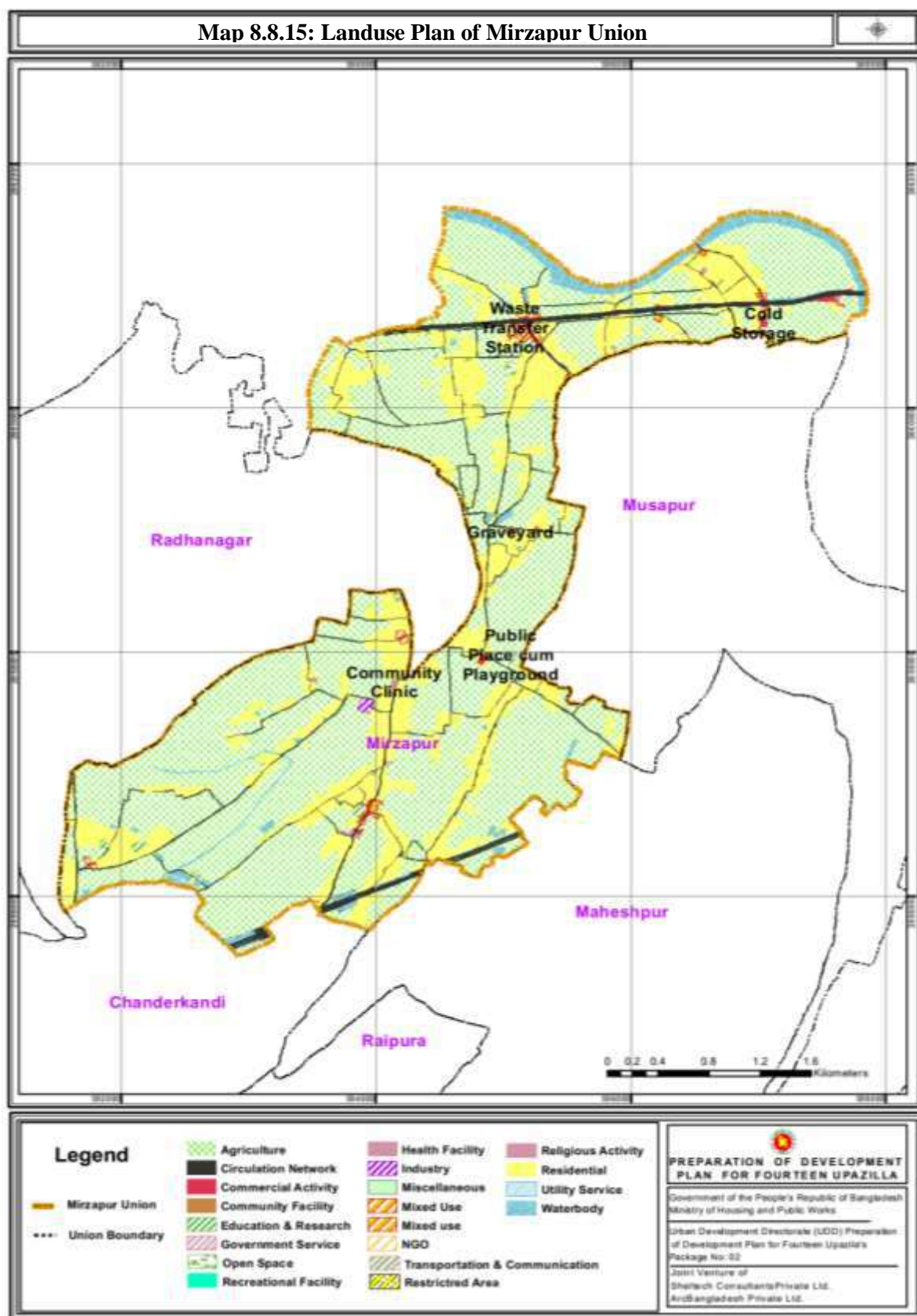
Out of total 3216.63 acres of land in this union, more than 2201.64 acres of land i.e. 68.45 % is used as agriculture purpose. The residential use with 780.04 acres, occupies 24.25 % of total land, water bodies 4.10 %, commercial use 0.26%, and circulation 1.89 %. **Table 8.13.15** shows existing and proposed landuse of Mirzapur Union. **Map 8.8.15** shows proposed land use of Mirzapur union.

**Table 8.13.15:** Existing and Proposed Land Uses of Mirzapur Union.

Landuse	Existing Landuse		Proposed Landuse	
	Area (in acre)	%	Area (in acre)	%
Administrative	0.42	0.01	0.42	0.01
Agricultural	2201.64	68.45	2028.72	63.07
Circulation Network	60.76	1.89	235.35	7.32
Commercial	8.41	0.26	12.56	0.39
Education & Research	9.97	0.31	10.25	0.32
Health Facilities	0.95	0.03	1.56	0.05
Industrial	0.10	0.00	5.50	0.17
Mixed use	17.70	0.55	20.25	0.63
Religious	4.44	0.14	5.56	0.17
Residential	780.04	24.25	763.95	23.75
Transportation & Communication	0.36	0.01	0.65	0.02
Waterbody	131.86	4.10	131.86	4.10
<b>Total</b>	<b>3216.63</b>	<b>100</b>	<b>3216.63</b>	<b>100.00</b>

**Source:** Field Survey, 2016.

In the plan about 12 proposed facilities has been incorporated according to the PRA demand and suggestions in the consultation meeting. About 19.82 Acres area has been covered with these proposals. Among those proposals there are 1 auto stand, 1 cold storage, 1 community clinic, 1 graveyard, 1 kitchen market, 1 neighborhood park, 1 playground, 1 rural core housing, 1 small scale industry and 1 waste transfer station. These proposals provide transportation, agricultural, health, community, market, recreational, settlement, industrial and utility services in the union.



**Mirzar Char Union**

Out of total 1348.22 acres of land in this union, more than 706.92 acres of land i.e. 52.43 % is used as agriculture purpose. The residential use with 222.68 acres, occupies 16.52% of total land, water bodies 30.38%, commercial use 0.18 %, and circulation 0.36%. **Table 8.13.16** shows existing and proposed landuse of Mirzar Char Union. **Map 8.8.16** shows proposed land use of Mirzar Char union.

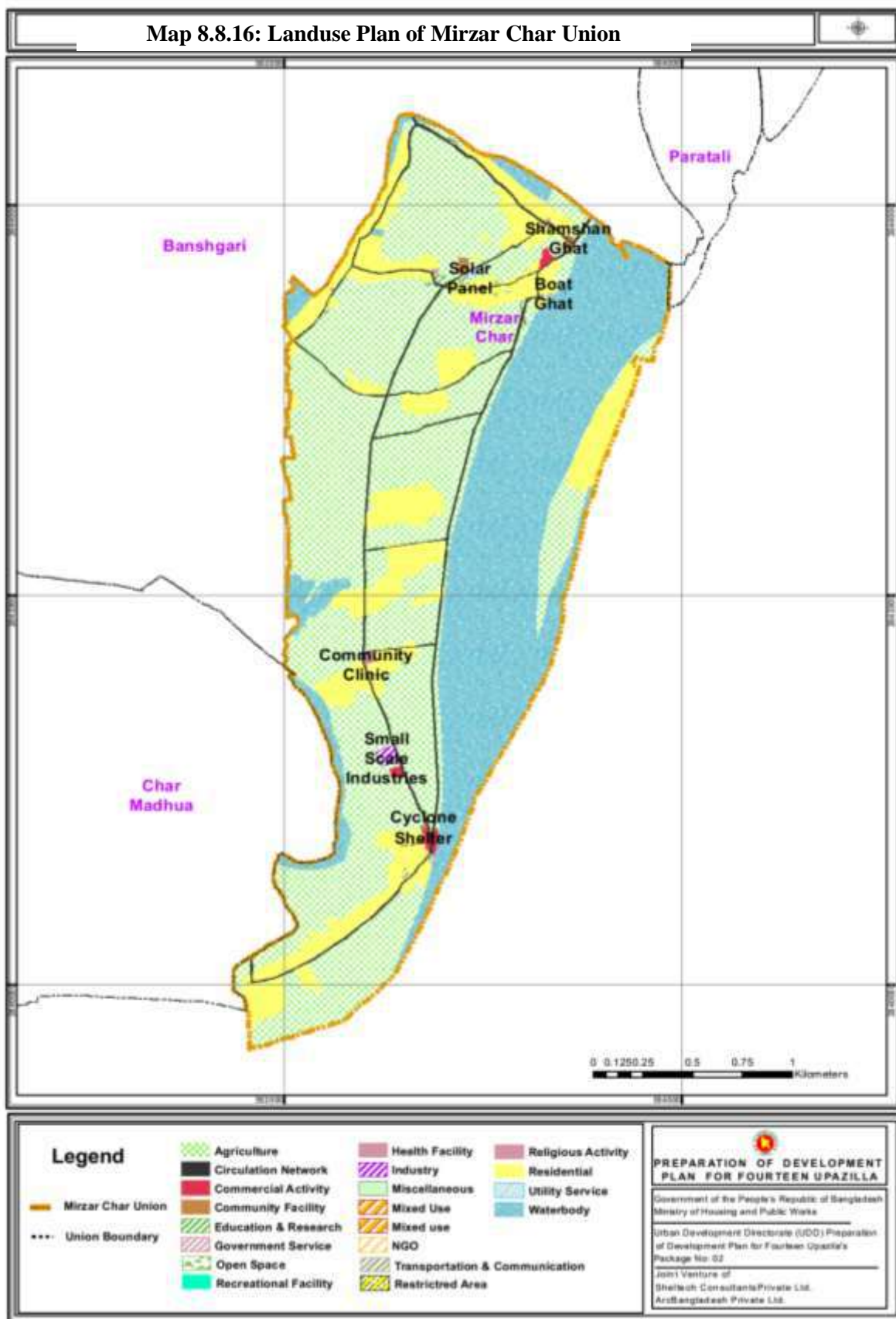
**Table 8.13.16:** Existing and Proposed Land Uses of Mirzar Char Union.

Landuse	Existing Landuse		Proposed Landuse	
	Area (in acre)	%	Area (in acre)	%
Administrative	0.12	0.01	0.12	0.01
Agricultural	706.92	52.42	628.96	46.65
Circulation Network	4.80	0.36	85.58	6.35
Commercial	2.43	0.18	4.45	0.33
Education & Research	1.16	0.09	2.20	0.16
Religious	0.59	0.04	1.50	0.11
Residential	222.68	16.52	215.76	16.00
Waterbody	409.65	30.38	409.65	30.38
<b>Total</b>	<b>1348.22</b>	<b>100</b>	<b>1348.22</b>	<b>100.00</b>

**Source:** Field Survey, 2016.

In the plan about 12 proposed facilities has been incorporated according to the PRA demand and suggestions in the consultation meeting. About 7.94 Acres area has been covered with these proposals. Among those proposals there are 1 cold storage, 1 community clinic, 2 cyclone shelter, 1 graveyard, 1 kitchen market, 1 madrassah, 2 boat ghat, 1 shamshan ghat, 1 small scale industry and 1 solar panel. These proposals provide agricultural, health, emergency, community, market, educational, transportation, industrial and utility services in the union.







**Musapur Union**

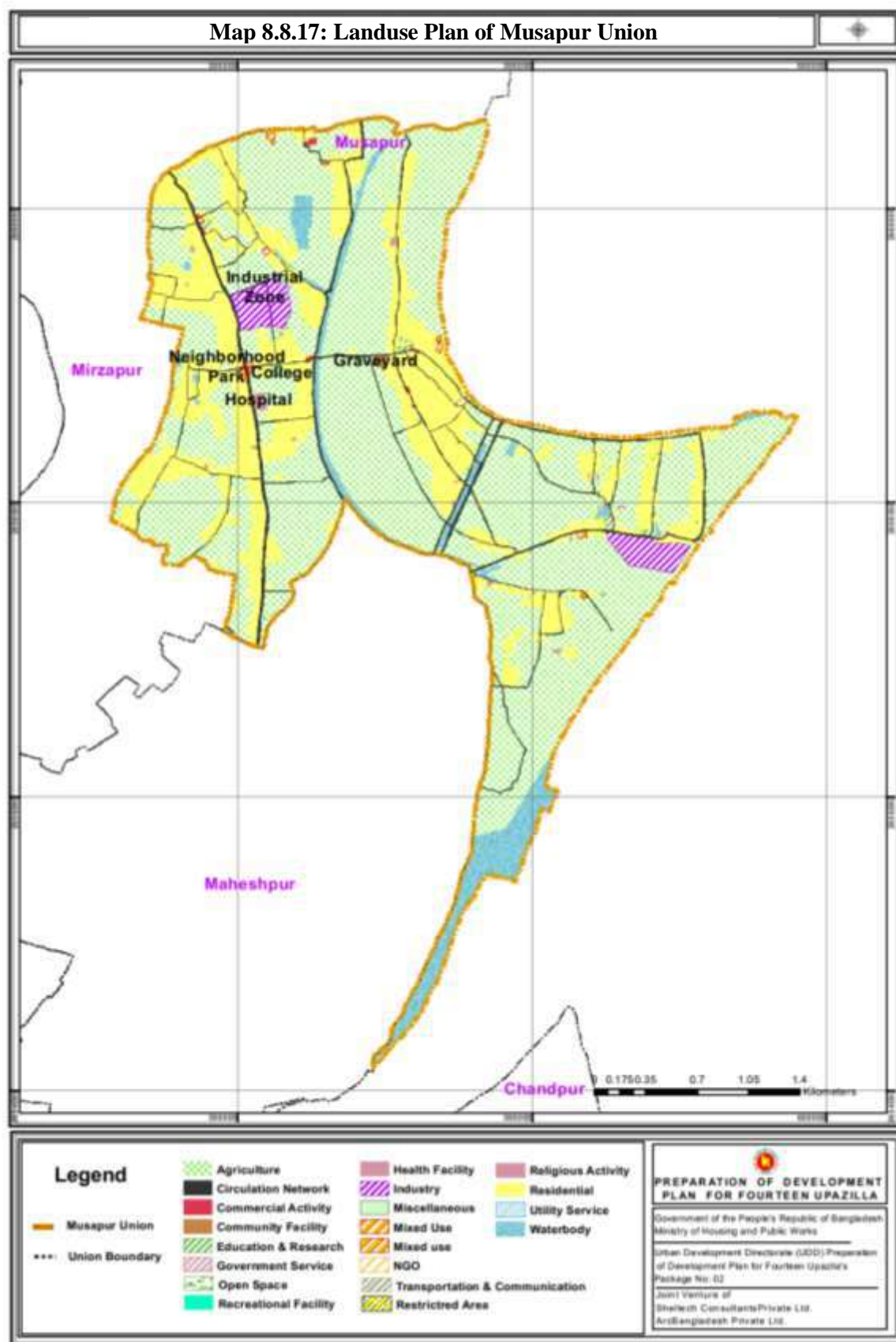
Out of total 2351.46 acres of land in this union, more than 1540.21 acres of land i.e. 65.50 % is used as agriculture purpose. The residential use with 606.73 acres, occupies 25.80 % of total land, water bodies 5.78 %, commercial use 0.07 %, and circulation 1.16 %. **Table 8.13.17** shows existing and proposed landuse of Musapur Union. **Map 8.8.17** shows proposed land use of Musapur union.

**Table 8.13.17:** Existing and Proposed Land Uses of Musapur Union.

Landuse	Existing Landuse		Proposed Landuse	
	Area (in acre)	%	Area (in acre)	%
Administrative	0.14	0.01	0.14	0.01
Agricultural	1540.21	65.5	1482.61	63.05
Circulation Network	27.37	1.15	95.56	4.06
Commercial	1.71	0.07	5.45	0.23
Community Facility	0.29	0.01	1.50	0.06
Education & Research	5.93	0.25	5.93	0.25
Industrial	23.56	1.00	35.56	1.51
Mixed use	5.71	0.24	6.95	0.30
Religious	4.12	0.18	5.25	0.22
Residential	606.73	25.8	576.69	24.68
Waterbody	135.82	5.78	135.82	5.78
<b>Total</b>	<b>2351.46</b>	<b>100</b>	<b>2351.46</b>	<b>100.00</b>

**Source:** Field Survey, 2016.

In the plan about 10 proposed facilities has been incorporated according to the PRA demand and suggestions in the consultation meeting. About 33.47 Acres area has been covered with these proposals. Among those proposals there are 1 cold storage, 1 college, 1 graveyard, 1 hospital, 1 industrial zone, 1 neighborhood park. These proposals provide agricultural, educational, community, health, industrial and recreational facilities in the union.



**Nilakhya Union**

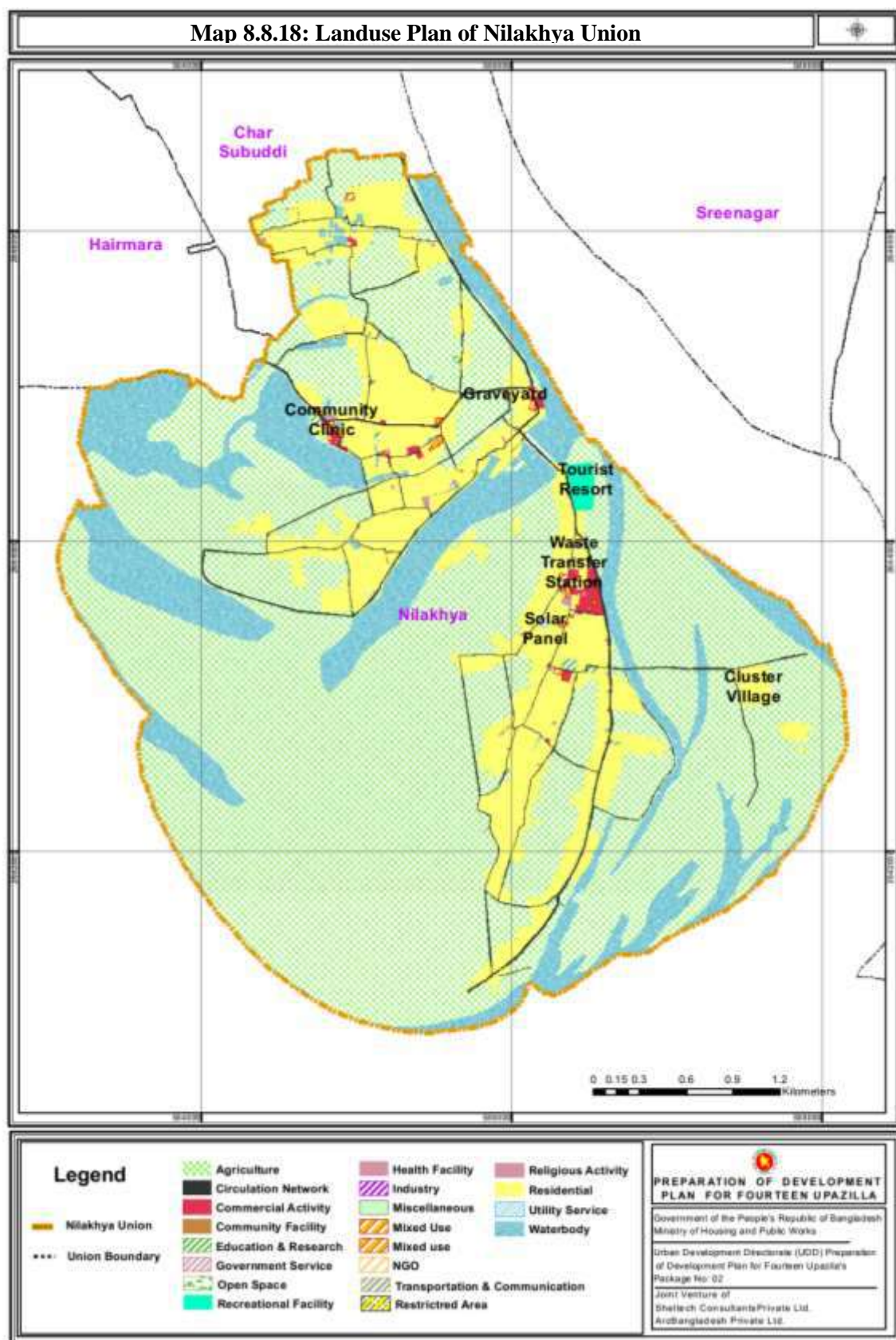
Out of total 4269.45 acres of land in this union, more than 2805.12 acres of land i.e. 65.70% is used as agriculture purpose. The residential use with 701.91 acres, occupies 16.44% of total land, water bodies 16.60 %, commercial use 0.38%, and circulation 0.37 %. **Table 8.13.18** shows existing and proposed landuse of Nilakhya Union. **Map 8.8.18** shows proposed land use of Nilakhya union.

**Table 8.13.18:** Existing and Proposed Land Uses of Nilakhya Union.

Landuse	Existing Landuse		Proposed Landuse	
	Area (in acre)	%	Area (in acre)	%
Administrative	0.13	0.01	0.13	0.00
Agricultural	2805.12	65.7	2692.88	63.07
Circulation Network	15.89	0.37	145.2	3.40
Commercial	16.27	0.38	20.23	0.47
Education & Research	9.14	0.21	10.25	0.24
Health Facilities	0.90	0.02	1.20	0.03
Industrial	0.05	0.00	5.56	0.13
Mixed use	7.86	0.18	10.52	0.25
Religious	3.28	0.08	3.98	0.09
Residential	701.91	16.44	670.65	15.71
Waterbody	708.85	16.6	708.85	16.60
<b>Total</b>	<b>4269.45</b>	<b>100</b>	<b>4269.45</b>	<b>100.00</b>

Source: Field Survey, 2016.

In the plan about 8 proposed facilities has been incorporated according to the PRA demand and suggestions in the consultation meeting. About 29.39 Acres area has been covered with these proposals. Among those proposals there are 1 cluster village, 2 community clinic, 1 graveyard, 1 kitchen market, 1 solar panel, 1 tourist spot and 1 water transfer station. These proposals provide settlement, health, community, market, utility, recreational facilities in the union.



**Palashtali Union**

Out of total 3886.42 acres of land in this union, more than 2828.20 acres of land i.e. 72.77 % is used as agriculture purpose. The residential use with 700.65 acres, occupies 18.03 % of total land, water bodies 6.24 %, commercial use 0.17 %, and circulation 1.96 %. **Table 8.13.19** shows existing and proposed landuse of Palashtali Union. **Map 8.8.19** shows proposed land use of Palashtali union.

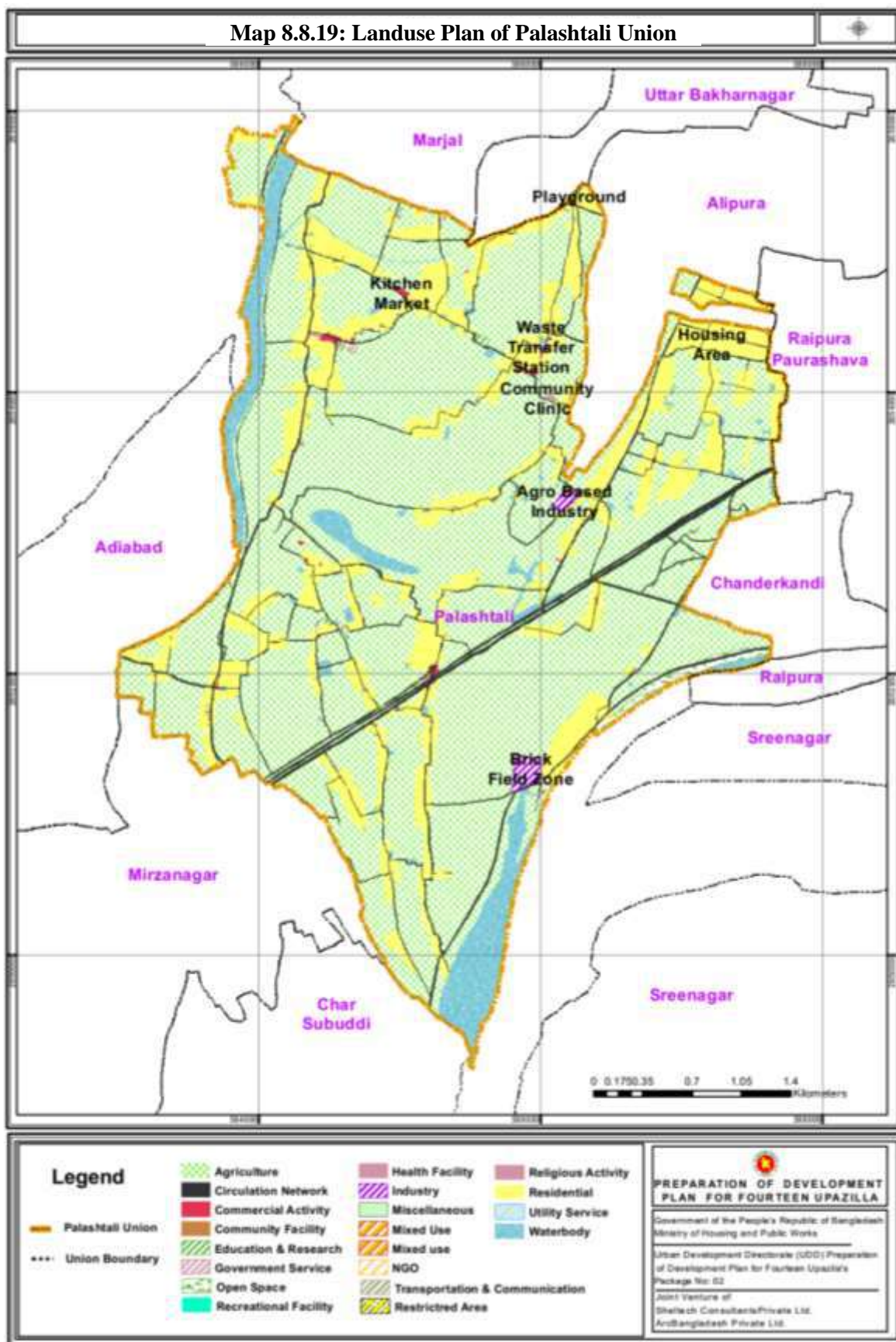
**Table 8.13.19:** Existing and Proposed Land Uses of Palashtali Union.

Landuse	Existing Landuse		Proposed Landuse	
	Area (in acre)	%	Area (in acre)	%
Administrative	0.51	0.01	0.51	0.01
Agricultural	2828.2	72.77	2784.45	71.65
Circulation Network	76.23	1.96	125.02	3.22
Commercial	6.50	0.17	8.25	0.21
Community	0.13	0.00	1.25	0.03
Education & Research	4.90	0.13	5.20	0.13
Health Facilities	0.30	0.01	1.25	0.03
Industrial	0.50	0.01	2.20	0.06
Miscellaneous	1.31	0.03	1.98	0.05
Mixed use	0.07	0.00	1.20	0.03
Open Space	20.83	0.54	24.25	0.62
Religious	3.76	0.10	3.96	0.10
Residential	700.65	18.03	684.04	17.60
Transportation & Communication	0.11	0.00	0.45	0.01
Waterbody	242.41	6.24	242.41	6.23
<b>Total</b>	<b>3886.42</b>	<b>100</b>	<b>3886.42</b>	<b>100.00</b>

**Source:** Field Survey, 2016.

In the plan about 9 proposed facilities has been incorporated according to the PRA demand and suggestions in the consultation meeting. About 19.26 Acres area has been covered with these proposals. Among those proposals there are 1 agro-based industry, 1 brick field zone, 2 community clinic, 1 graveyard, 1 high school, 1 kitchen market, 1 playground and 1 waste transfer station. These proposals provide agricultural, industrial, health, community, educational, market, recreational and utility services in the union.





**Paratali Union**

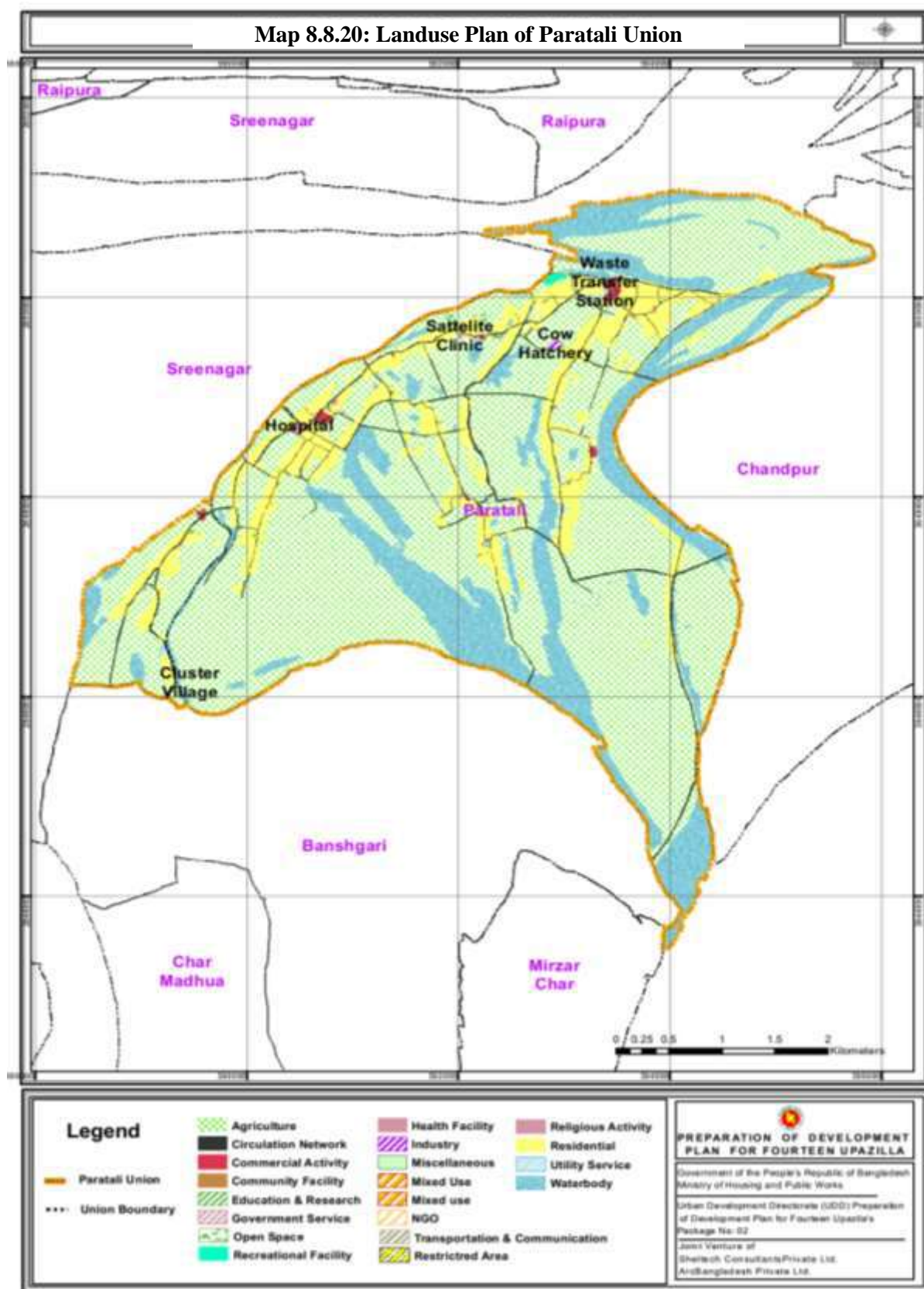
Out of total 5090.44 acres of land in this union, more than 3464.46 acres of land i.e. 68.06 % is used as agriculture purpose. The residential use with 656.82 acres, occupies 12.90 % of total land, water bodies 18.16 %, commercial use 0.27 %, and circulation 0.40 %. **Table 8.13.20** shows existing and proposed landuse of Paratali Union. **Map 8.8.20** shows proposed land use of Paratali union.

**Table 8.13.20:** Existing and Proposed Land Uses of Paratali Union.

Landuse	Existing Landuse		Proposed Landuse	
	Area (in acre)	%	Area (in acre)	%
Administrative	0.82	0.02	0.82	0.02
Agricultural	3464.46	68.06	3315.49	65.13
Circulation Network	20.37	0.4	175.2	3.44
Commercial Facility	13.74	0.27	14.52	0.29
Education & Research	5.56	0.11	5.56	0.11
Health Facilities	0.60	0.01	1.5	0.03
Industrial	0.07	0.00	2.20	0.04
Mixed use	0.09	0.00	1.20	0.02
Religious	3.67	0.07	4.50	0.09
Residential	656.82	12.9	645.41	12.68
Waterbody	924.23	18.16	920.25	18.07
<b>Total</b>	<b>5090.44</b>	<b>100</b>	<b>5090.44</b>	<b>100.00</b>

**Source:** Field Survey, 2016.

In the plan about 10 proposed facilities has been incorporated according to the PRA demand and suggestions in the consultation meeting. About 14.13 Acres area has been covered with these proposals. Among those proposals there are 1 cold storage, 1 college, 1 cow hatchery, 1 eco-resort, 1 hospital, 1 boat ghat, 1 satellite clinic, 1 solar panel, 1 veterinary development center and 1 waste transfer station. These proposals provide agricultural, educational, recreational, transportation, health, utility services in the union.



**Radhanagar Union**

Out of total 2417.21 acres of land in this union, more than 1772.34 acres of land i.e. 73.32 % is used as agriculture purpose. The residential use with 472.88 acres, occupies 19.56 % of total land, water bodies 5.04 %, commercial use 0.33 %, and circulation 1.04 %. **Table 8.13.21** shows existing and proposed landuse of Radhanagar Union. **Map 8.8.21** shows proposed land use of Radhanagar union.

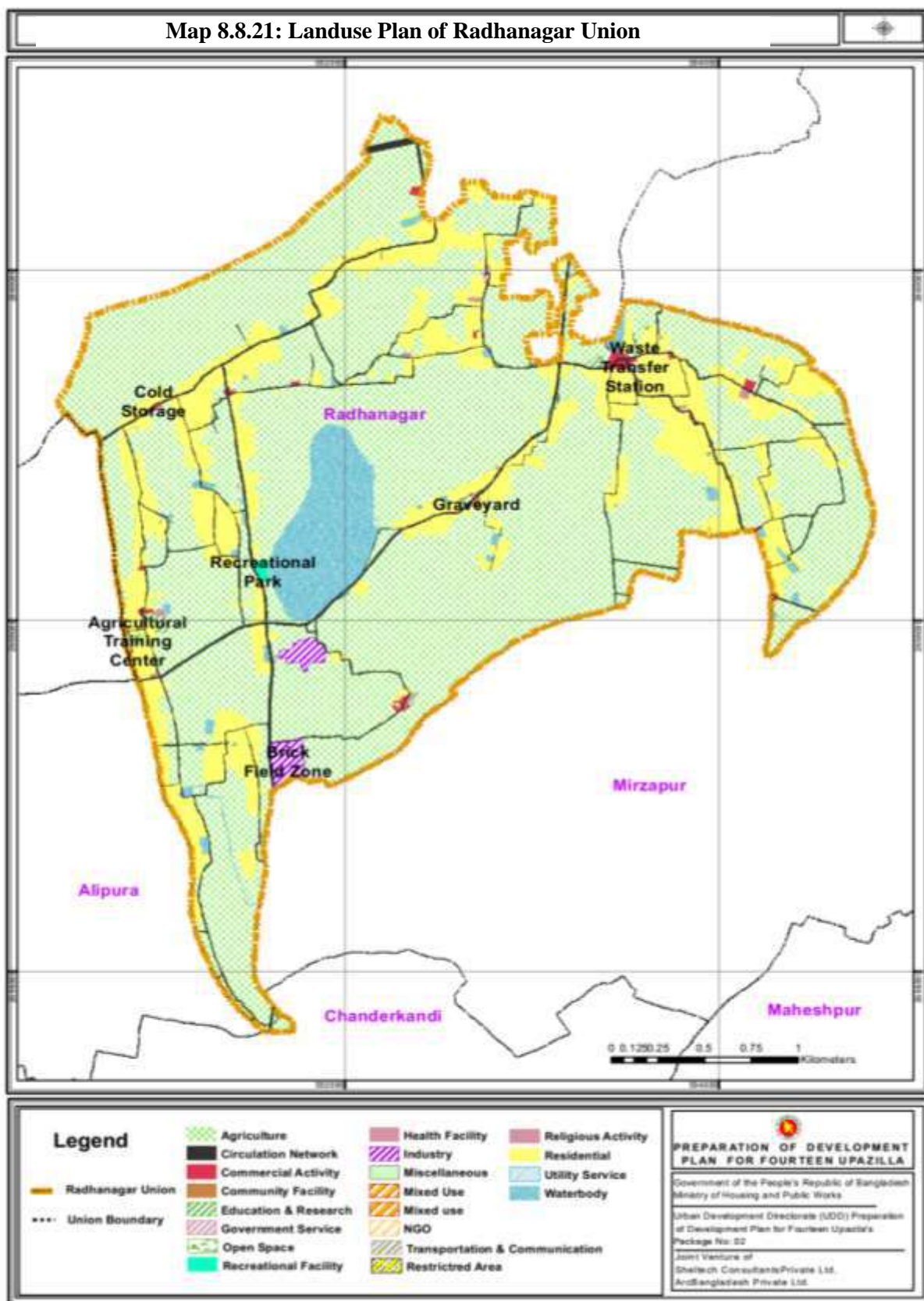
**Table 8.13.21:** Existing and Proposed Land Uses of Radhanagar Union.

Landuse	Existing Landuse		Proposed Landuse	
	Area (in acre)	%	Area (in acre)	%
Administrative	0.56	0.02	0.56	0.02
Agricultural	1772.34	73.32	1724.88	71.36
Circulation Network	25.23	1.04	77.20	3.19
Commercial	8.09	0.33	9.20	0.38
Education & Research	4.34	0.18	4.34	0.18
Health	0.66	0.03	1.50	0.06
Industrial	7.05	0.29	15.50	0.64
Mixed use	0.10	0.00	1.20	0.05
Religious	3.65	0.15	3.98	0.16
Residential	472.88	19.56	456.51	18.86
Transportation & Communication	0.37	0.02	0.40	0.02
Waterbody	121.94	5.04	121.94	5.04
<b>Total</b>	<b>2417.21</b>	<b>100</b>	<b>2417.21</b>	<b>100.00</b>

**Source:** Field Survey, 2016.

In the plan about 6 proposed facilities has been incorporated according to the PRA demand and suggestions in the consultation meeting. About 13.92 Acres area has been covered with these proposals. Among those proposals there are 1 agricultural training center, 1 brick field zone, 1 cold storage, 1 graveyard, 1 recreational park and 1 waste transfer station. These proposals provide agricultural, industrial, community, recreational and utility services in the union.







**Raipura Union**

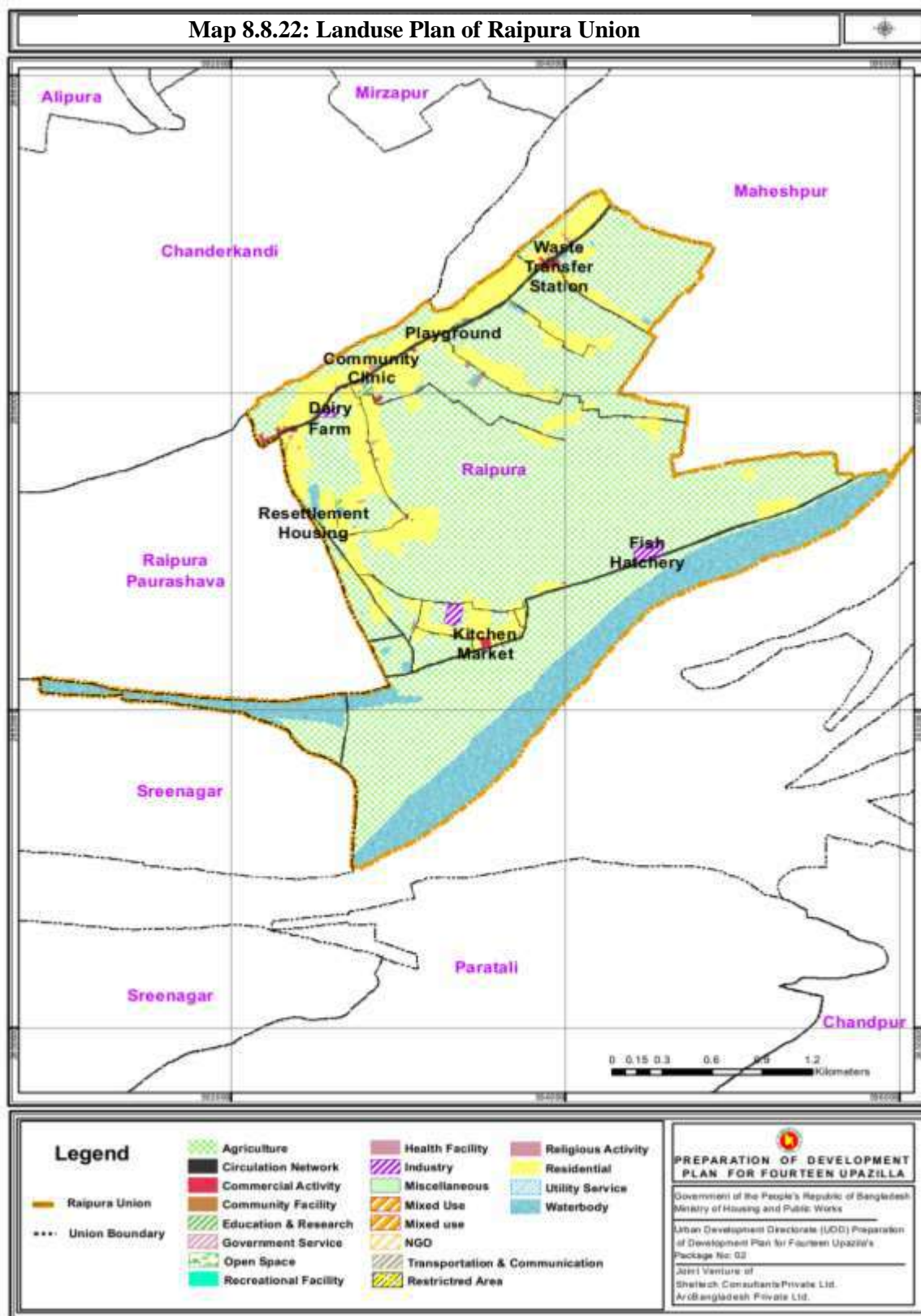
Out of total 1904.73 acres of land in this union, more than 1258.39 acres of land i.e. 66.07 % is used as agriculture purpose. The residential use with 289.07 acres, occupies 15.18 % of total land, water bodies 17.67 %, commercial use 0.27 %, and circulation 0.48 %. **Table 8.13.22** shows existing and proposed landuse of Raipura Union. **Map 8.8.22** shows proposed land use of Raipura union.

**Table 8.13.22:** Existing and Proposed Land Uses of Raipura Union.

Landuse	Existing Landuse		Proposed Landuse	
	Area (in acre)	%	Area (in acre)	%
Administrative	0.25	0.01	0.25	0.01
Agricultural	1258.39	66.06	1188.97	62.42
Circulation Network	9.16	0.48	85.20	4.47
Commercial	5.14	0.27	7.20	0.38
Education & Research	3.06	0.16	4.20	0.22
Health Facilities	0.27	0.01	0.98	0.05
Religious	3.01	0.16	4.50	0.24
Residential	289.07	15.18	276.81	14.53
Waterbody	336.62	17.67	336.62	17.67
<b>Total</b>	<b>1904.73</b>	<b>100</b>	<b>1904.73</b>	<b>100.00</b>

**Source:** Field Survey, 2016.

In the plan about 10 proposed facilities has been incorporated according to the PRA demand and suggestions in the consultation meeting. About 12.52 Acres area has been covered with these proposals. Among those proposals there are 1 agricultural training center, 1 cold storage, 1 community clinic, 1 dairy farm, 1 fish hatchery, 1 katcha bazar, 1 playground, 1 boat ghat, 1 small scale industry and 1 waste transfer station. These proposals provide agricultural, health, market, recreational, transportation, industrial and utility services in the union.



**Sreenagar Union**

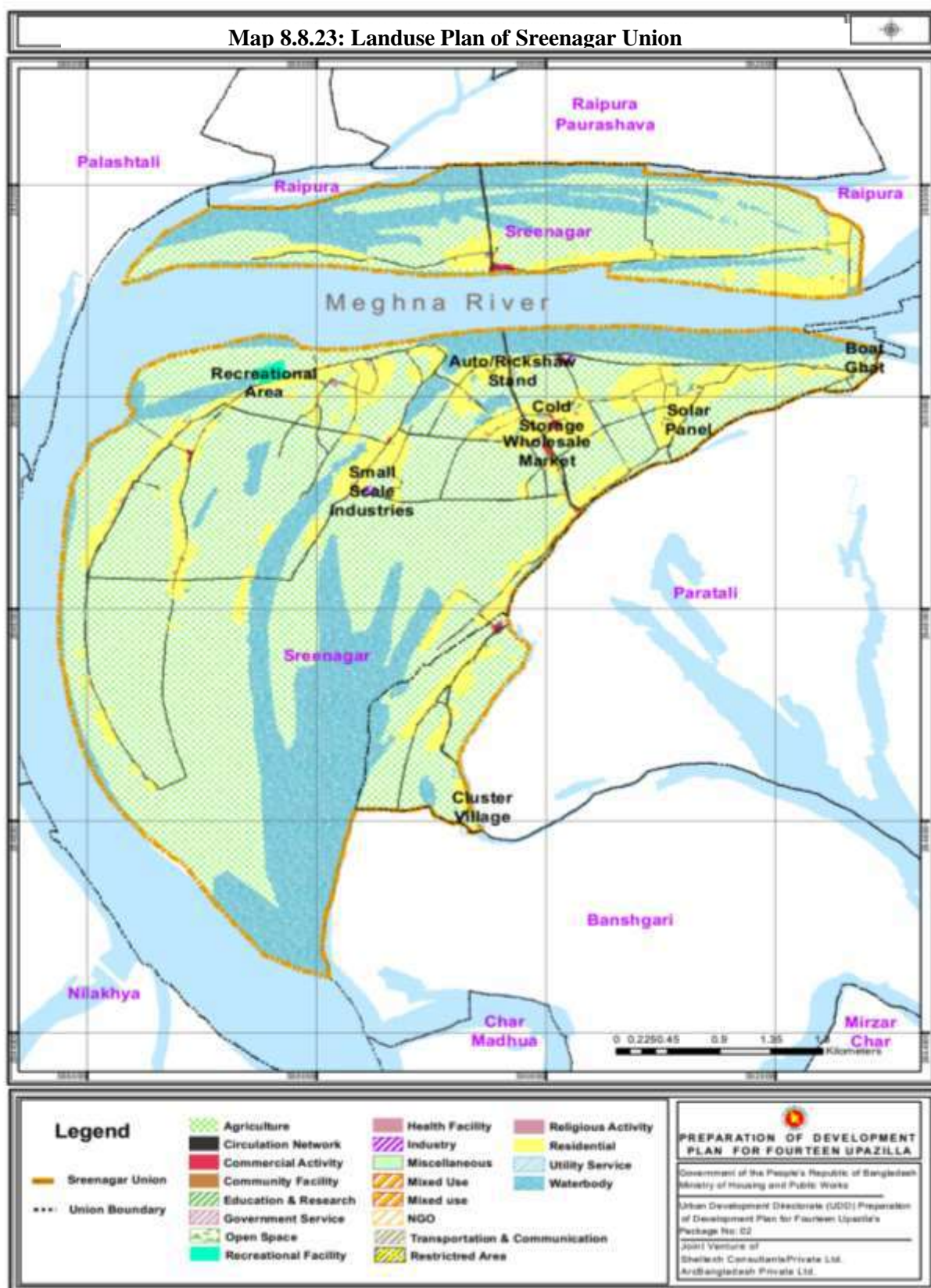
Out of total 6229.98 acres of land in this union, more than 3736.07 acres of land i.e. 59.97 % is used as agriculture purpose. The residential use with 779.49 acres, occupies 12.51 % of total land, water bodies 26.67 %, commercial use 0.14 %, and circulation 0.41%. **Table 8.13.23** shows existing and proposed land use of Sreenagar Union. **Map 8.8.23** shows proposed land use of Sreenagar union.

**Table 8.13.23:** Existing and Proposed Land Uses of Sreenagar Union.

Landuse	Existing Landuse		Proposed Landuse	
	Area (in acre)	%	Area (in acre)	%
Administrative	0.74	0.01	0.74	0.01
Agricultural	3736.07	59.97	3686.22	59.17
Circulation Network	25.40	0.41	85.25	1.37
Commercial	8.55	0.14	9.2	0.15
Education & Research	8.60	0.14	8.90	0.14
Health Facilities	0.48	0.01	1.20	0.02
Industrial	1.07	0.02	2.25	0.04
Recreational Facility	0.11	0.00	2.23	0.04
Religious	7.80	0.13	8.20	0.13
Residential	779.49	12.51	764.13	12.26
Waterbody	1661.66	26.67	1661.66	26.67
<b>Total</b>	<b>6229.98</b>	<b>100</b>	<b>6229.98</b>	<b>100.00</b>

**Source:** Field Survey, 2016.

In the plan about 10 proposed facilities has been incorporated according to the PRA demand and suggestions in the consultation meeting. About 17.46 Acres area has been covered with these proposals. Among those proposals there are 1 auto stand, 1 cold storage, 1 community clinic, 1 recreational area and 3 boat ghat, 1 small scale industry, 1 solar panel and 1 wholesale market. These proposals provide transportation, agricultural, health, recreational, industrial and utility services in the union.



**Uttar Bakharnagar Union**

Out of total 2114.07 acres of land in this union, more than 1261.41 acres of land i.e. 59.67 % is used as agriculture purpose. The residential use with 718.02 acres, occupies 33.96% of total land, water bodies 4.01%, commercial use 0.65%, and circulation 1.28%. **Table 8.13.24** shows the existing and proposed landuse of Uttar Bakharnagar Union. **Map 8.8.24** shows proposed land use of Uttar Bakharnagar union.

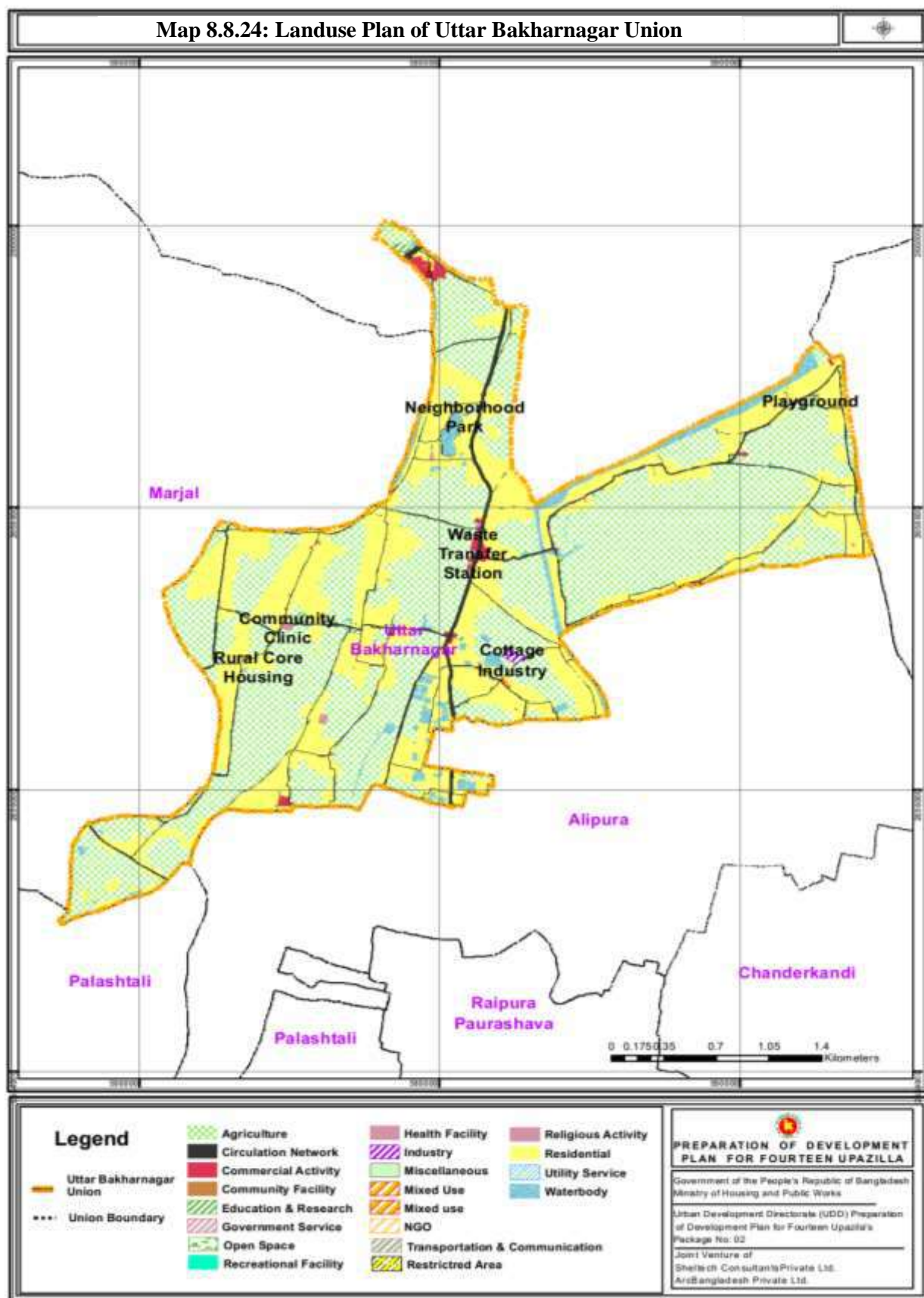
**Table 8.13.24:** Existing and Proposed Land Uses of Uttar Bakharnagar Union.

Landuse	Existing Landuse		Proposed Landuse	
	Area (in acre)	%	Area (in acre)	%
Agricultural	1261.41	59.67	1150.33	54.41
Circulation Network	27.07	1.28	175.2	8.29
Commercial	13.8	0.65	14.2	0.67
Education & Research	4.22	0.2	4.22	0.20
Health Facilities	0.66	0.03	1.20	0.06
Industrial	0.10	0.00	0.10	0.00
Mixed use	0.91	0.04	2.12	0.10
Religious	3.15	0.15	4.50	0.21
Residential	718.02	33.96	677.5	32.17
Waterbody	84.74	4.01	84.74	4.00
<b>Total</b>	<b>2114.07</b>	<b>100</b>	<b>2114.07</b>	<b>100.00</b>

**Source:** Field Survey, 2016.

In the plan about 11 proposed facilities has been incorporated according to the PRA demand and suggestions in the consultation meeting. About 15.70 Acres area has been covered with these proposals. Among those proposals there are 1 auto stand, 1 c8.48888old storage, 2 community clinic, 1 cottage industry, 1 neighborhood park, 1 playground, 1 primary school, 1 rural core housing, 1 vocational training institute and 1 waste transfer station. These proposals provide transportation, agricultural, health, industrial, recreational, educational, settlement and utility services in the union.





## **8.4 Drainage and Environmental Management Plan**

### **8.4.1 Existing Drainage Condition**

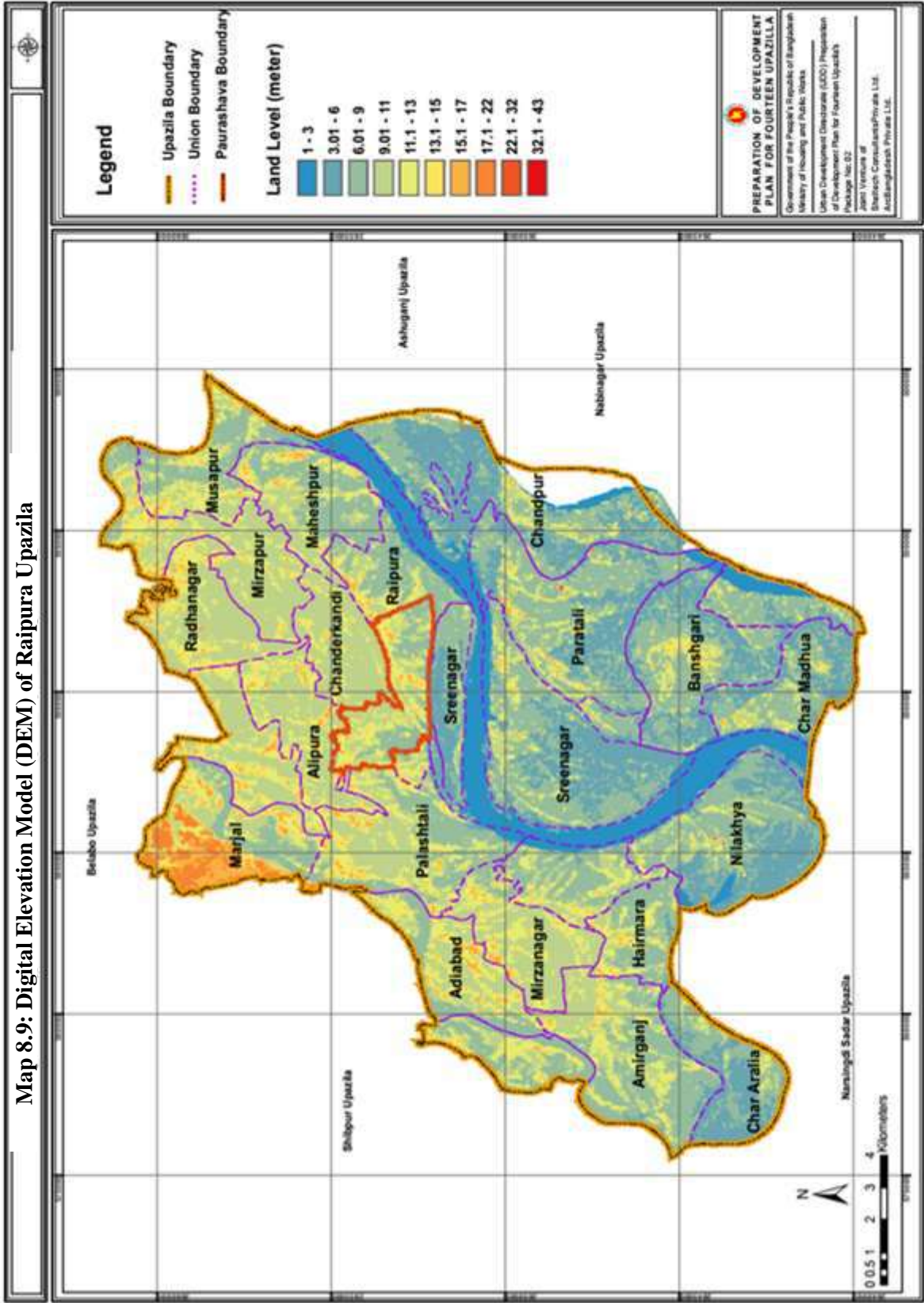
Meghna, Old Brahmaputra, Arialkhana and Kankan River Rampage Raipura Narsingdi, the second largest upazila of Bangladesh. The people of Charanchal area mostly occupy the livelihood through rivers in this upazila. More rice is cultivated in Raipura upazila. Fish of this river are exported to Bhairab, Kishoreganj, Narsingdi and Dhaka. The Old Brahmaputra River flows adjacent to the northern boundary of the Upazila. The Arial Khan River flow in line with the western boundary which off-takes from the Old Brahmaputra near Belabo and then falls into the Meghna River near Narshingdi Sadar. The eastern and southern boundaries of the Upazila is constituted by the mighty Meghna River. Raipura experiences moderate monsoon flooding. Normally only the low areas get flooded during early monsoon. The built up areas being in the high grounds are less prone to flooding. The urban areas lack proper drainage system.

### **Digital Elevation Model (DEM)**

Survey team gathered field data of drainage channel alignments showing depth and direction of flow with equipment as satellite image and based map sheets at their disposal. Through the topographic survey of Chakmarkul, Fatekharkul and Rajarkul Union of Raipura Upazila followed by photogrammetric analysis by which, the information has come to light for making proper planning measures can be found in the DEM Map. The general topography of the study area ranges from 3 to 80 meter MSL. Spot heights or land levels are extracted as DTM points at 20 m intervals for rural areas as described in the TOR. The DEM map displays the values ranging from 0.53 to 16.01 meters with an average height of 8.27 meters. **Map 8.8** Shows Digital Elevation Model of Raipura Upazila.

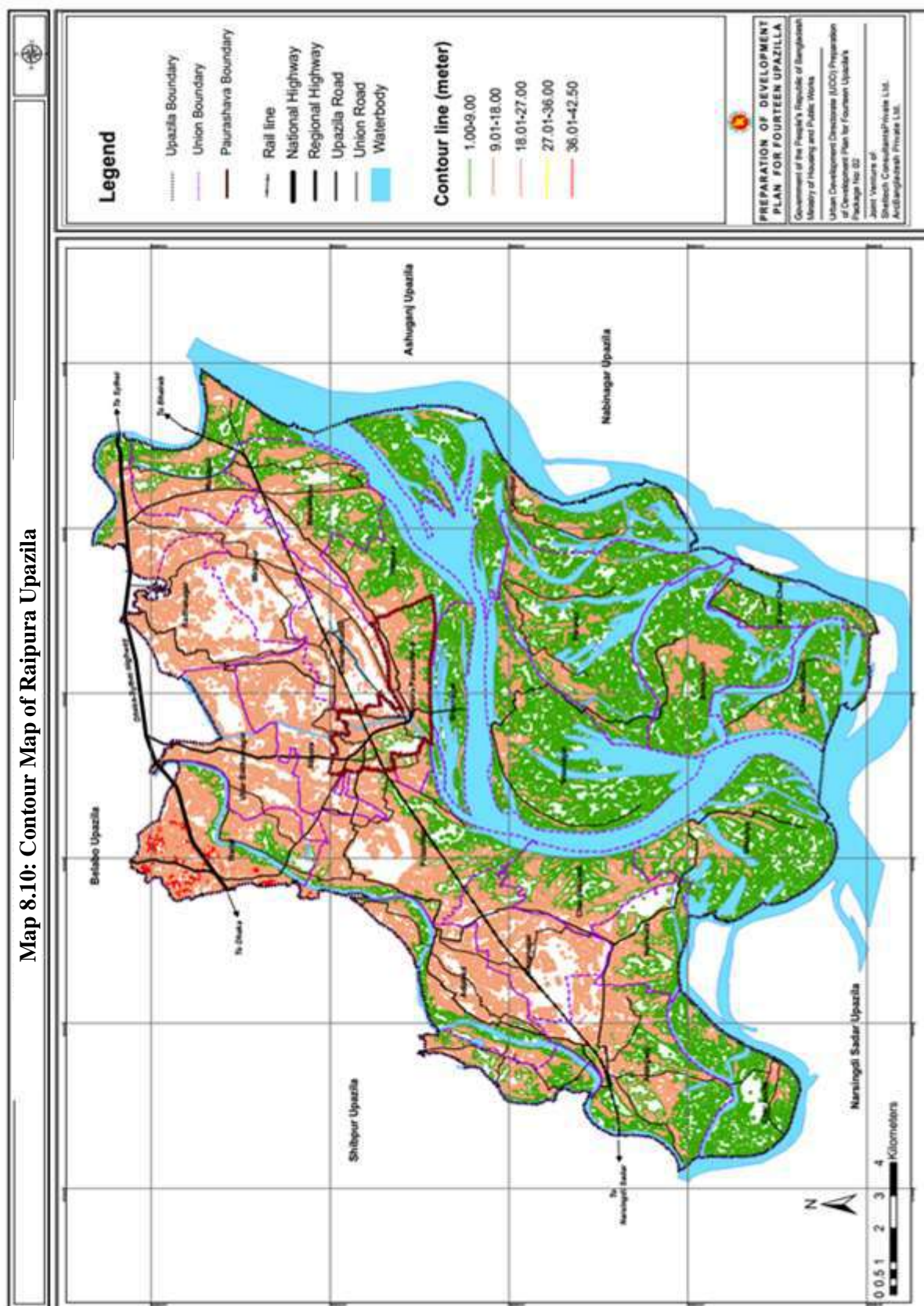
### **Contour**

Another way of depicting height information would be contour maps which contains height information in context of raster and vector data. As the name suggests the contour map containing contour lines surrounding natural features such as ground surface showing height value with a fixed interval. Every line or boundary in different contexts prevails unchanged value. If the core of the contour line increases gradually it indicates there is depression on that specific target area and vice versa. In the case of the contour map of Raipura Upazila, contour lines will show the height distribution and projection of surface area. This will give the image for the proper adjustments that will be needed to call in proposed system as drainage management. From the derived data, the contour lines have been generated with 0.3 meter interval. The topography is illustrated in the following **Map 8.8** for better apprehension.





Map 8.10: Contour Map of Raipura Upazila



### Plans for Drainage Management in Raipura

Raipura Upazila is saturated with small canals, ponds, khals and handful of rivers. These dispersed waterbodies and surface hydrology has the paramount and primary role to play in the scenario of drainage management in this area. Main fluvial outlines comprises of Kakon, Arial and Meghna Rivers. The vain like existence of Meghna is the most dominating in case of drainage system flow and the water resource being transferred through this Upazila. Out of all the unions Musapur, Raipura and Banshgari are the crucial hosting Meghna River. **Table 8.14** is presented for the overall analogy of the current water drainage system in Raipura Upazila.

**Table 8.14: Main Drainage of Raipura Upazila**

Union Name	Length(KM)	Locality Name	Link Waterbody Name
Radhanagar	1.13	Shaher Char to Radhanagar	Kakon River
Mirzapur	4.01	Sreenidhi to Pirizkandi	Kakon River
Musapur	1.69	Mamudabad to Tulatoli	Meghna River
Maheshpur	1.71	Chhota Asrafpur to Kurerpar	Canal
Raipura	2.1	Shahar Khola	Meghna River
Palashtali	6.87	Palashtali to Khalilabad	Arial Khan River, Meghna River
Banshgari	1.47	Char Meghna to Digholiakandi	Meghna River

### 8.4.2 Environmental Management Plan

#### Existing Environment

Physical Environment of Raipura Upazila include its overall climatic condition along with the topographical and geological condition.

#### Atmosphere and Climate

Meteorological conditions of the area are not that different from the central part of the country with respect to temperature, rainfall and humidity. The climate of Raipura is sub-tropical monsoon with large variations between summer and winter temperatures. Temperature ranges from 12.7oC to 36oC (Annual Average). Most of the rainfall occurs during the months of May to September. Annual rainfall is about 1,329 mm. As the area is not a drought prone one, it is suitable for agriculture such as crop productions. About 80% of the land is alluvial.

#### Topography

Almost the whole of the Narsingdi with exception of Madhupur Jungle, is level and interested with a number of small rivers and channels. Raipura is no exception. The general topography of the study area is ranges from 3 to 80 meter MSL. The hilly and forest land area mainly high comparatively than the other part of the Upazila.

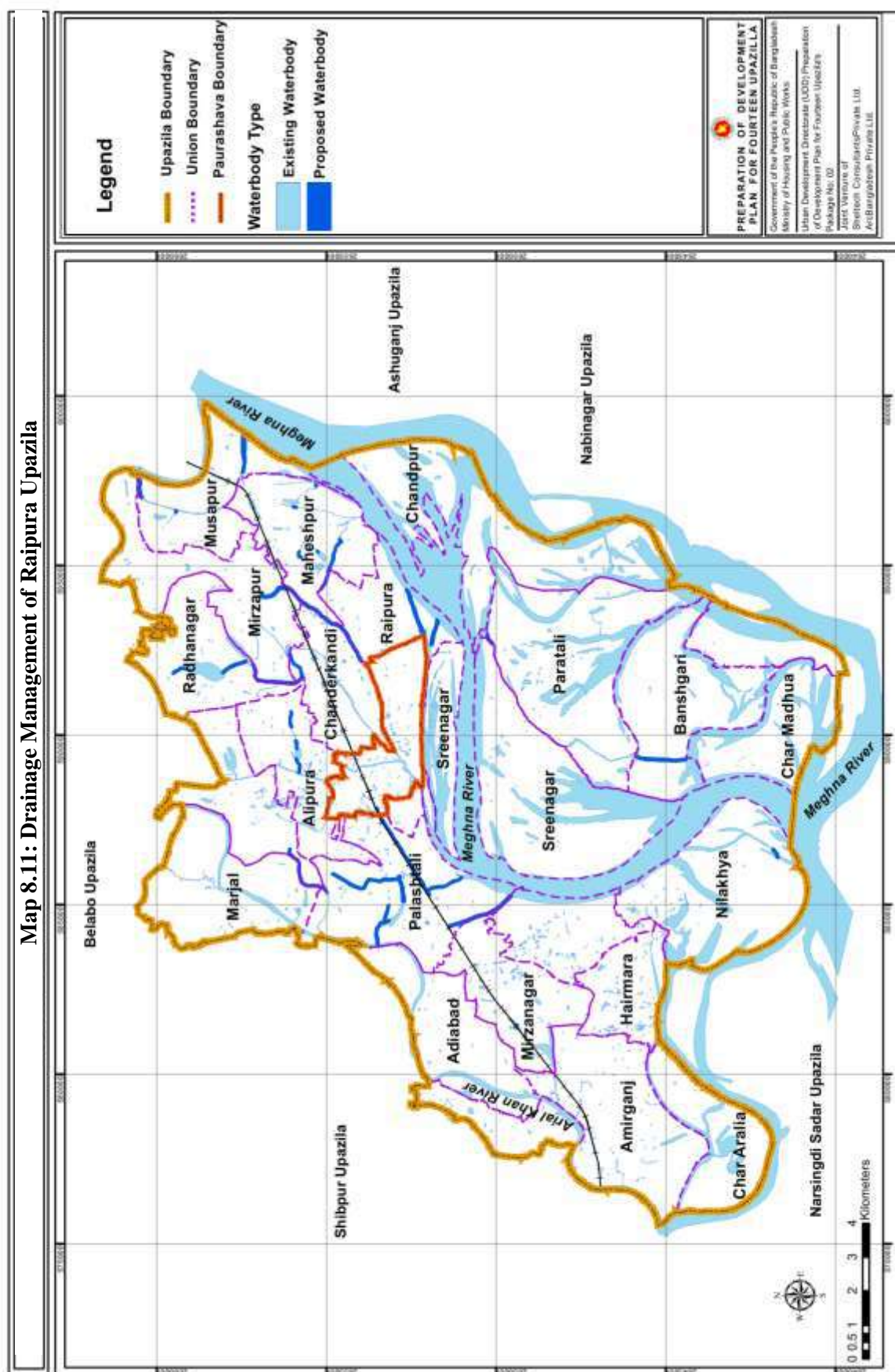
#### Geology

Geomorphologic conditions of the study area is mostly covered by floodplain with some low or marshy land. Geologically and structurally the area is not much complex, that's why geotechnical and geophysical investigations are covered along the floodplain area except low or marshy land and almost everywhere soils are resent fluvial type of deposit which are much soft and thicker. Raipura



Upazila consists of three types of soil. This upazila is divided into three major natural areas, which are described below

- (1) Madhupur average land which is about 2 percent of the land in the Upazila;
- (2) Brahmaputra sediment land which is approximately 55 percent of the land in the Upazila and
- (3) Meghna sediment land which is 43% land in the Upazila.



## **Ecology**

From the survey data it has been shown that the ecology of Raipura is comparatively simple. Only four types of ecosystem found in Raipura Upazila. Among them grass land ecosystem, Wetland Ecosystem, River Ecosystem and in some parts forest ecosystem has been found with a very little amount. Grass land ecosystem has been found in all over Raipura Upazila.

Most of the agricultural field and homestead area have grass land ecosystem. Different types of flora and fauna has been found in this ecosystem interacting with one another. Vegetables cultivation is very popular in Raipura Upazila. Hence different types of vegetables and other agricultural crop, bushes, different types of trees etc. are found in Raipura Upazila. These large variety contributes to the flora of both grass land ecosystem and forest ecosystem. In the fauna category different types of animal, insects etc. are found. On the other hand, wetland ecosystem has been found in the major Beels such as Nadiabad Beel, Deshowari Beel in Radhanagar and all other small pond, ditch etc. River Ecosystem are mainly found in Meghna River, Arial Khan River, Brahmaputra River, and Kakon River etc. In these ecosystem different type's fish and water insects are considered in the fauna categories. Flora categories considered different types of wetland bushes and underwater bushes.

Based on the ecology of Raipura some sensitive areas have been identified where special treatment has to be adopted in order to protect the area. Among those areas in Raipura Nadiabad Beel, Deshowari Beel have been declared most sensitive area. For the protection of the Beel sand extraction from the Beel area has been proposed to be stopped in the proposal. Besides these, buffer zone upto 50 meters has been proposed on the both side of the major rivers and declared as protected zone in the plan. In this zone No major permanent structure can be built.

## **Solid Waste Management**

Condition of solid waste management at Raipura Upazila is not satisfactory. According to the opinion of surveyed households, there is no solid waste management system at this Upazila. Dumping is a major issue because, people of that area litter random places and that causes the environment to degrade. Water logging occurs due to dumping.

According to the opinion of surveyed households, there are not so many dustbins at Raipura Upazila. Most of the people throw their garbage here and there and specially dump to the canal and khal which cause environmental pollution and also sometimes clogged the existing drainage network. From the field survey it is also found that there is no clinical waste management system.

## **Pollutions**

Many causes have been identified for surface water pollution. Maximum surface water are polluted by domestic source and chemical fertilizer used in agriculture field. Noise pollution is a minor phenomenon in this Upazila. However such type of pollution problem is occurring by the road vehicles. But it has been identified that this is not a major problem for all over the area. It is a problem for some particular road side areas. Land pollution is not found as problem in Raipura Upazila. Air pollution is not prominent but it will increase gradually due to the presence of some brick fields and industries in this area. Arsenic contamination is also very low which is negligible in this area.

## **Natural Calamities and Localized Hazards**

Another undesirable phenomenon is water logging. It refers to as both man-made and natural. Ground may be regarded as waterlogged when the water table of the ground water is too high to

conveniently permit an anticipated activity. Different causes are responsible for water logging. Poor drainage system is one of the most important causes of water logging in the study area. There is no fixed location where water logged frequently. Most of the areas suffer water logging during heavy rainfall. Flood is not common in Raipura Upazila. This area is moderately vulnerable to earthquake. Fire hazard is not that much common in this area. Landfilling, soil erosion and river erosion are not prominent enough in this Upazila.

### **Proposals for Environmental Issues**

Here are some proposals for different environmental issues in Raipura Upazila:

- Raipura is a predominantly flood free area and that shows in the findings of the hydrologic study. So infrastructure should be developed in such a way that it should be flood free in future too.
- Raipura has got an abundance of F0 and F1 lands. These are most suitable for agricultural use.
- Development works should be complementary to this finding and should be based on the pattern of endemic livelihood of the locals so that displacement from livelihood and resettlement efforts are minimal.
- In case of construction within F2 and F3 lands, development should be done using local earth so that, the filling volume compensates for the volume of watershed lost in the land filling process.
- No construction or development should be allowed within F4 areas.
- Considering the accuracy and resolution of the DEM used for the study, any proposed intervention should be field verified and subject to necessary survey works prior to commencement of construction. This study should be used as indicative only.

## Chapter 9: Action Area Plan

### 9.1 Introduction

Action Area Plan is the last component of the Development Plan. This plan will enrolled at 5 years interval. This plan is prepared under the frame of Structure Plan, Urban Area Plan and Rural Area Plan.

### 9.2 Purpose of Action Area Plan

In the Structure Plan broad policies for future development have been formulated. The next step is to interpret these broad policies in terms of geographical locations. Action Area Plan contains a description of the proposed sequence and related activities for the implementation of the development plan to ensure the planned development of the project area. It describes land use in specific location, prepare architectural layout plans, building control mechanism. Action Area plan embodies components of the plan, geographical coverage, time frame for implementation, responsibility of plan implementation and coordination among components and implementation agencies.

### 9.3 Duration and Phasing of Development

Action Area Plan have prepared for the areas within the Upazila where action is required immediately. For preparing the priority list of Action Area Plan, all the development proposals have been arranged according to four phases.

**Table 9. 1: Duration and phases of Action Area Plan.**

Phases	Duration
First Phase	2013-2018
Second Phase	2018-2023
Third Phase	2023-2028
Fourth Phase	2028-2033

### 9.4 Phasing of Action Area Plan.

According to the demand of Consultation meeting and potentiality of the Upazila, development proposals are phasing in action area plan. The list of development Projects is given below with appropriate phasing in **Table 9.2.**

**Table 9. 2: Priority Projects of Raipura Upazila.**

Phase	Activity
First Phase 2013-2018	Development of Masjid Complex at Ward Number 08
	Development of New Pauro Bhaban at Ward Number 01
	Development of Growth Center.
Second Phase 2018-2023	Development of Youth Center at Ward Number 08
	Development of Bus Terminal at Ward Number 02
	Development of Cold Storage at Ward Number 09
	Park and Playground Development at Different Union
Third Phase	Development of Future Government Office at Ward Number 08



2023-2028	Development of Tempo/ Autorickshaw/Easy Bike Stand.
	Development of Shopping Complex at Ward Number 08
	Development of Waste Transfer Station at Different Unions.
	Development of Satellite Clinic
	Development of Eco Resort at Paratali Union
Fourth Phase 2028-2033	Development of Tourist Resort at Nilkhya Union
	Development of Resettlement Housing Area at Ward 05
	Development of Vocational Training Institute
	Development of Small Scale Industries
	Development of Neighborhood/Kitchen Market at Ward Number 09

**Source:** Field Survey, 2016

## 9.5 Action Area Plan-Project Description

### 9.5.1 Development of Youth center

**Name of the Project:** Development of Youth Center at Shrirampur Uttar Para at Ward Number 08

**Location:** Ward 08.

**Area:** 1.65 acres

**Priority Phase:** Second Phase (2018-2023)

**Project Description:** At present there is number youth center in the city. There will be number environment threats if the project is implemented. For environment point of view the youth center is located in appropriate location. Layout Plan of the project area shown in **Figure 9.1**.

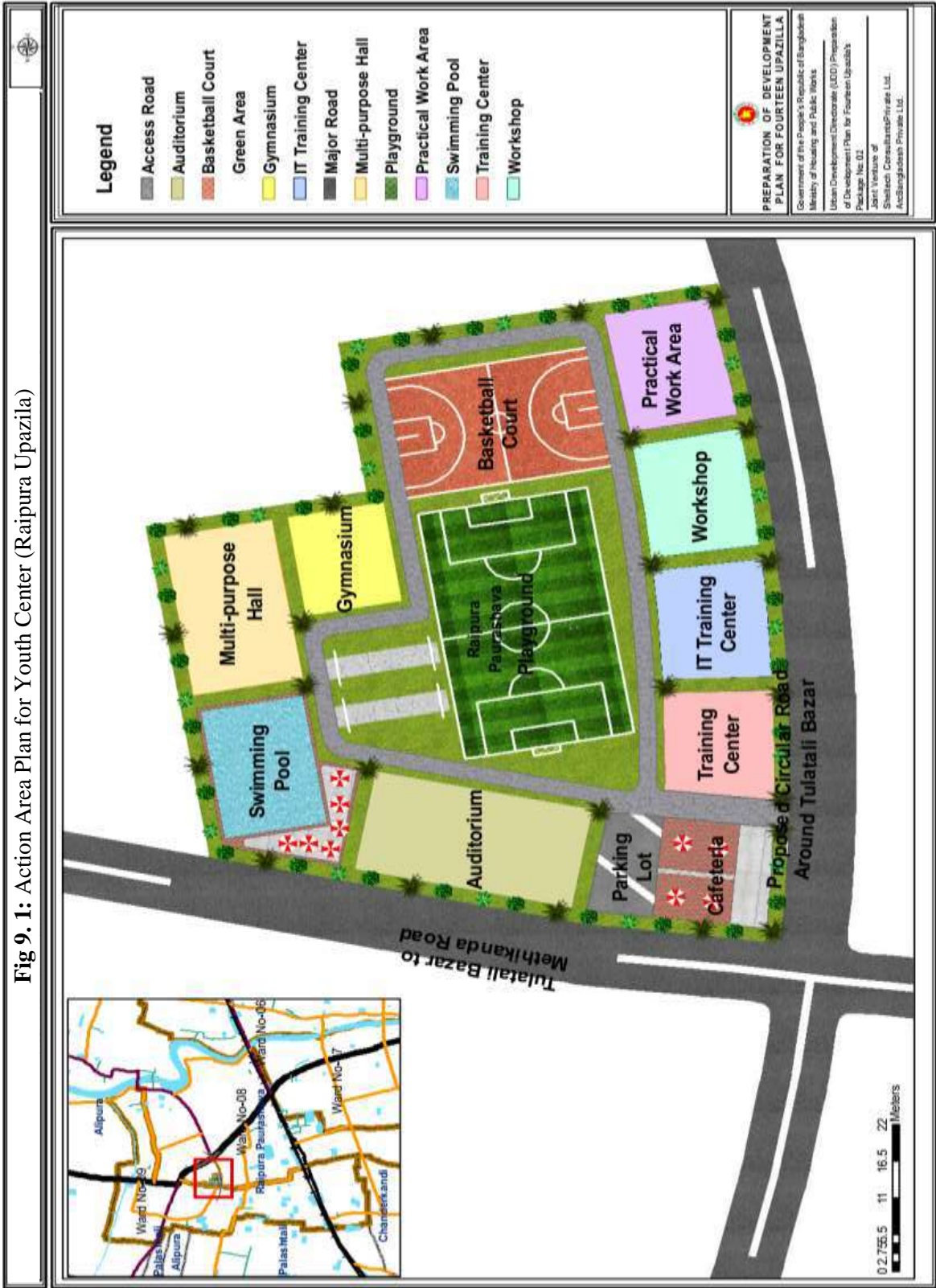
**Implementing Authority:** DC office/Paurashava

**Source of Fund:** GOB

**Cost Breakup:**

**Table 9.3.1:** Costing for Development of Youth center

Description of Item	Unit	Quantity	Total cost
Land Acquisition	Katha	99	3,600,000
Land Development	sq.ft	43500	52200000
<b>Total</b>			<b>55,800,000</b>



### 9.5.2 Development of Growth center

**Name of the Project:** Development of Growth Center at Matiur Nagar at Musapur Union.

**Objective Of the Project:** Commercial and Agriculture development by adding value to the farmer's productions, generating employment opportunities, and increasing the farmer's net income.

**Location:** Musapur Union.

**Area:** 42 acres.

**Priority Phase:** First Phase (2013-2018).

**Project Description:** Growth Center will be developed at Musapur Union which covers an area of 42 acres. Different service facility have been proposed there such as school, mosque, clinic and cold storage etc. Layout Plan of Growth Center at Musapur Union shown in **Figure 9.2**.

#### Impact Assessment

- Creation of Job
- Increase the quality of life style
- Expand local business
- Enhanced property values
- Increased local tax revenue

**Implementing Authority:** Paurashava/UNION

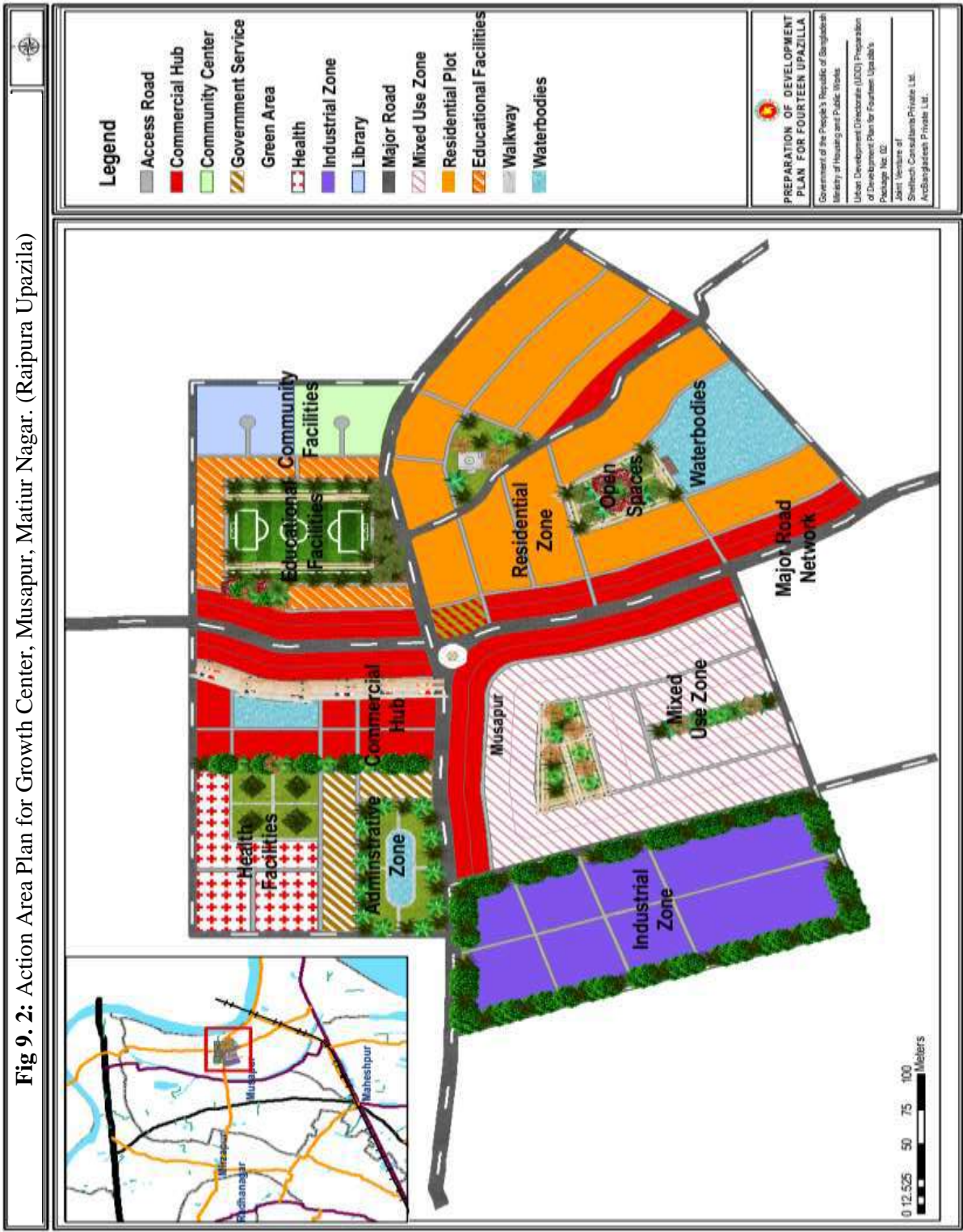
**Source of Fund:** GOB

**Cost Breakup:**

**Table 9.3.2:** Costing for Development of Growth center

Description of Item	Unit	Quantity	Total cost
Land Acquisition	Katha	2520	151,200,000
Land Development	sq.ft	1827000	365400000
<b>Total</b>			<b>516,600,000</b>

Fig 9. 2: Action Area Plan for Growth Center, Musapur, Matiur Nagar. (Raipura Upazila)



## **Chapter 10: Plan Implementation**

### **10.1 Introduction**

Plan Implementation is the most crucial task of the stakeholders. This chapter will highlight the various measures needed to be taken in order to execute the plan proposals. Effective implementation of a plan is the most important part of the total planning process.

### **10.2 Plan Custodians**

It is necessary that all the stakeholders should be involved in carrying out the implementation of the plan proposals. Planning proposals are essentially much time bounded, therefore, execution of the proposals should move ahead once the government formally approves the plan. Raipura Upazila will be the main custodian of the total plan package. It will also be responsible for monitoring and implementation of the development projects by other development as well as Union.

### **10.3 Periodic Review and Updating**

The plan package needs to be updated regularly to make it respond to the spatial changes over time. The aim of the review will be to analyze the status of implementation of plan provisions, the changing physical growth pattern, infrastructure development and the trend of public and private physical development including growth direction. It is necessary that the entire plan document should be reviewed every 4<sup>th</sup> year of the plan period and will come into execution from 5<sup>th</sup> years. For regular updating and changes and plan implementation monitoring, the Upazila should immediately set up a planning section with a number of planner and staff.

### **10.4 Legal Aspects**

The drive to establish strong urban local governance in the Upazila is yet to be legalized. The governance programs at present are operated project wise based on the formulated policies of the implementation agencies of the national government. There are national policies for most of the sectors. The relevant sector policies are consulted in this project for the preparation of Development Plan. These sector policies will be important for adopting measures of executing development projects as indicated in the plan documents. For further details of the policies and strategies, the implementing agencies may consult the national policy documents for any sector.

### **10.5 Resource Mobilization**

Resource mobilization will be one of the most challenging tasks in implementing the plan package. Though the development proposals are said to be executed by a large number of development agencies, but it is beyond doubt that the Upazila will have to shoulder heaviest burdens. Upazila is dependent on the government for executing its development projects as it is unable to collect sufficient revenue from its tax and number-tax resources. Assessment and collection of taxes by local government is poor. It is found that local governments for various reasons are unable to collect appreciable amount of revenue that can be used for funding their development projects. Local government can contract private sector companies on commission basis to collect revenue. Local government should introduce betterment fee to raise its revenue. Necessary rules and regulations will have to be formulated for this purpose. Its fees for insurance of land use clearance and fees for approval of building plans should also be raised by following the Building Construction Rules. Local government



agencies should take up and implement commercial area development projects smartly and competitively with private developers to raise its income and finance its development projects.

### **10.6 Capacity building**

The plan package imposes a large number of development projects on Raipura Upazila for implementation. Raipura Upazila is not only the custodian of the plan, but also directly implement much of the development projects. Besides, it will also be responsible for monitoring and implementation of the development projects by other urban development and service giving agencies. To raise working capability, training programs should be arranged and modern office and working equipment should be installed.

### **10.7 Role of Urban Development Directorate (UDD)**

UDD is not directly involved with Upazila development plan and UDD is currently doing Upazilas master Plan. The role of UDD should expand to monitor and evaluate the development plans of Upazilas directly in order to make it more practical and fruitful. UDD can provide technical services for effective implementation of the plan.

### **10.8 Good Governance in Legal Provisions.**

There is hardly any act or ordinance where the elements of good governance area clearly visible. The consultant has identified some acts, where some elements of good governance can be traced. The plan implementation will be legally guided by the Local Government Acts of all Local Government Units within the Upazila - (i) Local Government (Upazila Parishad) Act, 2009; (ii) Local Government (Paurashava) Act, 2009; and (iii) Local Government (Union Parishad) Act, 2009. The constitution of Peoples republic of Bangladesh clearly spells out that the government should work to minimize the gap between urban and rural areas. A Planned Upazila development in that pursuit can provide necessary service to improve quality of life in both urban and rural areas within the Upazila.

### **10.9 Lack of Automation**

Most works in the Upazila are done manually. Such practice delays works and deprives the citizens from services. Modern office and working equipment should be installed. Use of modern technology will increase efficiency in planning and record keeping, finally expedite decision making process.

### **10.10 Staffing and Training**

As a traditional system of Upazila, engineers are appointed directly by the ministry of local government and other staffs are appointed locally through the approval of the ministry after advertisement on the newspaper. In Raipura Upazila revenue income is too low and that is why it is not capable to pay the salary of all the officials. This is the main reasons for under staffing of the Upazila. There is no proper arrangement for staff training. As a result, the staffs are mostly unskilled. They can not deliver proper service to the citizens. Besides, most of them are not qualified enough to render proper services.

### 10.11 Monitoring and Evaluation

Monitoring and evaluation is a very important part of plan implementation. It measures the level of implementation of the plan. If the plan implementation is not on track, corrective measures can be taken to put execution on the track. After expiry of any plan, evaluation is made about the errors and omissions. Such evaluation helps take corrective measures in the next plan. But Raipura Upazila is not equipped with qualified manpower to make such evaluation. However, plan evaluation can be accomplished by means of outsourcing when it is required.

### 10.12 Implementation Modalities

If there is any land use required on any plot for Government/Non-Government/Private Intervention/Project/Land acquisition for General welfare that is not in consistent to the proposed land use or it's permitted, conditionally permitted, restricted or special use stated in the gazette plan, it must be approved by the Ministry of Housing and Public Works through review committee. Ministry of Housing and Public Works will provide administrative orders regarding the specific land use change and it will be included during review of the plan on specific interval as stated in the plan. The formation of review committee and its terms of reference (TOR) are given as follows:

Review Committee formation-

Sl No.	Person	Position
1	Secretary, Ministry of Housing and Public Works	Chairperson
2	Director, Urban Development Directorate (UDD)	Member
3	Joint Chief/Deputy Chief, Planning Cell, Ministry of Housing and Public Works	Member-Secretary
4	Upazila Nirbahi Officer of Concerned Upazila/Mayor of Concerned Paurashava	Member
5	Project Director, 14 upazila Project, UDD	Member
6	Upazila Engineer of Concerned Upazila/Assistant Engineer of Concerned Paurashava	Member
7	Concerned Project Manager, 14 upazila Project, UDD	Member

Terms of Reference of Review committee:

1. The committee would meet on need basis.
2. Any decisions taken by the committee will be gazetted by the Ministry of Housing and Public Works.
3. The committee may co-opt new member if necessary.

## **Chapter 11: Conclusion**

The development of urban and rural areas is the inevitable destiny of the human civilization especially in most densely populated country. Major and minor cities including secondary towns along with cities is utmost essential. Final Plan of Raipura Upazila will give a guideline to develop the area according to the demand of local people. The Plan consists of a written statement of objectives and a map or series of maps. The motto of development plan of a urban or rural areas are to provide planned development, renewal of absolute areas; preserving, improving and extending amenities; provision for better utility services, waste recovery and disposal facilities; zoning of areas for residential, commercial, industrial, agricultural, forestry, flood plains; provision of services for the community etc. However, the five-tier plan devised in this report will be effective tools for planned development of most of the areas in Raipura. The Planned township and integrated rural development will require infrastructure and service facilities that can be done by the proper utilization of such urban and rural area plan. This in turn will make a positive impact on economic growth, social progress and environmental sustainability in the whole region. Raipura upazila must avail this opportunity for its progress in future by implementing the development plan done by UDD under the Ministry of Housing and Public works. According to the development plan, detailed land schedule of proposed landuse as mentioned in structure plan, urban area plan and proposed road network plan can be found in Land schedule book.

## **ANNEXURE**

**Annex-A: Development Project of Raipura Upazila**

Categories	Name of the Project	Implementing Agency
Administrative Sector	Development of Paurashava Bhaban at Raipura Paurashava	Paurashava
	Development of Future Government Office at Ward No 08 and Raipura Paurashava	DC Office
Agriculture Sector	Development of Agro-Based Industry at Maheshpur Union.	BEZA
	Development of Agriculture Training Center at Radhanagar Union.	BADC
Community Facilities	Development of Cultural Center/Youth Center at Maheshpur	DC Office
	Graveyard Development at Different Union.	PPP
	Mosjid Complex Development at Paipura Parashava	PPP
Commercial Sector	Development of Wholesale Market at Sreenagar	PPP
	Kitchen Market Development at Different Union.	PPP
	Development of Shopping Complex at Ward- 08	Paurashava
	Pauro Market Development.	Paurashava
Drainage Development	Primary Drainage Development in the Raipura Paurashava and Surrounding Area	Paurashava
Education Sector	Development of Vocational Training Institute at Chandpur Union.	DSHE
Health Sector	Development of Community Clinic at Different Union.	DPHE
Industrial Sector	Development of Industrial zone at Musapur Union	BEZA
	Development of Small Scale Industry at Chandpur and Mirzapur Union	BEZA
	Development of Fish Processing Zone at Chandpur Union	PPP
	Development of Brick Field Zone at Palashtali Union.	Paurashava
	Small Scale Industry Development.	BEZA
Religious Facility Development	Mosjid Complex Development at Paipura Parashava	PPP
Transportation and Communication	Development of Bus Terminal at Paipura Paurashava	RHD
	Truck Terminal Development at Amirganj Union	RHD
Recreational Sector	Development of Park at Mirzanagar	Paurashava
	Development of Stadium at Ward No 09 and Raipura Paurashava	Ministry of Youth and Sports.
	Development of Recreational area at Sreenagar	PPP
	Park and Playground Development.	Paurashava
	Development of Recreational Zone at Dulalpur Union	Paurashava
Tourism Sector	Tourist Spot Development at Chandpur Union.	PPT
Residential	Development of Housing Area at Amirganj	NHA
Utility Sector	Development Waste Disposal Site at Amirganj Union	DPHE



Preparation of Development Plan for Raipura Upazila (2013-2033)

Categories	Name of the Project	Implementing Agency
	Development of Electric Sub Station at Banshgari	PDB,REB
	Development of Water Treatment Plant at Raipura paurashava	Pauarashava
	Development of Waste Disposal Station at Paurashava	Pauarashava,DPHE
	Development of Waste Transfer Station at different Unions	Pauarashava

**Annexure –B: Comments on Final Plan in the Public Hearing**

<b>Participants</b>	<b>Comments and Suggestions</b>	<b>Steps taken by the Consultants</b>
Mizanur Rahman Chowdhury Chairman Raipura, Narsingdi	On behalf of Ministry of Housing and Public works, Urban Development Directorate has prepared the development plan of RaipuraUpazila under the project titled “Preparation of Development Plan for Fourteen Upazilas.” Chairman was involved in this project from the very beginning. It is requested to UDD to publish the plan. It is also requested to Prime minister to make the plan successful in Upazila sector.	
Md. Shafiqul Islam UNO, Raipura Narsingdi	On behalf of Ministry of Housing and Public works, Urban Development Directorate has prepared the development plan of Raipura Upazila under the project titled “Preparation of Development Plan for Fourteen Upazilas.” This plan is very time relevant. It is suggested that the comments and recommendations findings from public hearing and Development fair 2018 should be included in the plan. The support from UNO of Raipura will be continuous in present and future for the success of this development plan.	Has been included Final Plan
Md. Shah Alam Mia Upazilla Engineer, Raipura, Narsingdi	The plan taken under the project titled “Preparation of Development Plan for Fourteen Upazilas” under Ministry of Housing and Public works and prepared by Urban Development Directorate, is very realistic. The following topics should be incorporated with the plan to make it more time relevant and justified: <ol style="list-style-type: none"> <li>1. Recreation centre should be built surrounding the Kakon river.</li> <li>2. Infrastructures should be built around every river to beautify the aesthetic view of those rivers.</li> <li>3. Place should be identified for building a watch tower</li> <li>4. Helipad place should be demarked in Chander Kandi.</li> <li>5. Roads under the Unions and Upazilas should be broadened about 24 feet.</li> <li>6. Drainage system of Paurashava should be incorporated into more developed plan.</li> <li>7. Every Union should have a Recreation Centre.</li> <li>8. Every river should be under continuous drainage system.</li> <li>9. Water treatment plant should be established more.</li> </ol>	Has been proposed.

Preparation of Development Plan for Raipura Upazila (2013-2033)

	10. Ornamental bridge should be established in order to connect Mirzachar with Brahmanbaria Nabinagar.	
Rajiuddin Ahmed Raju Parliament Member 203 Narsingdi 5	On behalf of Ministry of Housing and Public works, Urban Development Directorate has prepared the development plan of RaipuraUpazila under the project titled “Preparation of Development Plan for Fourteen Upazilas” and this plan is very good initiative. Plan related all members are requested to make it more developed and successful. All supports will be given in order to make the plan to publish in a gazette format. At last every members and urban planner’s works are appreciable to make it this successful.	
Shohag Rana Upazilla Food Office, Raipura	A police station is needed in Paratola Bazar to make the area more peaceful and disciplined and also for the safety of people.	Has been proposed.
Ilias Ahmed Upazila land office, Raipura	Roads should be reconstructed from Mahmudabad Namapara to Ibrahimipura in order to make connectivity more accessible for the local people and a govt. hospital is needed for the health purpose of this area.	Has been proposed.
Taufique Hossain Khan Agricultural extention officer, Raipura, Narsingdi	The plan under this project has been done very successfully and it was needed in a country like Bangladesh. Agricultural land should be conserved in order to the recent importance of agricultural development. Agricultural production especially in the seed stage of agricultural land along with urban development should be given more attention.	For protect agriculture land policy has been given
Shoma Akhter Migration Manager	The Master Plan of Raipura Upazila under the “Preparation of Development Plan for Fourteen upazilas” is very good and successful with realistic viewpoint.	
Rojina Akhter Upazilla Agricultural Officer	Agricultural survey has been done in order to make the Master plan of Raipura Upazila. Conservation of agricultural lands used for crop production has been carefully demarked from the urban planning. This plan is a successful plan.	Policy has been given.
Md. Jakir Hossain Molla Upazilla Youth Development Officer, Raipura, Narsingdi	This plan is a good news for the people staying here. Development plan should include the development and working opportunity potentials of the literate unemployed youth population of this Upazila.	Considered
Md. Jamal Molla Mayor	The Master Plan is very time relevant and this planning should be done in every Upazilas in Bangladesh.	
Krishnadoyal Rai Assistant Engineer Raipura Paurashava	The proposed plan is very time relevant and realistic.	

Preparation of Development Plan for Raipura Upazila (2013-2033)

Md. Monirul Islam Secretary, Raipura Paurashava	Ward-01 should be given attention as it is the centre of the paurashava. This plan is very good according to the Secretary.	Considered.
Taslima Begum Councillor	A housing plan should be incorporated in the master plan of Raipura Paurashava	
Beauty Begum Councillor	Master plan has been done very successfully. A recreation park should be constructed within Paurashava.	Has been proposed Proposed.
Saleha Islam Councillor	A market should be established in ward no. 7 in the Raipura Paurashava.	Has been proposed Proposed.
Mehedi Hasan Service Holder	This plan is very good. Roads should be reconstructed and drainage system should be more developed. Covered and uncovered drainage should be constructed on both sides of the roads.	Drainage plan has been proposed proposed.
Abdullah Al Mamun Businessman	Drainage system should be developed in ward no. 6 and urgent water supply system is needed here.	Drainage plan has been proposed proposed.
Maruf Mia Businessman	A primary school is needed in ward no. 7.	Has been proposed Proposed.
Md. Kawser Ahmed Businessman	Drainage system should be developed in order to solve the water logging problem in the paurashava area. A flyover is needed in Srirampur Railgate in order to solve the traffic congestion in the area.	Drainage plan has been proposed proposed.

**Annexure –C: Permitted Landuse**

Land use Category	Sub-Land use Category	Sub-Land use Category
<b>Residential</b>	Residential Area	Planned Residential Area
		Govt. Quarters
		Private Housing
		Rest/Guest/Circuit House
		Banglow
		Mess
		Orphanage/Old Home
	Unplanned Residential Area	Rural Homestead
<b>Commercial</b>	Hotel	Residential Hotel/ Hotel & Restaurant
	Wholesale Shop	Wholesale Rice Market
		Wholesale Vegetables Market
		Wholesale Fish Market
		Wholesale Grocery Goods Market
		Wholesale Fruit Market
	Retail Shop	Book Stall
		Cloths Shop
		Paper & Magazine
		Stationery Shop
		Shoe Shop
		Bag & Leather Goods
		Cosmetics
		Spectacles
		Electronic Goods
		Audio Video Cassette
		Utensils/Crockery
		Sports Goods
		Computer Goods
		Motor Car Parts
		Jewelry shops
		Show Room/Electric/Mobile
		Furniture Shop
		Department Store
		Mobile Sales Center
		Hardware Goods
		Sweet Shop
		Bakery Shop
		Gift Shop
		Press & Printing
		Grocery Shop
		Iron & Steel Shops
		Shopping Center/Mall



Land use Category	Sub-Land use Category	Sub-Land use Category
		Super Market
		Rubber Stamps
		Phone-Fax-Photocopy
		Cycle Store
		Studio/Colour Lab
		Drug/Pharmacy
		Pottery shop
	Show Room	Electronics
	Market/Bazaar	Sports and Athletics
		Kitchen Market
Mixed Use		Katcha Bazar
	Cold Storage	
	Others Godown	
		Residential -Commercial
		Residential - Office
		Commercial -Industrial
		Two or more use
Transportation	Road	R & H Road/LGED Road
		Primary Road/ Major Through fare
		Secondary Road (Pucca)
		Secondary Road (Kutchra)
		Local Road (Pucca)
		Local Road (Kutchra)
		Access Road (Pucca)
		Access Road (Kutchra)
		Footpath (Paved)
		Footpath (Unpaved)
		Walkway
		Embankment cum Road
	Transport Terminal	Bus terminal / Truck terminal / Tempo stand / Rickshaw stand / Railway station etc.
	Rail way	Broad gauge
		Meter gauge
	Water way	River
Industrial **	Food Manufacturing Industry	Dairy Products
		Fish & Sea Food
		Bakery Product
	Textile & Garments	Cotton Textile
		Jute Textile
		Silk & Artificial Textile
		Dyeing Industry
		Knitting Industry
		Hosiery Products
		Readymade Garments
	Chemical industry	Compressed Natural Gas
		Fertilizers

Land use Category	Sub-Land use Category	Sub-Land use Category
		Insecticides Industry
		Soap & Detergent
		Paints & Varnishes
	Pharmaceuticals Industry	Medicine and Drugs Company
	Paper Mills	Paper Product (all kind)
		Newspaper
	Plastic and Rubber Industry	Rubber Footwear
		Cycle & Tyre Tube
		PVC Product
		Glass Product
		Bricks Kiln/Fields
		Cement
	Metal Industry	Iron & Steel
		Bland & Knives
		Heating & Lighting
		Plumbing Equipment
		Machinery Equipment
		Wire & Cables
		Electric Lamps
		Electrical Apparatus
	Agro based Industry	Fruits & Vegetables
		Oil Products
		Edible Salt
		Molasses
		Atta, Maida and Suji (Flour Mill)
		Spice Industry
		Rice Mill
		Boiler (Rice)
	Cottage Industry	Handicrafts
		Pottery
		Carpets
		Fabrics
		Sewing/Hand loom Products
	Others Industry	Wooden Furniture
		Cane Furniture
		Steel Furniture
		Ship Building
		Lime Stone
		Sports & Athletics
<b>Educational</b>	Kindergarten and Nursery	
	Primary School	
	Primary & High School	
	High School	
	High School & College	
	College	
	Medical College	Public Medical College

Land use Category	Sub-Land use Category	Sub-Land use Category
		Private Medical College
	Engineering College/University	Public/ Private Engineering College.
	Vocational Training Institute	Public/ Private Training Institute
	Computer Training Institute	Public/ Private
	Dakhil Madrasa	Public/ Private
	Tutorial/ Coaching Center	Public/ Private
	Government Training Institute	Public/ Private
	Library	Public/ Private
	Museum	Public/ Private
	Social Welfare Institution	Public/ Private
<b>Health</b>	Medical Facilities	Govt. Hospital / Pvt Hospital /Maternity/ Children Hospital / Clinic/ Diagnostic Center
<b>Administrative</b>	<b>Government Office</b>	Paurashava Office
		LGED Office
		Upazila Headquarter
		Union Parishad Office
		Settlement Office
		Post office
		Bank
		Public Works Department Office
		R&H Office
		DPHE Office
		Statistical Bureau Office
		PDB Office
		BWDB Office
		Other Government Office
	<b>Non-Government Office</b>	Private Bank/ Insurance Company
		Mercantile & Cooperatives
		Private company/Different types of NGO/CBO/Club
		Commercial Group Office
		Trading Corporation Office
		Law Chamber
		Doctors Chamber
<b>Recreational</b>	Indoor Recreation	Cinema Hall
		Theater Hall
		Museum & Art gallery
		Auditorium /Community Center/Town Hall
	Other Recreation	Park/Playground/Amusement Park/Theme Park
		Stadium/ Gymnasium/Swimming Pool
		Tennis Complex

Land use Category	Sub-Land use Category		Sub-Land use Category
Places of Worship	Religious		Mosque
			Eidga / Mazar/ Dargha
			Temple
			Church
			Pagoda
	Graveyard		Graveyard
			Cemetery
		Cremation place	
			T&T Board
			Power Supply Station
			Solid Waste Dumping Site
			Water Pump House
			Overhead Tank
			Solid Waste Transfer Station
Open spaces	Reserve Open Space		Historic Sites
	Open Area		Forest Land/Urban Green
			Ecological park/sites
			River Bank
			Monument
			Shahid Minar
			Embankment
Water bodies	Pond		
	Tank		
	Beels		
	Lakes		
	River		
	Khals		
	Streams		
	Drain		

**Annex-D: Planning Standard for Development.**

<b>Types of Landuse</b>	<b>Recommended Standard</b>
<b>Residential</b>	50 persons/1 acre
General residential	150-200 persons/1 acre
Real Estate – Public/Private	200-250 population/ 1 acre
Private Govt. Housing Estate	1 acre/ 100 pop.
<b>Roads</b>	<b>10% of total proposed land</b>
Primary/Major road	150-100 feet
Secondary road	100-60 feet
Tertiary road	30-40 feet
Local road	20-25 feet
<b>Education</b>	
Primary/Kindergarten	2.0 acres/5000 pop.
Secondary	5.0 acres/20,000 pop.
College	5.0 acres/20,000 pop.
Vocational Institute	5-10 acres/upazila
Others (Library, Madrasa)	5 acres / 20,000 pop.
<b>Health Facilities</b>	
Hospital	5.0 acres/20,000 pop.
Upazila Health Complex	5.0 acres/20,000 pop.
Specialized Hospital	1 acre/Paurashava
Maternity/Child care	1 acre /5,000 pop.
Health Center/Community Clinic	0.33 acre/20,000 pop.
<b>Administrative</b>	<b>12 acres/ Upazila</b>
Upazila complex	15.00 acres
Paurashava office	3 acres/Paurashava
Jail/Sub-Jail	10 acres/Upazila HQ
Ward Councilor Office	0.25 acre /Office
Police Station	3-5 acres/Upazila
Police Box/Outpost	1 acre/box
<b>Recreational &amp; Open Space</b>	
Playground	3.00 acres/20,000 pop.
Central Park	5 acres/Paurashava/Upazila HQ
Neighborhood/ Community Park	1 acre/1,000 pop.
Stadium/Sports Complex	6 acres/Paurashava/Upazila
Cinema	0.5 acre /20,000 pop.
<b>Religious</b>	<b>0.5 acre /20,000</b>
Mosque/Church/Temple	0.5 acre /20,000
Masjid Complex	1 unit/ Upazila
Eidgah	0.5 acre/20,000 pop.
<b>Community Facilities</b>	
Graveyard	0.6 acre /20,000 pop



Preparation of Development Plan for Raipura Upazila (2013-2033)

Community Center	1 acre /20,000 pop.
Post office	0.5 acre/20,000 pop./Paurashava/Union
Telephone/Telegraph	0.5 acre/20,000 pop.
Fire Station	1 acre/20,000 pop./District HQ/Union HQ
<b>Commerce</b>	<b>1.5 acres/ 1000</b>
Wholesale Market	1.5-2 acres/Paurashava
Retail Sale Market	0.5 acre/10,000 pop.
Neighbourhood Market	1 acre/ Neighbourhood Market
Super Market	2 acres/Market
Cattle Market	1 acre/Paurashava
Slaughter House	0.15 acre/Unit
<b>Industry</b>	<b>1.5 acres/ 1000</b>
small scale	5 acres/Paurashava
cottage/agro-based	10-15 acres/Paurashava
Heavy Industry	20 acres/Upazila
Bus Terminal	1.00 acre /20,000
Bus Stoppage including passenger shed	0.33 acre/Per Unit
Truck terminal	1.50 acre/Per Unit
Launch/steamer terminal	0.5 acre/20,000 pop <sup>n</sup>
Railway station	4.00 acre / per Station
Baby taxi/tempo stand	0.25 acre /one baby taxi/tempo stand
Rickshaw/van stand	0.25 acre /one baby taxi/tempo stand
Water supply	1 acre/20,000 pop <sup>n</sup>
Gas Supply Station	1.00/ Per Unit
Solid waste disposal site	5 acres/Paurashava
Waste transfer station/ collection point	0.05-0.10 acres/Station
Electric sub-station	1 acre/20,000 pop <sup>n</sup>
Fuel Station	0.50 acre/Pump
Garbage	1 acre/20,000 pop <sup>n</sup>

## Annexure-E: Sustainable Development Goals and Proposed Plan of Raipura Upazila.

As we know the United Nation corresponded new accord for a better future with 17 Sustainable Development Goals (SDG) navigated by 169 sub setting targets. These plan inclines with few of SDG and targets they represents;

Goals	Description	Proposed features name and its nos of Raipura Upazila	Mouza Name of Proposed features	Proposed feature's area in acre	How many people will be benefitted ? (Nos)
SDG-1: End poverty in all its forms everywhere.	Target 1.1: By 2030, eradicate extreme poverty for all people everywhere, currently measured as people living on less than \$1.25 a day	Dairy Farm/ Cow Hatchery/ Cattle Hat	Amirganj, Hairmara, Maheshpur, Marjal, Mirzanagar, Paratali, Raipura	9.95	
		Fish Hatchery/ Processing Zone	Chandpur, Raipura	4.75	
SDG-2:End hunger, achieve food security and improved nutrition and promote sustainable agriculture	2.c : Adopt measures to ensure the proper functioning of food commodity markets and their derivatives and facilitate timely access to market information, including on food reserves, in order to	Cold Storage	6.29	6.29	
		Kitchen Market	8.60	8.60	

Preparation of Development Plan for Raipura Upazila (2013-2033)

	<p>help limit extreme food price volatility</p> <p>Target 2.3:</p> <p>By 2030, double the agricultural productivity and incomes of small-scale food producers, in particular women, indigenous peoples, family farmers, pastoralists and fishers, including through secure and equal access to land, other productive resources and inputs, knowledge, financial services, markets and opportunities for value addition and non-farm employment</p>				
SDG-3: Ensure healthy lives and promote well-being for all at all ages	3.7 By 2030, ensure universal	Community Clinic	All Exect Chanderkandi, Paratali	14.81 0.55	

Preparation of Development Plan for Raipura Upazila (2013-2033)

	<p>access to sexual and reproductive health-care services, including for family planning, information and education, and the integration of reproductive health into national strategies and programmes</p> <p>Target 3.8: Achieve universal health coverage, including financial risk protection, access to quality essential health-care services and access to safe, effective, quality and affordable essential medicines and vaccines for all</p>	<p>Sattelite Clinic</p> <p>Hospital</p>	Paratali	6.65	
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Preparation of Development Plan for Raipura Upazila (2013-2033)

SDG-4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all	Target: 4.3 By 2030, ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university	High School	Alipura, Chanderkandi, Maheshpur, Palashtali	2.39	
		College	Maheshpur, Marjal, Musapur, Paratali	9.97	
		Primary School	Chanderkandi, Daukar Char, Uttar Bakharnagar, Chandpur	6.43	
	Target 4.6: By 2030, ensure that all youth and a substantial proportion of adults, both men and women, achieve literacy and numeracy	Public Library	Mirzanagar	0.31	
SDG-5: Achieve gender equality gender equality and empower all women and girls.					
SDG-6: Ensure availability and sustainable management of water and sanitation for all.	Target 6.a: By 2030, expand international cooperation and capacity-building support to developing countries in water- and sanitation-	Public Toilet	Amirganj	.21	



Preparation of Development Plan for Raipura Upazila (2013-2033)

	related activities and programmes, including water harvesting, desalination, water efficiency, wastewater treatment, recycling and reuse technologies				
SDG-7: Ensure access to affordable, reliable, sustainable and modern energy for all	Target 7.b: By 2030, expand infrastructure and upgrade technology for supplying modern and sustainable energy services for all in developing countries, in particular least developed countries, small island developing States and landlocked developing countries, in accordance with their respective programmes of support	Solar Panel	Mirzarchar, Nilakhya, Paratali, Sreenagar, Chandpur, Char Madhua	5.65	

Preparation of Development Plan for Raipura Upazila (2013-2033)

SDG-8: Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all					
SDG-9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation	Target 9.2: Promote inclusive and sustainable industrialization and, by 2030, significantly raise industry's share of employment and gross domestic product, in line with national circumstances, and double its share in least developed countries	Industrial Zone  Small Scale Industries	Amirganj, Musapur  Adiabab, Alipura, Char Aralia, Mirzanagar, Mirzapur, Mirzar Char, Raipura, Sreenagar, Uttar Bakharnagar, Chandpur, Char Madhua	25.20  16.88	
SDG-10: Reduce income inequality within and among countries.					
SDG-11: Make cities and human settlements inclusive, safe, resilient and sustainable	Target 11.1- Ensure access for all to adequate housing and basic services and upgrade slums	Housing Area	Amirganj, Chanderkandi, Mirzapur, Uttar Bakharnagar	85.41	
SDG-12: Ensure sustainable consumption and production patterns.					
SDG-13: Take urgent action to combat climate change and its impacts by regulating emissions and promoting developments in renewable energy					

Preparation of Development Plan for Raipura Upazila (2013-2033)

SDG-14: Conserve and sustainably use the oceans, seas and marine resources for sustainable development.					
SDG-15: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss.					
SDG-16: Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels.	Target 16.6: Develop effective, accountable and transparent institutions at all levels	New Union Parishad  Land Office  Police Investigation Centre	Alipura  Adiabab, Char Madhua  Banshgari	0.43  0.81  0.74	
SDG-17: Strengthen the means of implementation and revitalize the global partnership for sustainable development					

**Annex-F: Vulnerability Risk Analysis Survey**

ID	Mobile Tower	Overhang ing	Soft Story	Poundi ng	Short Column	Ground Set	Tilti ng	Set Back
2	N	Y	N	N	Y	N	N	N
1	N	Y	N	N	N	N	N	Y
3	N	Y	N	N	N	N	N	Y
74	N	N	N	N	Y	N	N	Y
75	N	N	N	N	N	N	N	Y
68	N	Y	N	Y	Y	N	N	N
76	N	N	N	Y	Y	N	N	N
77	N	N	N	Y	Y	N	N	N
72	N	N	N	Y	Y	N	N	N
69	N	N	N	N	Y	N	N	Y
66	N	N	N	N	Y	N	N	Y
67	N	N	N	N	Y	N	N	N
65	N	N	N	N	N	N	N	Y
73	N	N	N	N	Y	N	N	Y
180	N	N	N	N	Y	N	N	Y
179	N	N	N	N	Y	N	N	N
178	N	N	N	N	Y	N	N	N
176	N	N	N	Y	Y	N	N	N
182	N	N	N	Y	Y	N	N	Y
181	N	N	N	N	Y	N	N	N
177	N	Y	N	N	Y	N	N	N
NI5-1	N	N	N	N	N	N	N	Y
NI5-2	N	N	N	N	Y	N	N	Y
NI5-3	N	N	N	N	Y	N	N	Y
NI5-4	N	N	N	N	Y	N	N	Y
NI5-5	N	Y	N	N	N	N	N	N
200	N	Y	N	N	N	N	N	Y
199	N	Y	N	N	Y	N	N	Y
201	N	Y	N	N	Y	N	N	N
217	N	Y	N	N	N	N	N	N

Preparation of Development Plan for Raipura Upazila (2013-2033)

ID	Mobile Tower	Overhang	Soft Story	Pounding	Short Column	Ground Set	Tilting	Set Back
220	N	Y	N	N	Y	N	N	N
219	N	Y	N	N	Y	N	N	N
221	N	Y	N	Y	N	N	N	N
222	N	Y	N	Y	N	N	N	N
202	N	N	N	N	N	N	N	Y
203	N	Y	N	N	N	N	N	N
215	N	Y	N	N	Y	N	N	N
214	N	Y	N	Y	N	N	N	N
213	N	N	N	Y	N	N	N	N
212	N	Y	N	N	N	N	N	Y
216	N	Y	N	Y	Y	N	N	N
218	N	Y	N	Y	N	N	N	N
211	N	Y	N	N	N	N	N	N
208	N	Y	N	N	N	N	N	Y
207	N	Y	N	N	Y	N	N	Y
204	N	Y	N	N	Y	N	N	Y
205	N	Y	N	N	Y	N	N	Y
206	N	Y	N	N	N	N	N	Y
100	N	Y	N	N	N	N	N	N
98	N	N	N	N	N	N	N	Y
97	N	Y	N	N	N	N	N	N
96	Y	Y	N	N	N	N	N	Y
66	N	N	N	N	N	N	N	N
95	N	Y	N	N	N	N	N	Y
149	N	Y	N	N	N	N	N	Y
148	N	Y	N	N	N	N	N	Y
88	N	Y	N	Y	N	N	N	Y
87	N	Y	N	Y	N	N	N	Y
86	N	N	N	N	N	N	N	Y
NL1-1	N	Y	N	N	N	N	N	N
NL1-2	N	Y	N	N	N	N	N	N
NL1-3	N	N	N	N	Y	N	N	Y
NL1-4	N	Y	N	N	N	N	N	Y
NL1-5	N	Y	N	N	N	N	N	N

Preparation of Development Plan for Raipura Upazila (2013-2033)

ID	Mobile Tower	Overhang ing	Soft Story	Poundi ng	Short Column	Ground Set	Tilti ng	Set Back
NL1-6	N	Y	N	N	N	N	N	N
NJ4-1	N	N	N	N	N	N	N	Y
326	N	N	N	N	Y	N	N	Y
325	N	Y	N	N	N	N	N	N
324	N	Y	N	N	N	N	N	N
323	N	Y	N	N	N	N	N	N
322	N	N	N	N	Y	N	N	Y
298	N	Y	N	N	N	N	N	N
297	N	Y	N	N	N	N	N	Y
377	N	Y	N	N	Y	N	N	N
378	N	Y	N	N	Y	N	N	N
379	N	Y	N	N	N	N	N	N
381	N	Y	N	N	N	N	N	N
382	N	Y	N	N	N	N	N	N
383	N	Y	N	N	Y	N	N	N
386	N	Y	N	N	N	N	N	N
387	N	Y	N	N	N	N	N	N
388	N	Y	N	N	N	N	N	N
380	N	Y	N	N	N	N	N	N
376	N	Y	N	N	N	N	N	N
375	N	Y	Y	N	N	N	N	Y
374	N	Y	N	N	N	N	N	N
373	N	Y	N	N	N	N	N	N
372	N	Y	N	N	N	N	N	N
384	N	Y	N	N	N	N	N	N
385	N	Y	N	N	N	N	N	N
400	N	Y	N	N	N	N	N	N
399	N	Y	N	N	N	N	N	N
396	N	Y	N	N	N	N	N	N
395	N	Y	N	N	Y	N	N	N
401	N	Y	N	N	N	N	N	N
398	N	Y	N	N	Y	N	N	N
397	N	Y	N	N	Y	N	N	N
394	N	N	N	N	N	N	N	N



Preparation of Development Plan for Raipura Upazila (2013-2033)

ID	Mobile Tower	Overhang ing	Soft Story	Poundi ng	Short Column	Ground Set	Tilti ng	Set Back
393	N	Y	N	N	N	N	N	N
392	Y	Y	N	N	N	N	N	N
391	N	Y	N	N	Y	N	N	N
390	N	N	N	N	Y	N	N	Y
413	N	Y	N	N	N	N	N	N
414	N	Y	N	N	N	N	N	N
412	N	Y	N	N	Y	N	N	N
422	N	N	N	N	N	N	N	N
456	N	Y	N	N	Y	N	N	N
457	N	Y	N	N	Y	N	N	N
411	N	Y	N	N	Y	N	N	N
408	N	Y	N	N	Y	N	N	N
91	N	Y	N	N	N	N	N	Y
92	N	Y	N	N	N	N	N	Y
94	N	N	N	N	N	N	N	Y
93	N	N	N	N	N	N	N	Y
90	N	Y	N	N	N	N	N	Y
89	N	Y	N	N	N	N	N	Y
153	N	N	N	N	N	N	N	Y
152	N	Y	N	N	N	N	N	Y
460	N	Y	N	N	N	N	N	Y
459	N	N	N	N	N	N	N	Y
458	N	Y	Y	N	N	N	N	Y
278	N	Y	N	Y	N	N	N	N
277	N	N	N	Y	Y	N	N	N
274	N	Y	N	N	N	N	N	N
273	N	Y	N	N	N	N	N	N
272	N	Y	N	Y	Y	N	N	N
275	N	Y	N	Y	N	N	N	Y
271	N	N	N	N	N	N	N	Y
270	N	N	N	N	N	N	N	Y
269	N	Y	N	N	N	N	N	N
268	N	N	N	N	N	N	N	N
252	N	Y	N	N	Y	N	N	N

Preparation of Development Plan for Raipura Upazila (2013-2033)

ID	Mobile Tower	Overhang ing	Soft Story	Poundi ng	Short Column	Ground Set	Tilti ng	Set Back
276	N	Y	N	N	N	N	N	Y
295	N	Y	N	N	N	N	N	N
294	N	Y	N	Y	N	N	N	N
293	N	Y	N	Y	N	N	N	N
292	N	Y	N	N	N	N	N	N
296	N	N	N	N	N	N	N	Y
285	N	Y	Y	N	Y	N	N	Y
287	N	Y	N	N	N	N	N	N
290	N	Y	N	Y	N	N	N	N
289	N	Y	N	Y	Y	N	N	N
288	N	Y	N	N	N	N	N	N
286	N	Y	N	N	N	N	N	N
NJ4-2	N	N	N	N	N	N	N	Y
NJ4-3	N	Y	Y	N	Y	N	N	Y
NE3-1	N	Y	N	Y	N	N	N	N
168	N	Y	N	N	Y	N	N	Y
167	N	N	N	N	Y	N	N	N
174	N	N	N	N	Y	N	N	Y
171	N	N	N	N	Y	N	N	N
169	N	N	N	N	Y	N	N	N
170	N	N	N	N	N	N	N	N
172	N	Y	N	N	Y	N	N	Y
154	N	Y	N	N	N	N	N	N
NI5-6	N	Y	N	N	N	N	N	N
NI5-7	N	Y	N	N	Y	N	N	N
405	N	Y	N	Y	N	N	N	N
402	N	Y	N	Y	N	N	N	N
403	N	Y	N	N	Y	N	N	N
406	N	Y	N	Y	Y	N	N	N
409	N	Y	N	Y	Y	N	N	N
410	N	Y	N	N	N	N	N	N
415	N	Y	N	Y	N	N	N	N
417	N	Y	N	Y	N	N	N	N
418	N	Y	N	N	N	N	N	N

Preparation of Development Plan for Raipura Upazila (2013-2033)

ID	Mobile Tower	Overhang ing	Soft Story	Poundi ng	Short Column	Ground Set	Tilti ng	Set Back
NME3-1	N	Y	N	N	N	N	N	N
416	N	Y	N	N	N	N	N	N
NME3-2	N	Y	N	N	N	N	N	N
419	N	Y	N	N	N	N	N	N
420	N	Y	N	N	N	N	N	N
421	N	Y	N	N	N	N	N	N
451	N	Y	N	N	N	N	N	N
450	N	Y	N	N	N	N	N	N
449	N	Y	N	Y	N	N	N	N
455	N	Y	N	Y	N	N	N	N
NME3-3	N	Y	N	N	N	N	N	N
452	N	Y	N	N	N	N	N	N
454	N	Y	N	N	N	N	N	N
NME3-4	N	Y	N	N	Y	N	N	N
446	N	Y	N	Y	N	N	N	N
445	N	Y	N	N	N	N	N	N
447	N	Y	N	Y	N	N	N	N
442	N	Y	N	Y	N	N	N	N
441	N	Y	N	N	N	N	N	N
236	N	N	N	N	Y	N	N	Y
224	N	Y	N	N	N	N	N	Y
235	N	Y	N	N	N	N	N	Y
239	N	Y	N	Y	N	N	N	N
234	N	Y	N	N	N	N	N	Y
231	N	N	N	N	Y	N	N	N
230	N	N	N	N	N	N	N	N
338	N	N	N	N	Y	N	N	N
228	N	Y	N	N	Y	N	N	Y
226	N	N	N	N	N	N	N	Y
227	N	Y	N	N	Y	N	N	Y
225	N	N	N	N	Y	N	N	Y
281	N	Y	N	N	Y	N	N	Y
280	N	N	N	N	Y	N	N	Y

Preparation of Development Plan for Raipura Upazila (2013-2033)

ID	Mobile Tower	Overhang ing	Soft Story	Poundi ng	Short Column	Ground Set	Tilti ng	Set Back
279	N	N	N	N	N	N	N	Y
223	N	Y	N	N	N	N	N	N
283	N	Y	N	N	N	N	N	Y
282	N	Y	N	N	N	N	N	Y
284	N	Y	N	N	Y	N	N	N
237	N	Y	N	N	Y	N	N	Y
243	N	Y	N	N	N	N	N	N
229	N	N	N	N	N	N	N	Y
244	N	Y	N	N	N	N	N	Y
242	N	Y	N	N	Y	N	N	Y
241	N	Y	N	N	Y	N	N	Y
248	N	Y	N	N	N	N	N	N
247	N	Y	N	N	N	N	N	N
249	N	Y	N	N	Y	N	N	N
250	N	Y	N	N	Y	N	N	N
255	N	N	N	N	N	N	N	Y
246	N	Y	N	N	Y	N	N	Y
159	N	Y	N	N	N	N	N	N
184	N	Y	N	N	N	N	N	N
185	N	Y	N	N	N	N	N	N
183	N	Y	N	N	N	N	N	N
187	N	Y	N	N	N	N	N	Y
186	N	Y	N	N	Y	N	N	Y
188	N	Y	N	N	N	N	N	Y
189	N	N	N	N	Y	N	N	N
190	N	N	N	N	Y	N	N	N
197	N	N	N	N	Y	N	N	Y
191	N	N	N	N	Y	N	N	Y
192	N	N	N	N	Y	N	N	Y
194	N	N	N	N	Y	N	N	Y
193	N	N	N	N	Y	N	N	Y
64	N	N	N	N	Y	N	N	Y
182	N	N	N	Y	Y	N	N	Y
181	N	N	N	N	Y	N	N	N

Preparation of Development Plan for Raipura Upazila (2013-2033)

ID	Mobile Tower	Overhang ing	Soft Story	Poundi ng	Short Column	Ground Set	Tilti ng	Set Back
177	N	Y	N	N	Y	N	N	N
168	N	Y	N	N	Y	N	N	Y
167	N	N	N	N	Y	N	N	N
174	N	N	N	N	Y	N	N	Y
171	N	N	N	N	Y	N	N	N
169	N	N	N	N	Y	N	N	N
170	N	N	N	N	N	N	N	N
172	N	Y	N	N	Y	N	N	Y
154	N	Y	N	N	N	N	N	N
175	N	Y	N	N	N	N	N	N
173	N	Y	Y	N	N	N	N	N
151	N	Y	N	N	N	N	N	N
166	N	Y	N	N	N	N	N	N
164	N	Y	N	N	N	N	N	N
163	N	Y	N	Y	N	N	N	Y
161	N	Y	N	N	N	N	N	N
160	N	N	N	N	N	N	N	N
NI5-8	N	Y	Y	N	N	N	N	N
NI5-9	N	Y	N	N	N	N	N	N
NI5-10	N	Y	N	N	N	N	N	N
NI5-11	N	N	N	N	Y	N	N	N
NI5-12	N	Y	N	N	N	N	N	Y
157	N	Y	N	N	N	N	N	N
26	N	N	N	N	Y	N	N	N
50	N	N	N	N	Y	N	N	N
127	N	N	N	N	Y	N	N	Y
122	N	Y	N	N	N	N	N	N
125	N	N	N	N	Y	N	N	N
126	N	N	N	N	N	N	N	N
85	N	Y	N	N	N	N	N	N
84	N	Y	N	N	N	N	N	N
83	N	Y	N	N	N	N	N	N
121	N	Y	N	Y	N	N	N	N

Preparation of Development Plan for Raipura Upazila (2013-2033)

ID	Mobile Tower	Overhang ing	Soft Story	Poundi ng	Short Column	Ground Set	Tilti ng	Set Back
120	N	Y	N	Y	N	N	N	N
124	N	Y	Y	N	N	N	N	N
155	N	Y	N	N	N	N	N	N
59	N	Y	N	N	N	N	N	Y
NH9-1	N	Y	N	N	N	N	N	N
NH9-2	N	Y	N	Y	N	N	N	N
NH9-3	N	Y	N	Y	N	N	N	N
NH9-4	N	Y	N	Y	N	N	N	N
NH9-5	N	Y	N	N	N	N	N	N
NH9-6	N	Y	N	N	N	N	N	Y
NH9-7	N	Y	N	N	N	N	N	Y
NH9-8	N	N	N	N	N	N	N	N
NH9-9	N	Y	N	N	N	N	N	Y
256	N	Y	N	N	Y	N	N	N
245	N	N	N	N	N	N	N	N
251	N	Y	N	N	N	N	N	N
340	N	Y	N	N	N	N	N	N
366	N	Y	N	Y	Y	N	N	N
367	N	Y	N	Y	Y	N	N	N
368	N	Y	N	Y	Y	N	N	N
369	N	Y	N	N	N	N	N	N
371	N	Y	N	Y	Y	N	N	N
370	N	Y	N	Y	N	N	N	N
104	N	N	N	N	Y	N	N	Y
102	N	Y	N	Y	N	N	N	N
101	N	Y	N	Y	N	N	N	N
137	N	Y	N	Y	N	N	N	N
135	Y	Y	N	Y	N	N	N	N
136	Y	Y	N	Y	N	N	N	N
134	N	Y	N	Y	N	N	N	N
129	N	Y	N	N	N	N	N	N



Preparation of Development Plan for Raipura Upazila (2013-2033)

ID	Mobile Tower	Overhang ing	Soft Story	Poundi ng	Short Column	Ground Set	Tilti ng	Set Back
128	N	Y	N	N	N	N	N	Y
131	N	Y	N	N	N	N	N	N
133	Y	Y	N	N	N	N	N	N
27	N	Y	N	N	N	N	N	Y
33	N	Y	N	N	N	N	N	Y
32	N	Y	N	N	N	N	N	Y
31	N	N	N	N	N	N	N	Y
30	N	N	Y	N	Y	N	N	Y
29	N	Y	N	N	Y	N	N	Y
28	N	Y	N	N	N	N	N	Y
37	N	Y	N	N	N	N	N	N
38	N	N	N	Y	Y	N	N	N
39	N	Y	N	Y	N	N	N	N
35	N	N	N	N	Y	N	N	Y
36	N	N	N	N	N	N	N	N
40	N	N	N	N	N	N	N	Y
103	N	N	N	N	N	N	N	Y
34	N	N	N	N	Y	N	N	Y
41	N	N	N	N	N	N	N	Y
106	N	Y	N	N	N	N	N	Y
42	N	N	N	N	N	N	N	N
43	N	Y	N	N	N	N	N	N
44	N	Y	N	N	N	N	N	Y
45	N	Y	N	N	N	N	N	Y
4	N	Y	N	N	N	N	N	Y
46	N	N	N	N	Y	N	N	N
113	N	Y	N	N	N	N	N	Y
114	N	N	N	N	Y	N	N	Y
14	N	Y	N	N	N	N	N	Y
13	N	Y	N	N	Y	N	N	Y
12	N	N	N	N	Y	N	N	N
11	N	Y	N	N	N	N	N	Y
16	N	Y	N	N	N	N	N	Y
15	N	Y	N	N	N	N	N	Y

Preparation of Development Plan for Raipura Upazila (2013-2033)

ID	Mobile Tower	Overhang ing	Soft Story	Poundi ng	Short Column	Ground Set	Tilti ng	Set Back
17	N	Y	N	N	N	N	N	Y
25	N	Y	N	N	N	N	N	Y
23	N	Y	N	N	N	N	N	Y
22	N	Y	N	N	N	N	N	Y
NMI6-1	N	Y	N	N	N	N	N	Y
24	N	Y	N	N	N	N	N	Y
21	N	Y	N	N	N	N	N	Y
20	N	Y	N	N	N	N	N	Y
19	N	N	N	N	N	N	N	N
18	N	N	N	N	N	N	N	N
110	N	Y	N	N	N	N	N	Y
107	N	N	N	N	Y	N	N	Y
108	N	N	N	N	N	N	N	N
111	N	Y	N	N	N	N	N	Y
112	N	Y	N	Y	Y	N	N	N
196	N	Y	N	Y	Y	N	N	N
115	N	Y	N	Y	Y	N	N	N
195	N	Y	N	Y	Y	N	N	N
139	N	Y	N	Y	N	N	N	N
138	N	Y	N	N	N	N	N	N
145	N	Y	N	N	N	N	N	N
180	N	Y	N	N	N	N	N	N
NMI6-2	N	Y	N	Y	Y	N	N	N
146	N	Y	N	Y	Y	N	N	N
144	N	Y	N	N	Y	N	N	N
141	N	Y	N	N	Y	N	N	N
142	N	Y	N	N	N	N	N	N
NMI6-3	N	Y	N	N	N	N	N	N
140	N	Y	N	N	N	N	N	N
143	N	Y	N	N	N	N	N	N
80	N	Y	N	N	N	N	N	N
81	N	Y	N	N	N	N	N	N
6	N	Y	N	N	N	N	N	N

Preparation of Development Plan for Raipura Upazila (2013-2033)

ID	Mobile Tower	Overhang ing	Soft Story	Poundi ng	Short Column	Ground Set	Tilti ng	Set Back
NI7-1	N	Y	N	N	N	N	N	N
10	Y	Y	Y	N	N	N	N	Y
9	N	Y	N	N	N	N	N	N
NI7-2	N	N	N	N	Y	N	N	Y
63	N	N	Y	N	N	N	N	N
NI5-13	N	Y	N	N	N	N	N	N
NI5-14	N	Y	N	N	N	N	N	Y
78	N	Y	N	N	N	N	N	N
57	N	Y	N	N	N	N	N	N
61	N	Y	N	N	N	N	N	Y
60	N	Y	N	N	N	N	N	N
50	N	N	N	N	Y	N	N	Y
48	N	Y	N	N	N	N	N	N
51	N	Y	N	N	N	N	N	Y
NI5-15	N	Y	N	N	N	N	N	Y
49	N	Y	N	N	Y	N	N	N
434	N	Y	N	Y	N	N	N	N
444	N	Y	N	Y	Y	N	N	N
438	N	Y	N	Y	N	N	N	N
439	N	Y	N	N	N	N	N	N
440	N	Y	N	Y	N	N	N	N
435	N	Y	N	N	N	N	N	N
436	N	Y	N	N	N	N	N	N
437	N	Y	N	N	N	N	N	N
425	N	Y	N	Y	N	N	N	N
426	N	Y	N	N	N	N	N	N
427	N	Y	N	N	N	N	N	N
428	N	Y	N	N	Y	N	N	N
429	N	Y	N	N	Y	N	N	N
430	N	Y	N	N	Y	N	N	N
433	N	Y	N	N	N	N	N	N
431	N	Y	N	Y	N	N	N	N
348	N	Y	N	N	N	N	N	N

Preparation of Development Plan for Raipura Upazila (2013-2033)

ID	Mobile Tower	Overhang ing	Soft Story	Poundi ng	Short Column	Ground Set	Tilti ng	Set Back
347	N	Y	N	N	Y	N	N	N
345	N	Y	N	Y	N	N	N	N
344	N	Y	N	Y	N	N	N	N
343	N	Y	N	Y	N	N	N	N
350	N	Y	N	Y	Y	N	N	N
351	N	Y	N	Y	Y	N	N	N
NME3-5	N	Y	N	Y	N	N	N	N
361	N	Y	N	Y	N	N	N	N
355	N	Y	N	Y	Y	N	N	N
356	N	Y	N	Y	Y	N	N	N
353	N	Y	N	Y	N	N	N	N
360	N	Y	N	Y	Y	N	N	N
357	N	Y	N	N	Y	N	N	N
362	N	Y	N	N	Y	N	N	N
342	N	Y	N	Y	N	N	N	N
NME3-6	N	Y	N	Y	N	N	N	N
363	N	Y	N	N	Y	N	N	N
364	N	Y	N	N	N	N	N	N
365	N	Y	N	Y	N	N	N	N
338	N	Y	N	Y	N	N	N	N
339	N	Y	N	Y	N	N	N	N
332	N	Y	N	Y	Y	N	N	N
331	N	Y	N	N	N	N	N	N
329	N	Y	N	N	N	N	N	N
330	N	Y	N	N	N	N	N	N
308	N	Y	N	N	N	N	N	N
309	N	Y	N	Y	Y	N	N	N
304	N	Y	N	N	Y	N	N	N
253	N	N	N	Y	N	N	N	N
354	N	Y	N	Y	N	N	N	N
300	N	Y	N	Y	N	N	N	N
299	N	Y	N	Y	N	N	N	N
301	N	Y	N	N	N	N	N	N
302	N	Y	N	N	N	N	N	N

Preparation of Development Plan for Raipura Upazila (2013-2033)

ID	Mobile Tower	Overhang ing	Soft Story	Pounding	Short Column	Ground Set	Tilting	Set Back
336	N	Y	N	Y	N	N	N	N
337	N	Y	N	Y	Y	N	N	N
335	N	Y	N	Y	Y	N	N	N
334	N	Y	N	Y	N	N	N	N
333	N	Y	N	N	N	N	N	N
327	N	Y	N	Y	N	N	N	N
316	N	Y	N	N	N	N	N	N
317	N	Y	N	N	N	N	N	N
319	N	Y	N	N	N	N	N	N
318	N	Y	N	N	N	N	N	N
320	N	Y	N	N	N	N	N	N
321	N	Y	N	N	N	N	N	N
306	N	Y	N	N	N	N	N	N
310	N	Y	N	N	N	N	N	N
311	N	Y	N	N	N	N	N	N
312	N	Y	N	N	N	N	N	N
314	N	Y	N	N	N	N	N	N
313	N	Y	N	N	N	N	N	N
315	N	Y	N	N	N	N	N	N
307	N	Y	N	Y	N	N	N	N
Total	6	348	10	96	145	0	0	307

**Annex-G: Geological Test Location of Raipura Upazila**

BH_ID	Lat	Long	Vs	Dem	ID	BH_Type
BH-R-1	24.01173	90.92958	168.4164	15	35	Bore Hole
BH-R-10	23.93236	90.77338	206.2458	13	36	PS
BH-R-12	24.00752	90.84951	203.3037	10	37	Bore Hole
BH-R-13	24.0442	90.8584	203.3037	13	39	Bore Hole
BH-R-14	24.0316	90.8944	204.0711	14	40	Bore Hole
BH-R-15	24.0353	90.9261	187.6838	15	41	Bore Hole
BH-R-17	23.9116	90.8393	210.291	12	43	Bore Hole
BH-R-2	24.04638	90.92111	195.9436	13	46	Bore Hole
BH-R-3	24.04061	90.95504	212.9008	14	48	Bore Hole
BH-R-4	24.0003	90.90627	204.2322	11	49	Bore Hole
BH-R-5	23.98142	90.87917	142.5642	12	50	PS
BH-R-6	24.02509	90.86913	176.7977	11	51	Bore Hole
BH-R-7	24.03037	90.82973	220.1372	11	53	PS
BH-R-8	23.96679	90.82008	193.7578	16	55	Bore Hole
BH-R-9	23.95583	90.80067	191.8657	20	56	Bore Hole
R_MASW-01	23.966	90.7861	169.1649	13	57	MASW
R_MASW-02	23.99877	90.83173	176.1455	10	58	MASW
R_MASW-03	23.92616	90.8087	162.3852	9	59	MASW
R_MASW-04	23.99588	90.86744	157.1981	11	60	MASW
R_MASW-05	24.01959	90.92305	165.9462	14	61	MASW



**Annex-H: RTK Survey of Raipura Upazila**

<b>Variation Between RTK Survey and Existing Feature of Raipura Upazila</b>								
<b>RTK Survey</b>					<b>Existing Feature</b>		<b>Analysis</b>	
<b>S N</b>	<b>Description</b>	<b>Latitude</b>	<b>Longitude</b>	<b>RL</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Distance (m)</b>	<b>%</b>
1	Up Office	23° 59' 34.896" N	90° 52' 9.187" E	15.2691	24° 0' 12.351" N	90° 51' 55.170" E	1.95	1.54
2	New Upazila Building	23° 59' 34.534" N	90° 52' 10.071" E	5.7901	24° 0' 17.099" N	90° 51' 56.560" E	0.71	0.56
3	Election Office	23° 59' 34.507" N	90° 52' 13.019" E	5.3191	24° 0' 16.383" N	90° 51' 56.583" E	5.81	4.60
4	Clinic	23° 59' 34.066" N	90° 52' 13.096" E	3.7691	24° 0' 5.669" N	90° 51' 41.554" E	3.93	3.11
5	New Upazila Building	23° 59' 35.548" N	90° 52' 10.705" E	6.4771	24° 0' 3.667" N	90° 51' 43.991" E	2.14	1.70
6	Akti khamar	23° 59' 35.129" N	90° 52' 13.156" E	5.0581	24° 0' 3.013" N	90° 51' 43.782" E	2.33	1.84
7	Akti khamar	23° 59' 35.655" N	90° 52' 12.963" E	4.5691	24° 0' 1.679" N	90° 51' 43.328" E	2.75	2.18
8	Up Freedom Fighter Office	23° 59' 35.086" N	90° 52' 14.239" E	5.4461	23° 59' 59.009" N	90° 51' 44.936" E	2.34	1.85
9	Building	23° 59' 35.037" N	90° 52' 13.545" E	5.4401	23° 59' 44.689" N	90° 52' 13.854" E	4.79	3.80
10	Upazila Mosque	23° 59' 34.763" N	90° 52' 8.986" E	0.2871	23° 59' 44.691" N	90° 52' 14.946" E	6.57	5.20
11	Food Godown	23° 59' 33.215" N	90° 52' 7.825" E	5.2041	23° 59' 44.209" N	90° 52' 15.490" E	2.53	2.00
12	School	23° 59' 33.467" N	90° 52' 6.749" E	3.2211	23° 59' 41.071" N	90° 52' 14.412" E	1.72	1.36
13	Rail Center	23° 59' 32.285" N	90° 51' 56.529" E	6.1221	23° 59' 39.706" N	90° 52' 13.939" E	0.18	0.14
14	Methikanda Station Building	23° 59' 32.911" N	90° 52' 0.895" E	5.7301	23° 59' 35.518" N	90° 52' 10.637" E	1.99	1.58
15	Rail Center	23° 59' 16.836" N	90° 51' 23.008" E	6.1341	23° 59' 34.556" N	90° 52' 10.061" E	0.83	0.65
16	School	23° 59' 39.704" N	90° 52' 13.889" E	5.2191	23° 59' 34.976" N	90° 52' 8.978" E	1.42	1.13
17	School	23° 59' 41.161" N	90° 52' 14.373" E	-0.0569	23° 59' 34.948" N	90° 52' 9.227" E	2.97	2.35
18	Auditorium	23° 59' 44.661" N	90° 52' 14.928" E	19.4248	23° 59' 33.518" N	90° 52' 6.774" E	1.04	0.82

<b>Variation Between RTK Survey and Existing Feature of Raipura Upazila</b>								
<b>RTK Survey</b>					<b>Existing Feature</b>		<b>Analysis</b>	
<b>S N</b>	<b>Description</b>	<b>Latitude</b>	<b>Longitude</b>	<b>RL</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Distance (m)</b>	<b>%</b>
19	Auditorium	23° 59' 44.185" N	90° 52' 15.467" E	19.3462	23° 59' 33.293" N	90° 52' 7.797" E	0.97	0.77
20	Primary School	23° 59' 44.609" N	90° 52' 13.870" E	12.9701	23° 59' 34.691" N	90° 52' 13.062" E	2.51	1.99
21	Hospital	24° 0' 3.591" N	90° 51' 43.987" E	17.5091	23° 59' 35.192" N	90° 52' 13.550" E	2.33	1.84
22	Hospital	24° 0' 3.017" N	90° 51' 43.703" E	16.9211	23° 59' 35.194" N	90° 52' 13.198" E	2.24	1.77
23	Hospital	24° 0' 1.615" N	90° 51' 43.274" E	9.9331	23° 59' 35.162" N	90° 52' 14.236" E	2.50	1.98
24	Residential Buiding	23° 59' 58.995" N	90° 51' 44.913" E	6.0131	23° 59' 35.705" N	90° 52' 13.044" E	0.76	0.61
25	Fire Service	24° 0' 16.317" N	90° 51' 56.527" E	6.4701	23° 59' 7.309" N	90° 52' 36.776" E	2.56	2.03
26	Fire Service	24° 0' 17.067" N	90° 51' 56.513" E	5.8561	23° 59' 7.632" N	90° 52' 39.138" E	1.64	1.30
27	Bazar Bridge	23° 59' 3.591" N	90° 52' 36.243" E	8.1511	23° 59' 6.544" N	90° 52' 40.214" E	5.38	4.26
28	Union Land Office	23° 59' 1.284" N	90° 52' 45.137" E	11.2601	23° 59' 2.599" N	90° 52' 42.843" E	4.54	3.59
29	Thana Building	23° 58' 58.556" N	90° 52' 47.632" E	3.2261	23° 59' 1.276" N	90° 52' 45.297" E	1.93	1.53
30	Thana Building	23° 58' 58.920" N	90° 52' 48.236" E	13.1191	23° 58' 58.602" N	90° 52' 47.678" E	2.38	1.88
31	Family planing office	23° 58' 55.439" N	90° 52' 47.571" E	12.6501	23° 58' 58.895" N	90° 52' 48.315" E	6.23	4.94
32	Technical College	23° 58' 55.566" N	90° 52' 50.792" E	5.3191	23° 58' 55.608" N	90° 52' 47.694" E	4.72	3.74
33	Technical College	23° 58' 55.229" N	90° 52' 51.882" E	12.7911	23° 58' 54.829" N	90° 52' 48.730" E	4.30	3.40
34	Administration Buiding	23° 58' 52.960" N	90° 52' 45.526" E	7.0961	23° 58' 53.238" N	90° 52' 43.149" E	3.57	2.83
36	Building	23° 58' 54.637" N	90° 52' 45.274" E	7.8881	23° 59' 7.860" N	90° 52' 51.521" E	3.00	2.38
37	Circle	23° 59' 2.417" N	90° 52' 42.961" E	5.2461	23° 58' 55.720" N	90° 52' 50.802" E	6.51	5.16
38	Pouroshava Office	23° 59' 7.736" N	90° 52' 51.558" E	11.1121	23° 58' 55.360" N	90° 52' 51.933" E	3.95	3.13
39	Bridge	23° 59' 6.449" N	90° 52' 40.202" E	7.7761	23° 59' 32.974" N	90° 52' 0.880" E	2.95	2.33
40	Bridge	23° 59' 7.474" N	90° 52' 39.165" E	8.4151	23° 59' 32.290" N	90° 51' 56.526" E	4.93	3.90
<b>Total</b>							<b>126.30</b>	<b>100</b>

**Annex-I: Mauza List of Raipura Upazila**

<b>Raipura Mouza List</b>					
Dhaka	Narsingdi	Raipura	Adiabab	Adiabab	Adiabab 089 005
Dhaka	Narsingdi	Raipura	Adiabab	Adiabab	Adiabab 089 006
Dhaka	Narsingdi	Raipura	Adiabab	Adiabab	Adiabab 089 001
Dhaka	Narsingdi	Raipura	Adiabab	Adiabab	Adiabab 089 004
Dhaka	Narsingdi	Raipura	Adiabab	Adiabab	Adiabab 089 002
Dhaka	Narsingdi	Raipura	Adiabab	Adiabab	Adiabab 089 003
Dhaka	Narsingdi	Raipura	Alipura	Tulatuli	Tulatuli 072 002
Dhaka	Narsingdi	Raipura	Alipura	Nabiabad	Nabiabad 063 003
Dhaka	Narsingdi	Raipura	Alipura	Tulatuli	Tulatuli 072 001
Dhaka	Narsingdi	Raipura	Alipura	Nabiabad	Nabiabad 063 002
Dhaka	Narsingdi	Raipura	Alipura	Bahadurpur	Bahadurpur 064 002
Dhaka	Narsingdi	Raipura	Alipura	Nabiabad	Nabiabad 063 001
Dhaka	Narsingdi	Raipura	Alipura	Bahadurpur	Bahadurpur 064 001
Dhaka	Narsingdi	Raipura	Alipura	Alipura	Alipura 049 000
Dhaka	Narsingdi	Raipura	Amirganj	Baluakandi	Baluakandi 097 002
Dhaka	Narsingdi	Raipura	Amirganj	Hasnabad	Hasnabad 095 006
Dhaka	Narsingdi	Raipura	Amirganj	Bhati Badarpur	Bhati Badarpur 096 000
Dhaka	Narsingdi	Raipura	Amirganj	Baluakandi	Baluakandi 097 001
Dhaka	Narsingdi	Raipura	Amirganj	Hasnabad	Hasnabad 095 004
Dhaka	Narsingdi	Raipura	Amirganj	Dakshin Mirzanagar	Dakshin Mirzanagar 100 000
Dhaka	Narsingdi	Raipura	Amirganj	Hasnabad	Hasnabad 095 005
Dhaka	Narsingdi	Raipura	Amirganj	Hasnabad	Hasnabad 095 002
Dhaka	Narsingdi	Raipura	Amirganj	Hasnabad	Hasnabad 095 001
Dhaka	Narsingdi	Raipura	Amirganj	Hasnabad	Hasnabad 095 003
Dhaka	Narsingdi	Raipura	Amirganj	Mamudnagar	Mamudnagar 087 000
Dhaka	Narsingdi	Raipura	Amirganj	Rahimabad	Rahimabad 088 002
Dhaka	Narsingdi	Raipura	Amirganj	Rahimabad	Rahimabad 088 001
Dhaka	Narsingdi	Raipura	Banshgari	Banshgari	Banshgari 121 003
Dhaka	Narsingdi	Raipura	Banshgari	Banshgari	Banshgari 121 001
Dhaka	Narsingdi	Raipura	Banshgari	Char Meghna	Char Meghna 120 001
Dhaka	Narsingdi	Raipura	Banshgari	Banshgari	Banshgari 121 002
Dhaka	Narsingdi	Raipura	Banshgari	Char Meghna	Char Meghna 120 002
Dhaka	Narsingdi	Raipura	Banshgari	Banshgari	Banshgari 121 004
Dhaka	Narsingdi	Raipura	Banshgari	Banshgari	Banshgari 121 005

Raipura Mouza List					
Dhaka	Narsingdi	Raipura	Chanderkandi	Manoharpur	Manoharpur 057 000
Dhaka	Narsingdi	Raipura	Chanderkandi	Najarpur	Najarpur 058 000
Dhaka	Narsingdi	Raipura	Chanderkandi	Meratali	Meratali 059 000
Dhaka	Narsingdi	Raipura	Chanderkandi	Paschim Haripur	Paschim Haripur 061 000
Dhaka	Narsingdi	Raipura	Chanderkandi	Pocha Boalia	Pocha Boalia 060 000
Dhaka	Narsingdi	Raipura	Chanderkandi	Chanderkandi	Chanderkandi 62
Dhaka	Narsingdi	Raipura	Chanderkandi	Sreenidhi	Sreenidhi 050 001
Dhaka	Narsingdi	Raipura	Chanderkandi	Sreenidhi	Sreenidhi 050 002
Dhaka	Narsingdi	Raipura	Chanderkandi	Sreenidhi	Sreenidhi 050 003
Dhaka	Narsingdi	Raipura	Chanderkandi	Sreenidhi	Sreenidhi 050 004
Dhaka	Narsingdi	Raipura	Chandpur	Purba Hossainnagar	Purba Hossainnagar 117 005
Dhaka	Narsingdi	Raipura	Chandpur	Purba Hossainnagar	Purba Hossainnagar 117 006
Dhaka	Narsingdi	Raipura	Chandpur	Purba Hossainnagar	Purba Hossainnagar 117 004
Dhaka	Narsingdi	Raipura	Chandpur	Purba Hossainnagar	Purba Hossainnagar 117 003
Dhaka	Narsingdi	Raipura	Chandpur	Purba Hossainnagar	Purba Hossainnagar 117 002
Dhaka	Narsingdi	Raipura	Chandpur	Purba Hossainnagar	Purba Hossainnagar 117 001
Dhaka	Narsingdi	Raipura	Chandpur	Bagh Duariakandi	Bagh Duariakandi 116 002
Dhaka	Narsingdi	Raipura	Chandpur	Kalikapur	Kalikapur 115 000
Dhaka	Narsingdi	Raipura	Chandpur	Bagh Duariakandi	Bagh Duariakandi 116 001
Dhaka	Narsingdi	Raipura	Chandpur	Majher Char	Majher Char 030 003
Dhaka	Narsingdi	Raipura	Chandpur	Majher Char	Majher Char 030 002
Dhaka	Narsingdi	Raipura	Chandpur	Majher Char	Majher Char 030 001
Dhaka	Narsingdi	Raipura	Chandpur	Katoar Char	Katoar Char 032 000
Dhaka	Narsingdi	Raipura	Chandpur	Majher Char	Majher Char 30_004
Dhaka	Narsingdi	Raipura	Chandpur	Chandpur Dhiyara	Chandpur Dhiyara 31
Dhaka	Narsingdi	Raipura	Char Aralia	Char Aralia	Char Aralia 098 002
Dhaka	Narsingdi	Raipura	Char Aralia	Char Aralia	Char Aralia 098 003
Dhaka	Narsingdi	Raipura	Char Aralia	Char Aralia	Char Aralia 098 001
Dhaka	Narsingdi	Raipura	Char Aralia	Battali	Battali 099 002
Dhaka	Narsingdi	Raipura	Char Aralia	Battali	Battali 099 001
Dhaka	Narsingdi	Raipura	Char Madhua	Samibad	Samibad 122 004
Dhaka	Narsingdi	Raipura	Char Madhua	Char Madhua	Char Madhua 123 001
Dhaka	Narsingdi	Raipura	Char Madhua	Char Madhua	Char Madhua 123 002
Dhaka	Narsingdi	Raipura	Char Madhua	Samibad	Samibad 122 001
Dhaka	Narsingdi	Raipura	Char Madhua	Samibad	Samibad 122 002
Dhaka	Narsingdi	Raipura	Char Madhua	Samibad	Samibad 122 003

Raipura Mouza List					
Dhaka	Narsingdi	Raipura	Char Subuddi	Abdullapur	Abdullapur 104 001
Dhaka	Narsingdi	Raipura	Char Subuddi	Char Subuddi	Char Subuddi 084 002
Dhaka	Narsingdi	Raipura	Char Subuddi	Char Subuddi	Char Subuddi 084 001
Dhaka	Narsingdi	Raipura	Char Subuddi	Lalpur	Lalpur 105 000
Dhaka	Narsingdi	Raipura	Char Subuddi	Bhaishber	Bhaishber 082 001
Dhaka	Narsingdi	Raipura	Char Subuddi	Bhaishber	Bhaishber 082 002
Dhaka	Narsingdi	Raipura	Char Sududdi	Abdullapur	Abdullapur 104 002
Dhaka	Narsingdi	Raipura	Daukar Char	Daukar Char	Daukar Char 094 002
Dhaka	Narsingdi	Raipura	Daukar Char	Daukar Char	Daukar Char 094 001
Dhaka	Narsingdi	Raipura	Daukar Char	Kashimnagar	Kashimnagar 093 000
Dhaka	Narsingdi	Raipura	Daukar Char	Char Khainkut	Char Khainkut 092 000
Dhaka	Narsingdi	Raipura	Daukar Char	Kabirpur	Kabirpur 091 000
Dhaka	Narsingdi	Raipura	Daukar Char	Teli Para	Teli Para 090 000
Dhaka	Narsingdi	Raipura	Hairmara	Hairmara	Hairmara 102 002
Dhaka	Narsingdi	Raipura	Hairmara	Birkandi	Birkandi 101 000
Dhaka	Narsingdi	Raipura	Hairmara	Hairmara	Hairmara 102 001
Dhaka	Narsingdi	Raipura	Hairmara	Saudmara	Saudmara 103 000
Dhaka	Narsingdi	Raipura	Maheshpur	Algi	Algi 035 000
Dhaka	Narsingdi	Raipura	Maheshpur	Maniknagar	Maniknagar 040 000
Dhaka	Narsingdi	Raipura	Maheshpur	Saindhadoba	Saindhadoba 041 002
Dhaka	Narsingdi	Raipura	Maheshpur	Mandalia	Mandalia 039 000
Dhaka	Narsingdi	Raipura	Maheshpur	Maheshpur	Maheshpur 038 000
Dhaka	Narsingdi	Raipura	Maheshpur	Saindhadoba	Saindhadoba 041 001
Dhaka	Narsingdi	Raipura	Maheshpur	Begamabad	Begamabad 029 001
Dhaka	Narsingdi	Raipura	Maheshpur	Begamabad	Begamabad 029 002
Dhaka	Narsingdi	Raipura	Maheshpur	Begamabad	Begamabad 029 003
Dhaka	Narsingdi	Raipura	Maheshpur	Sapmara	Sapmara 042 000
Dhaka	Narsingdi	Raipura	Maheshpur	Joynagar	Joynagar 045 001
Dhaka	Narsingdi	Raipura	Maheshpur	Joynagar	Joynagar 045 002
Dhaka	Narsingdi	Raipura	Marjal	Marjal	Marjal 068 006
Dhaka	Narsingdi	Raipura	Marjal	Marjal	Marjal 068 005
Dhaka	Narsingdi	Raipura	Marjal	Marjal	Marjal 068 004
Dhaka	Narsingdi	Raipura	Marjal	Marjal	Marjal 068 003
Dhaka	Narsingdi	Raipura	Marjal	Marjal	Marjal 068 002
Dhaka	Narsingdi	Raipura	Marjal	Marjal	Marjal 068 001
Dhaka	Narsingdi	Raipura	Mirzanagar	Bangalinagar	Bangalinagar 085 002
Dhaka	Narsingdi	Raipura	Mirzanagar	Uttar Mirzanagar	Uttar Mirzanagar 086 003
Dhaka	Narsingdi	Raipura	Mirzanagar	Uttar Mirzanagar	Uttar Mirzanagar 086 001
Dhaka	Narsingdi	Raipura	Mirzanagar	Uttar Mirzanagar	Uttar Mirzanagar 086 002
Dhaka	Narsingdi	Raipura	Mirzanagar	Bangalinagar	Bangalinagar 085 001
Dhaka	Narsingdi	Raipura	Mirzanagar	Hatubhanga	Hatubhanga 082 001

Raipura Mouza List					
Dhaka	Narsingdi	Raipura	Mirzanagar	Hatubhanga	Hatubhanga 082 002
Dhaka	Narsingdi	Raipura	Mirzapur	Sadhunagar	Sadhunagar 044 000
Dhaka	Narsingdi	Raipura	Mirzapur	Pirijarkandi	Pirijarkandi 046 002
Dhaka	Narsingdi	Raipura	Mirzapur	Pirpur	Pirpur 047 001
Dhaka	Narsingdi	Raipura	Mirzapur	Pirpur	Pirpur 047 002
Dhaka	Narsingdi	Raipura	Mirzapur	Pirijarkandi	Pirijarkandi 046 001
Dhaka	Narsingdi	Raipura	Mirzapur	Kukurmara	Kukurmara 015 000
Dhaka	Narsingdi	Raipura	Mirzapur	Anorabad	Anorabad 043 000
Dhaka	Narsingdi	Raipura	Mirzapur	Chhota Mirzapur	Chhota Mirzapur 022 000
Dhaka	Narsingdi	Raipura	Mirzapur	Mamudabad	Mamudabad 021 001
Dhaka	Narsingdi	Raipura	Mirzapur	Mamudabad	Mamudabad 021 002
Dhaka	Narsingdi	Raipura	Mirzar Char	Mirzar Char	Mirzar Char 126 002
Dhaka	Narsingdi	Raipura	Mirzar Char	Mirzar Char	Mirzar Char 126 001
Dhaka	Narsingdi	Raipura	Muksudpur	Mirzar Char	Mirzar Char 126 004
Dhaka	Narsingdi	Raipura	Musapur	Char Begamabad	Char Begamabad 028 002
Dhaka	Narsingdi	Raipura	Musapur	Char Begamabad	Char Begamabad 028 001
Dhaka	Narsingdi	Raipura	Musapur	Gauripur	Gauripur 027 000
Dhaka	Narsingdi	Raipura	Musapur	Ramnagar	Ramnagar 026 002
Dhaka	Narsingdi	Raipura	Musapur	Paharkharkandi	Paharkharkandi 023 000
Dhaka	Narsingdi	Raipura	Musapur	Ramnagar	Ramnagar 026 001
Dhaka	Narsingdi	Raipura	Musapur	Musapur	Musapur 025 000
Dhaka	Narsingdi	Raipura	Musapur	Purba Haripur	Purba Haripur 024 001
Dhaka	Narsingdi	Raipura	Musapur	Purba Haripur	Purba Haripur 024 002
Dhaka	Narsingdi	Raipura	Nilakhya	Nilakhya	Nilakhya 109 004
Dhaka	Narsingdi	Raipura	Nilakhya	Nilakhya	Nilakhya 109 006
Dhaka	Narsingdi	Raipura	Nilakhya	Nilakhya	Nilakhya 109 005
Dhaka	Narsingdi	Raipura	Nilakhya	Nilakhya	Nilakhya 109 001
Dhaka	Narsingdi	Raipura	Nilakhya	Nilakhya	Nilakhya 109 002
Dhaka	Narsingdi	Raipura	Nilakhya	Sonatala	Sonatala 107 000
Dhaka	Narsingdi	Raipura	Nilakhya	Latia	Latia 108 000
Dhaka	Narsingdi	Raipura	Nilakhya	Fatehpur	Fatehpur 106 000
Dhaka	Narsingdi	Raipura	Nilakhya	Baluchar	Baluchar 110 001
Dhaka	Narsingdi	Raipura	Nilakhya	Nilakhya	Nilakhya 109 003
Dhaka	Narsingdi	Raipura	Nilakhya	Baluchar	Baluchar 110 002
Dhaka	Narsingdi	Raipura	Nilakhya	Baluchar	Baluchar 110 003
Dhaka	Narsingdi	Raipura	Palashtali	Asarampur	Asarampur 077 000
Dhaka	Narsingdi	Raipura	Palashtali	Dakshin Gobindopur	Dakshin Gobindopur 080 000
Dhaka	Narsingdi	Raipura	Palashtali	Phuldi	Phuldi 071 003
Dhaka	Narsingdi	Raipura	Palashtali	Palashtali	Palashtali 070 000
Dhaka	Narsingdi	Raipura	Palashtali	Phuldi	Phuldi 071 002



Raipura Mouza List					
Dhaka	Narsingdi	Raipura	Palashtali	Phuldi	Phuldi 071 001
Dhaka	Narsingdi	Raipura	Palashtali	Methikanda	Methikanda 073 001
Dhaka	Narsingdi	Raipura	Palashtali	Methikanda	Methikanda 073 002
Dhaka	Narsingdi	Raipura	Palashtali	Khag Char	Khag Char 074 000
Dhaka	Narsingdi	Raipura	Palashtali	Methikanda	Methikanda 073 003
Dhaka	Narsingdi	Raipura	Palashtali	Birampur	Birampur 076 000
Dhaka	Narsingdi	Raipura	Palashtali	Seoratali	Seoratali 075 000
Dhaka	Narsingdi	Raipura	Palashtali	Khalilabad	Khalilabad 081 000
Dhaka	Narsingdi	Raipura	Palashtali	Mallikpur	Mallikpur 078 000
Dhaka	Narsingdi	Raipura	Palashtali	Sahapur	Sahapur 079 000
Dhaka	Narsingdi	Raipura	Paratali	Hossain Nagar	Hossain Nagar 119 008
Dhaka	Narsingdi	Raipura	Paratali	Hossain Nagar	Hossain Nagar 119 004
Dhaka	Narsingdi	Raipura	Paratali	Hossain Nagar	Hossain Nagar 119 001
Dhaka	Narsingdi	Raipura	Paratali	Char Baluakandi	Char Baluakandi 118 000
Dhaka	Narsingdi	Raipura	Paratali	Hossain Nagar	Hossain Nagar 119 002
Dhaka	Narsingdi	Raipura	Paratali	Katlar Char	Katlar Char 113 001
Dhaka	Narsingdi	Raipura	Paratali	Char Soforali	Char Soforali 114 001
Dhaka	Narsingdi	Raipura	Paratali	Katlar Char	Katlar Char 113 003
Dhaka	Narsingdi	Raipura	Paratali	Katlar Char	Katlar Char 113 002
Dhaka	Narsingdi	Raipura	Paratali	Char Soforali	Char Soforali 114 002
Dhaka	Narsingdi	Raipura	Paratali	Hossain Nagar	Hossain Nagar 119 003
Dhaka	Narsingdi	Raipura	Paratali	Hossain Nagar	Hossain Nagar 119 007
Dhaka	Narsingdi	Raipura	Paratali	Hossain Nagar	Hossain Nagar 119 006
Dhaka	Narsingdi	Raipura	Paratali	Hossain Nagar	Hossain Nagar 119 005
Dhaka	Narsingdi	Raipura	Paratali	Hossain nagar	Hossain nagar 119 009
Dhaka	Narsingdi	Raipura	Radhanagar	Radhanagar	Radhanagar 048 001
Dhaka	Narsingdi	Raipura	Radhanagar	Radhanagar	Radhanagar 048 002
Dhaka	Narsingdi	Raipura	Radhanagar	Manoharabad	Manoharabad 013 000
Dhaka	Narsingdi	Raipura	Radhanagar	Nijgaon	Nijgaon 012 003
Dhaka	Narsingdi	Raipura	Radhanagar	Chhota Lakshmipur	Chhota Lakshmipur 014 002
Dhaka	Narsingdi	Raipura	Radhanagar	Chhota Lakshmipur	Chhota Lakshmipur 014 001
Dhaka	Narsingdi	Raipura	Radhanagar	Sahar Char	Sahar Char 011 000
Dhaka	Narsingdi	Raipura	Radhanagar	Nijgaon	Nijgaon 012 001
Dhaka	Narsingdi	Raipura	Radhanagar	Nijgaon	Nijgaon 012 002
Dhaka	Narsingdi	Raipura	Raipura	Raipura	Raipura 053 005
Dhaka	Narsingdi	Raipura	Raipura	Char Bakhornagar	Char Bakhornagar 033 000
Dhaka	Narsingdi	Raipura	Raipura	Raipura	Raipura 053 003
Dhaka	Narsingdi	Raipura	Raipura	Raipura	Raipura 053 004
Dhaka	Narsingdi	Raipura	Raipura	Mamudpur	Mamudpur 052 001
Dhaka	Narsingdi	Raipura	Raipura	Rajprasad	Rajprasad 051 000

Raipura Mouza List					
Dhaka	Narsingdi	Raipura	Raipura	Bakharnagar	Bakharnagar
Dhaka	Narsingdi	Raipura	Raipura	Chhota Asrafpur	Chhota Asrafpur 037 000
Dhaka	Narsingdi	Raipura	Raipura	Dari Sapmara	Dari Sapmara 036 000
Dhaka	Narsingdi	Raipura	Raipura	Mamudpur	Mamudpur 052 002
Dhaka	Narsingdi	Raipura	Raipura	Raipura	Raipura 053 002
Dhaka	Narsingdi	Raipura	Raipura	Raipura	Raipura 053 001
Dhaka	Narsingdi	Raipura	Sreeangar	Sreeangar	Sreeangar 112 003
Dhaka	Narsingdi	Raipura	Sreenagar	Rangpur	Rangpur 054 002
Dhaka	Narsingdi	Raipura	Sreenagar	Rangpur	Rangpur 054 001
Dhaka	Narsingdi	Raipura	Sreenagar	Sreenagar	Sreenagar 112 002
Dhaka	Narsingdi	Raipura	Sreenagar	Sreenagar	Sreenagar 112 001
Dhaka	Narsingdi	Raipura	Sreenagar	Sreenagar	Sreenagar 112 005
Dhaka	Narsingdi	Raipura	Sreenagar	Sreenagar	Sreenagar 112 004
Dhaka	Narsingdi	Raipura	Sreenagar	Sreenagar	Sreenagar 006
Dhaka	Narsingdi	Raipura	Sreenagar	Sreenagar	Sreenagar 007
Dhaka	Narsingdi	Raipura	Sreenagar	Sreenagar	Sreenagar 112_008
Dhaka	Narsingdi	Raipura	Sreenagar	Char Sadharland	Char Sadharland 55
Dhaka	Narsingdi	Raipura	Uttar Bakharnagar	Nabua Char	Nabua Char 069 000
Dhaka	Narsingdi	Raipura	Uttar Bakharnagar	Uttar Bakharnagar	Uttar Bakharnagar 065 002
Dhaka	Narsingdi	Raipura	Uttar Bakharnagar	Uttar Bakharnagar	Uttar Bakharnagar 065 003
Dhaka	Narsingdi	Raipura	Uttar Bakharnagar	Bara Char	Bara Char 010 001
Dhaka	Narsingdi	Raipura	Uttar Bakharnagar	Bara Char	Bara Char 010 002
Dhaka	Narsingdi	Raipura	Uttar Bakharnagar	Uttar Bakharnagar	Uttar Bakharnagar 065 001

**Annex-J: Sample Mauza Plot Schedule of Raipura Upazila**

Distri ct	Upa zila	Unio n	Mouza_J L_Sheet	RS Plot No	Plot Type	Existing Landuse	Cropping Pattern	Ecological Category	Geological Suitability
Narsi ngdi	Rai pura	Amir ganj	Shibpur 027 000	258	Plot	Administr ative	Double Crop	Flood Free Zone	Moderate
Narsi ngdi	Rai pura	Amir ganj	Shibpur 027 000	261	Plot	Administr ative	Double Crop	Flood Free Zone	Moderate
Narsi ngdi	Rai pura	Amir ganj	Shibpur 027 000	274	Plot	Administr ative	Double Crop	Flood Free Zone	Poor
Narsi ngdi	Rai pura	Amir ganj	Shibpur 027 000	275	Plot	Administr ative	Double Crop	Flood Free Zone	Poor
Narsi ngdi	Rai pura	Amir ganj	Shibpur 027 000	287	Plot	Administr ative	Double Crop	Flood Free Zone	Moderate
Narsi ngdi	Rai pura	Amir ganj	Sandandi 026 000	231	Plot	Administr ative	Double Crop	Flood Free Zone	Moderate
Narsi ngdi	Rai pura	Amir ganj	Adgatia 062 000	1	Plot	Agricultu ral Area	Tripple Crop	Main Flood Flow Zone	Moderate
Narsi ngdi	Rai pura	Amir ganj	Adgatia 062 000	2	Plot	Agricultu ral Area	Tripple Crop	Main Flood Flow Zone	Moderate
Narsi ngdi	Rai pura	Amir ganj	Adgatia 062 000	5	Plot	Agricultu ral Area	Tripple Crop	Main Flood Flow Zone	Moderate
Narsi ngdi	Rai pura	Amir ganj	Adgatia 062 000	10	Plot	Agricultu ral Area	Tripple Crop	Main Flood Flow Zone	Moderate
Narsi ngdi	Rai pura	Amir ganj	Adgatia 062 000	11	Plot	Agricultu ral Area	Tripple Crop	Main Flood Flow Zone	Moderate
Narsi ngdi	Rai pura	Amir ganj	Adgatia 062 000	12	Plot	Agricultu ral Area	Tripple Crop	Main Flood Flow Zone	Moderate
Narsi ngdi	Rai pura	Amir ganj	Adgatia 062 000	13	Plot	Agricultu ral Area	Tripple Crop	Main Flood Flow Zone	Moderate
Narsi ngdi	Rai pura	Amir ganj	Adgatia 062 000	14	Plot	Agricultu ral Area	Tripple Crop	Main Flood Flow Zone	Moderate
Narsi ngdi	Rai pura	Amir ganj	Adgatia 062 000	15	Plot	Agricultu ral Area	Tripple Crop	Main Flood Flow Zone	Moderate
Narsi ngdi	Rai pura	Amir ganj	Adgatia 062 000	15	Plot	Agricultu ral Area	Tripple Crop	Main Flood Flow Zone	Moderate
Narsi ngdi	Rai pura	Amir ganj	Adgatia 062 000	18	Plot	Agricultu ral Area	Tripple Crop	Main Flood Flow Zone	Moderate

Preparation of Development Plan for Raipura Upazila (2013-2033)

District	Upazila	Land Suitability	Name of Proposal	Landuse Plan	Area (Acre)	Area (km)
Narsingdi	Raipura	Suitable		Administrative	0.000	0.000
Narsingdi	Raipura	Suitable		Administrative	0.001	0.000
Narsingdi	Raipura	Suitable		Administrative	0.000	0.000
Narsingdi	Raipura	Suitable		Administrative	0.000	0.000
Narsingdi	Raipura	Suitable		Circulation Network	0.000	0.000
Narsingdi	Raipura	Suitable		Circulation Network	0.000	0.000
Narsingdi	Raipura	Lowest Suitable		Agricultural Area	0.254	0.001
Narsingdi	Raipura	Lowest Suitable		Agricultural Area	0.241	0.001
Narsingdi	Raipura	Lowest Suitable		Agricultural Area	0.231	0.001
Narsingdi	Raipura	Lowest Suitable		Agricultural Area	0.015	0.000
Narsingdi	Raipura	Lowest Suitable		Agricultural Area	0.018	0.000
Narsingdi	Raipura	Lowest Suitable		Agricultural Area	0.016	0.000
Narsingdi	Raipura	Lowest Suitable		Agricultural Area	0.095	0.000
Narsingdi	Raipura	Lowest Suitable		Agricultural Area	0.240	0.001
Narsingdi	Raipura	Lowest Suitable		Agricultural Area	0.204	0.001
Narsingdi	Raipura	Lowest Suitable		Circulation Network	0.001	0.000
Narsingdi	Raipura	Lowest Suitable		Agricultural Area	0.134	0.001

**Annex-K: Urban Area Calculation**

Ward	Population 2011	Household 2011	Population 2033	Household 2033	Surplus Household	Building Footprint Area	Plot Area	Building Footprint Area
1	2	3	4	5	6	7	8	9
1	34904	7426	64627	13750	6324	1877	3128	454
2								
3								
4								
5								
6								
7								
8								
9								

Gross Residential Area	Ward Population on 2011	Ward Population on 2033	Structure Number	Pucca Structure	Existing Residential Area Whole (Acre)	Existing Residential Area (Acre)	Planned Residential Area
10	11	12	13	14	15	16	17
908	3655	6767	1086	158	44	141.12	
	4120	7628	544	84	21	82.57	
	4347	8049	671	52	12	64.64	
	3811	7056	616	48	13	125.49	
	2764	5118	607	44	16	158.11	<b>31.77</b>
	2945	5453	545	29	10	91.13	
	4698	8699	1119	172	37	134.53	
	4489	8312	838	152	34	139.72	
	4075	7545	815	73	18	147.80	
	<b>34904</b>	<b>64627</b>	<b>6841</b>	<b>812</b>	<b>205</b>	<b>1085.11</b>	

**Annexure-L: Meeting Minutes of TMC Meeting**



## Annexure-F: Meeting Minutes of Technical Management Committee

গণপ্রজাতন্ত্রী বাংলাদেশ সরকার  
গৃহায়ন ও গণপূর্ত মন্ত্রণালয়  
নগর উন্নয়ন অধিদপ্তর

বিষয়: “প্রিপারেশন অব ডেভেলপমেন্ট প্ল্যান ফর ফোরটিন উপজেলাস” শীর্ষক প্রকল্পের আওতায় প্যাকেজ-২ (শিবপুর উপজেলা, রায়পুরা উপজেলা, ঈশ্বরগঞ্জ উপজেলা) এর জন্য নিযুক্ত পরামর্শক প্রতিষ্ঠান কর্তৃক দাখিলকৃত Final Plan এর উপর Technical Management Committee (TMC) এর গত ১২.৪.২০১৮ তারিখের কার্যবিবরণী প্রসঙ্গে।

সভাপতি	ড. খুরশীদ জাবিন হোসেন তৌফিক পরিচালক
সভার তারিখ	১২/০৪/২০১৮
সভার সময়	সকাল ১০.৩০ টা
স্থান	সম্মেলন কক্ষ, নগর উন্নয়ন অধিদপ্তর, ঢাকা।
উপস্থিতি	সভার উপস্থিতি কর্মকর্তাগণের নামের তালিকা পরিশিষ্ট “ক” তে সংযুক্ত করা হলো।

২। অনুষ্ঠানের শুরুতে সভাপতি মহোদয়ের অনুমতিক্রমে সভার কাজ শুরু করা হয়। সভার শুরুতে সভাপতি মহোদয় উপস্থিত সকলকে স্বাগত জানান। সভাপতি মহোদয় সকলকে নিজ নিজ পরিচয় প্রদানের অনুরোধ জানান। পরিচয় পর্ব সম্পন্ন হওয়ার পর তিনি Final Plan সম্পর্কে সম্যক ধারণা উপস্থাপন করার জন্য প্যাকেজ-০২ এর টিম লিডার ড. নুরুল ইসলাম নাজেম কে আহবান জানান।

৩। প্যাকেজ নং-২ এর পরামর্শক প্রতিষ্ঠানের টিম লিডার ড. নুরুল ইসলাম নাজেম প্রকল্পের Final Plan এর মূল বিষয়গুলো সংক্ষিপ্ত ভাবে Power Point এর মাধ্যমে সচিত্র উপস্থাপন করেন। তিনি ১৪ উপজেলা প্রকল্পের প্যাকেজ-০২ অর্থাৎ শিবপুর উপজেলা, রায়পুরা উপজেলা, জেলা- নরসিংদী এবং ঈশ্বরগঞ্জ উপজেলা, জেলা- ময়মনসিংহ এর জন্য প্রণীত পাঁচ স্তর বিশিষ্ট উন্নয়ন পরিকল্পনার প্রতিটি উপজেলার Vision, Objectives, Upazila at a Glance, Regional Context of Upazila, Projected Population, 5 Tiers of Development Plan, Plan Preparation Methodology, Conducted Surveys, Existing Land Use, Existing Road Network, Cropping Pattern, DEM, Inundation Map, Agricultural Land Suitability, Geological Land Suitability, Land Suitable for Human Settlement, Urban Land Suitability, PRA Analysis, Planning Standard, Stakeholder Consultation meeting & Workshop, Public Hearing, Sub Regional Plan, SDG's and Proposed Plan, Structure Plan, Proposed Urban Area Plan, Proposed Rural Area Plan, Drainage Plan, Road Network Plan, Contingency Plan, Action Area Plan, Development Project scheme এর list উপস্থাপন করেন। সহ উপস্থাপন করেন। অতঃপর পরামর্শক প্রতিষ্ঠানের পরিকল্পনাবিদ মোঃ আবদুল্লাহ আল ফাহাদ প্রতিটি প্রস্তাবনার দাগসূচী যৌক্তিকতা GIS database এর মাধ্যমে সহ তুলে ধরেন। তিনি Public Hearing এর মতামত ও কিভাবে address করা হয়েছে তার বর্ণনা দেন।

৪। সভাপতি মহোদয় অতঃপর সকল TMC সদস্যদের উত্থাপিত Final Plan এর উপর তাদের মতামত আহবান করেন। আলোচনার প্রারম্ভে ঈশ্বরগঞ্জ উপজেলার উপজেলা নির্বাহী অফিসার এলিশ শরমিন-ঈশ্বরগঞ্জ উপজেলার জন্য medium Growth rate, একশন এরিয়া প্ল্যান ৫ বছর, অন্যান্য পরিকল্পনার স্তর ১০-২০ বছরের জন্য কেন এবং এগুলো কি জাতীয় পরিকল্পনার সাথে সম্পৃক্ত কিনা তা জানতে চান। এ ব্যাপারে প্রকল্পের টিম লিডার জানান যে, Population Projection Exponential Growth Rate Method এ করা হয়েছে এবং ২০০১ থেকে ২০১১ সালের ঈশ্বরগঞ্জ উপজেলার Growth rate analysis করে ১.৩৭% নির্ধারণ করে Population Projection করা হয়েছে। তাছাড়া প্রকল্প পরিচালক জানান যে, অত্র প্রকল্পের Action Area plan ১-৫ বছর ধরা হয়েছে এবং প্ল্যানটি প্রতি ৫(পাঁচ) বছর পর পর Review/পর্যালোচনা করে Update করার Mandate আছে। তিনি

আরো জানান যে, পরিকল্পনার অন্যান্য স্তর যেমন-Sub-regional Plan, Structure Plan এই দুইটি ২০ বৎসর মেয়াদী এবং Urban Area Plan, Rural Area Plan পরিকল্পনার ক্ষেত্রে ১০ বছর মেয়াদ ধরা থাকে। এই প্রকল্পের Development Plan সময় সীমার মত না তবে জাতীয় পরিকল্পনার সাথে সম্পর্কিত। UNO মহোদয় উপজেলা পর্যায়ে পরিকল্পনা বাস্তবায়নে Co-ordination এর বিষয়ে জোর তালিগদ দেন। তিনি পরিকল্পনা মাসিক উন্নয়ন কর্মকান্ড বাস্তবায়নে সমস্যা ও সম্ভাবনার বিষয়ে বিস্তারিত ভাবে তুলে ধরেন। তিনি প্র্যান বাস্তবায়নের বিষয়ে জানতে চাইলে পরিচালক মহোদয় জানান যে, নগর উন্নয়ন অধিদপ্তর কর্তৃক প্রস্তাবিত নগর ও অঞ্চল পরিকল্পনা আইন বাস্তবায়ন হলে পরিকল্পনা বাস্তবায়ন সহজতর হবে। তবে স্থানীয় পর্যায়ে কর্মরত সরকারী সংস্থাগুলো তাদের বাৎসরিক কর্ম পরিকল্পনা প্রণয়নে এই মহাপরিকল্পনা হতে Guideline পাবেন। এমনকি DPP/Scheme প্রণয়নে Action Area Plan নিয়ে এখনই কাজ শুরু করতে পারেন।

৫। রেলওয়ে প্রতিনিধি উপ-পরিচালক (ভূ সম্পত্তি) জনাব মোঃ সুলতান আলী জানতে চান যে, উপস্থাপিত তিনটি উপজেলার মাটির নীচে সম্পদ (বিশেষ করে খনিজ সম্পদ) বিষয়ে কোন Study করা হয়েছে কিনা? এ প্রসঙ্গে পরামর্শক প্রতিষ্ঠানের ভূতত্ত্ববিদ মোঃ জামাল উদ্দিন বলেন যে, না খনিজ সম্পদ বিষয়ে কোন Study করা হয়নি তবে ১০০ ফুট মাটির নীচের কোন খনিজ পদার্থের সন্ধান অত্র প্যাকেজের তিনটি উপজেলায় পাওয়া যায়নি।

৬। টি.এম.সি সভার সভাপতি পরিচালক ড. খুরশীদ জাবিন হোসেন ভৌমিক, ঈশ্বরগঞ্জ উপজেলায় তারুন্দিয়া ইউনিয়নে Water body এর মাঝখানে রাস্তার বিষয়ে জানতে চান। এ প্রসঙ্গে টিম লিডার বলেন যে, এ রাস্তাটি বিদ্যমান এবং রাস্তাটি বর্ষার মৌসুমেও তলিয়ে যায় না। তিনি সভাকে জানান যে, জায়গাটির নাম কেইলার বিল এবং এটি জীব বৈচিত্র্য পূর্ণ একটি বিল। SOB এর প্রতিনিধি বলেন যে, Map এ প্রদর্শিত রাস্তার রংটি পরিবর্তন করা দরকার এবং Rail line এর Legend আরও visible হওয়া দরকার। এ প্রসঙ্গে টিম লিডার বলেন যে, তাঁর দল বিষয়গুলো লিপিবদ্ধ করে নিয়েছে যা অবশ্যই সংশোধন করে চূড়ান্ত করবেন। সভাপতি মহোদয় কেইলার বিলটিকে Environmentally Critical Area বলে demarcation করার প্রস্তাব দেন।

৭। ঈশ্বরগঞ্জ পৌরসভার প্রতিনিধি সহকারী প্রকৌশলী জনাব উত্তম কুমার দাস, পৌরসভার জন্য Waste disposal site এর কোন প্রস্তাবনা আছে কিনা এবং থাকলে কোথায় এবং জায়গার পরিমাণ কত তাহা জানতে চান। এ প্রসঙ্গে পরামর্শক প্রতিষ্ঠানের Urban Planner জনাব মোঃ আবদুল্লাহ আল ফাহাদ GIS file এ Waste Disposal Site এর মৌজার দাগ নম্বরসহ পৌরসভার ৩নং ওয়ার্ডে প্রস্তাবিত অবস্থান তুলে ধরেন।

৮। পরিকল্পনা কমিশনের প্রতিনিধি সিনিয়র সহকারী প্রধান জনাব আবুল বাকের মোঃ হৌহিদ টিম লিডারের উপস্থাপনায় প্রতিটি উপজেলার জন্য প্রস্তাবিত Project listing থাকায় ধন্যবাদ জানান। তিনি Housing প্রস্তাবনার ক্ষেত্রে এ Land Readjustment পদ্ধতিতে site select করে দেয়ার মতামত দেন। তিনি Population Density অনুযায়ী Urban Facilities এর Proposal প্রণয়নের বিষয়ে গুরুত্ব আরোপ করেন। তিনি অন্যান্য সংস্থা সমূহের DPP প্রণয়নে এই Master Plan ভূমিকা রাখবে বলে আশাবাদ ব্যক্ত করেন। এ বিষয়ে টিম লিডার বলেন যে, উপস্থাপিত প্রস্তাবনাগুলোর ক্ষেত্রে থেকে Density Map প্রণয়ন করে সিদ্ধান্ত নেয়া হয়েছে।

৯। উপস্থাপনার এ পর্যায়ে পরামর্শক প্রতিষ্ঠানের আরবান প্র্যানার আব্দুল্লাহ আল ফাহাদ শিবপুর উপজেলার প্র্যান উপস্থাপন করেন।

১০। শিবপুর পৌরসভার সহকারী প্রকৌশলী জনাব মুহাম্মদ কাইয়ুম চৌধুরী শিবপুর পৌরসভার Drainage Master Plan বিষয়ে জানতে চান। পরামর্শক প্রতিষ্ঠানের Hydrologist জনাব আদিলুল আবেদীন জি. আই.এস File এ শিবপুর পৌরসভার জন্য প্রণীত Drainage Plan উপস্থাপন করেন। পৌরসভার প্রতিনিধি RL বিষয়ে জানতে চাইলে Hydrologist জানান যে, Geo-database হতে RL সহজেই জানা যাবে। তিনি রাস্তা করার ক্ষেত্রে জমি অধিগ্রহণের সমস্যা বিষয়ে কথা বলেন। এ প্রসঙ্গে টিম লিডার বলেন যে, Negotiation এর মাধ্যমে সমাধান করা যেতে পারে। এ প্রসঙ্গে পরিচালক মহোদয় প্র্যান বৃকে বিধি মোতাবেক Compensation দেওয়ার বিষয়টির কথা উল্লেখ থাকবে বলে জানান।

১১। পরবর্তীতে পরামর্শক প্রতিষ্ঠানের আরবান প্র্যানার আব্দুল্লাহ আল ফাহাদ রায়পুরা উপজেলার প্রণীত Final Plan সভায় উপস্থাপন করেন।

১২। রায়পুরা উপজেলা প্রকৌশলী জনাব শাহ আলম বলেন যে, প্রস্তাবিত প্র্যানে উপজেলার চরের ৬টি ইউনিয়নকে Connect করার Road proposal আছে কিনা তা জানতে চান। এ প্রসঙ্গে Urban Planner GIS এর মাধ্যমে উপস্থাপনায় রাস্তার Connectivity দেখান। এতে পরিচালক মহোদয় নদীর ভাঞ্জন প্রবণ এলাকাতে Embankment cum Road করার

বিষয়টি বিবেচনা করতে বলেন। উপজেলা প্রকৌশলী প্রানে Implementation Mechanism বিষয়টি অর্ন্তভুক্তির আহবান জানান। তিনি রায়পুরা উপজেলার Rail line এর Grade-separated Crossing বিশেষ করে Tunnel Pass এর প্রস্তাব করেন দুর্ঘটনা এড়ানোর জন্য।

১৩। সভাপতি মহোদয় রায়পুরা উপজেলার জন্য প্রণীত Action Area Plan এ প্রস্তাবিত Resort এলাকাকে Eco-Resort এলাকা ঘোষনার প্রস্তাব এবং Musapur এর Action Area Plan এ in and Out এর রাস্তার প্রস্তাব রাখার ব্যাপারে মতামত ব্যক্ত করেন।

১৪। WARPO এর প্রতিনিধি মুখ্য বৈজ্ঞানিক কর্মকর্তা ড. আমিনুল হক প্রান Implementation Mechanism এর বিষয়ে গুরুত্ব আরোপ করেন। তিনি Communication এর ক্ষেত্রে Waterway কে Enhance করার বিষয়ে জোর দেন যাতে Road এর উপর অতিরিক্ত চাপ না পড়ে। তিনি রিপোর্টে সূত্র হিসেবে Field Survey, 2015/2016 উল্লেখ করা যুক্তিযুক্ত বলে মতামত দেন।

১৫। LGED এর প্রতিনিধি সহকারী প্রকৌশলী সোহানা পারভীন প্রণীত প্র্যানটি SDG এর সাথে সমন্বয় করে উপস্থাপন করার জন্য ধন্যবাদ জানান। তিনি বলেন যে, এখানে SDG এর ১৭ (সেতরো) টি Goal এর বিভিন্ন Target গুলো কিভাবে এ মহাপরিকল্পনা দ্বারা আরো ভালোভাবে Address করা যায় সে বিষয়ে গুরুত্ব দিতে বলেন। পরামর্শক প্রতিষ্ঠানের টিম লিডার বিষয়টি বিবেচনায় নিয়েছেন বলে সভায় আশ্বস্ত করেন।

১৬। প্রকল্প ব্যবস্থাপক প্রতিটি উপজেলার জন্য প্রস্তাবিত প্রানে Solar Park এবং শিবপুর উপজেলা এবং ঈশ্বরগঞ্জ উপজেলায় Rainwater Harvesting এর প্রস্তাবনা রাখার বিষয়ে মতামত ব্যক্ত করলে পরামর্শক প্রতিষ্ঠানের টিম লিডার বিষয়টি বিবেচনায় নিয়েছেন বলে সভায় আশ্বস্ত করেন।

১৭। এ পর্যায়ে সভাপতি মহোদয় সকল সদস্যগণকে সুচিন্তিত মতামত প্রদানের জন্য ধন্যবাদ জ্ঞাপন করেন। সবশেষে প্রকল্প পরিচালক উপর্যুক্ত সংশোধনীসমূহ অর্ন্তভুক্তি সাপেক্ষে Final Plan টি গ্রহণ করা যেতে পারে কিনা তা সকল TMC সদস্যদের উদ্দেশ্যে জানতে চান। এ বিষয়ে সকল সদস্য Final Plan গ্রহণে একমত পোষণ করেন।

#### সিদ্ধান্ত সমূহঃ

১। প্রকল্প পরিচালক ও প্রকল্প ব্যবস্থাপক আলোচনায় সুপারিশকৃত সংশোধনীসমূহ Final Plan এ এসেছে কিনা নিশ্চিত করবেন।

২। Land Use অনুযায়ী মৌজার তফসিল তৈরী করতে হবে।

৩। সংশোধনীসমূহ অর্ন্তভুক্তি সাপেক্ষে Final Plan অনুমোদন করা হ'ল।

সভায় আর কোন আলোচনার বিষয় না থাকায় সভাপতি মহোদয় উপস্থিত সকলকে আবার ও ধন্যবাদ জ্ঞাপন করে সভার সমাপ্তি ঘোষণা করেন।

ড. খুরশীদ জাবিন হোসেন তৌফিক  
পরিচালক

স্মারক নম্বর: ২৫.৪৫.০০০০.০০০.১৪.০০৯.১৭.৫৫

তারিখ: ৬ বৈশাখ ১৪২৫

১৯ এপ্রিল ২০১৮



## TMC সভার সুপারিশমালা ও সিদ্ধান্ত সমূহ এবং পরামর্শক প্রতিষ্ঠান কর্তৃক গৃহীত পদক্ষেপ

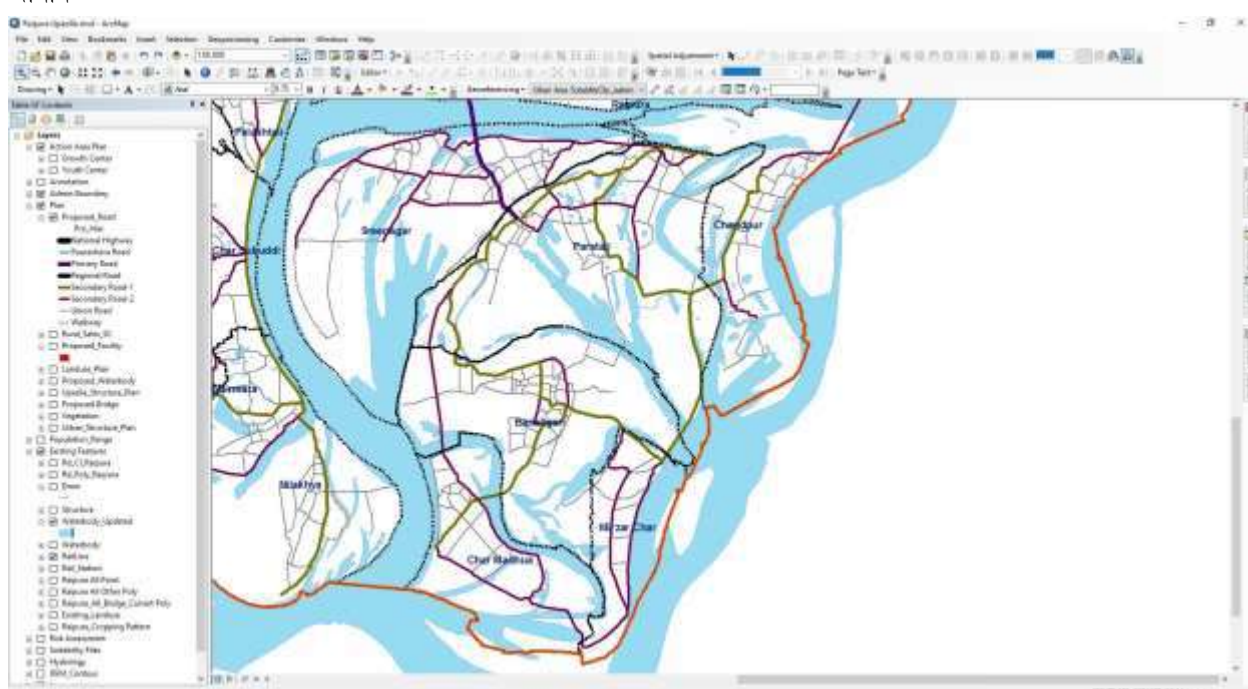
1. TMC সভার সভাপতি ও নগর উন্নয়ন অধিদপ্তর পরিচালক মহোদয় Action Area Plan এ প্রস্তাবিত Resort এলাকাকে Eco-Resort এলাকা ঘোষণার প্রস্তাব এবং Musapur Union এর Action Area Plan এ In and Out এর রাস্তার প্রস্তাব রাখার ব্যাপারে মতামত ব্যক্ত করেন

**গৃহীত পদক্ষেপ :** পরামর্শক প্রতিষ্ঠান জানান, Resort এলাকাকে Eco-Resort এলাকা ঘোষণা এবং Musapur Union এর Action Area Plan এ In and Out এর রাস্তার প্রস্তাবনা দেয়া হয়েছে।



2. নগর উন্নয়ন অধিদপ্তর পরিচালক মহোদয় Embankment cum Road করার বিষয়টি বিবেচনা করতে বলেন।

**গৃহীত পদক্ষেপ :** বিষয়টি বিবেচনা করে Embankment cum Road এর প্রস্তাবনা দেয়া আছে বলে পরামর্শক প্রতিষ্ঠান জানান

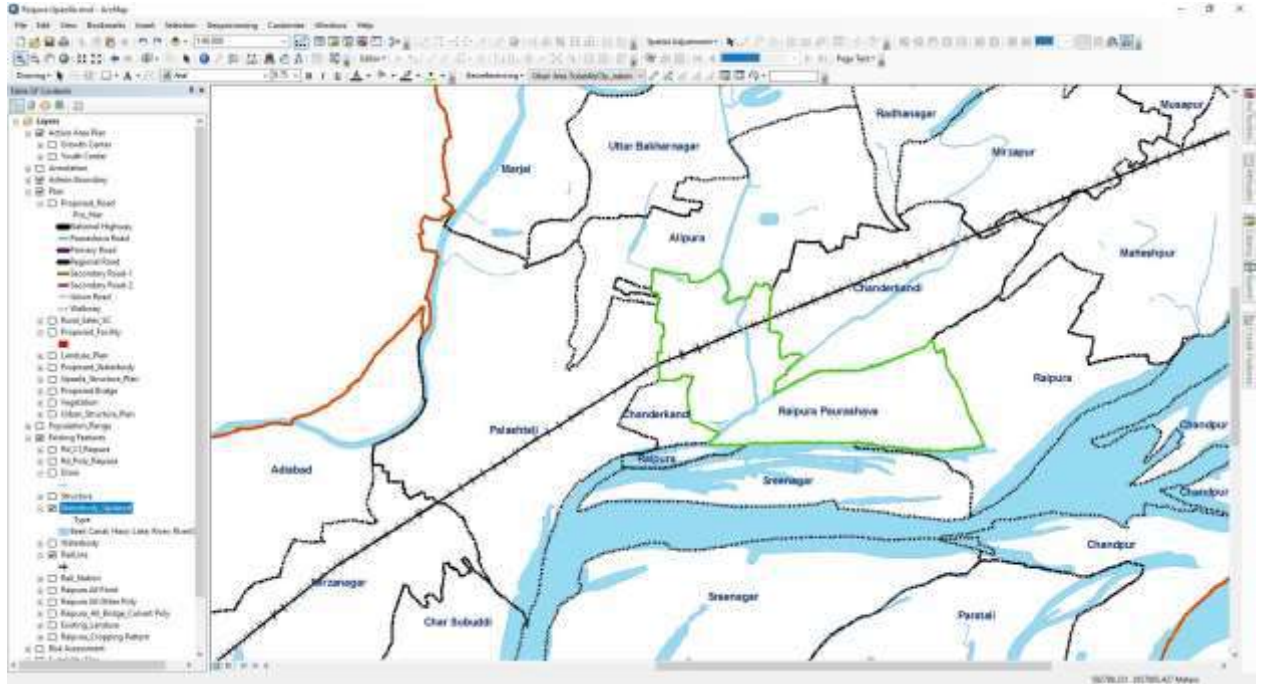


3. রেলওয়ে প্রতিনিধি উপ-পরিচালক জনাব সুলতান আলি বলেন, তিনটি উপজেলার মাটির নীচের সম্পদ বিষয়ে Study করা হয়েছে কিনা জানতে চান ?

**গৃহীত পদক্ষেপ :** পরামর্শক প্রতিষ্ঠান জানান, মাটির নীচের সম্পদ বিষয়ে Study করা হয়নি তবে, ১০০ ফুট মাটির নীচে কোন খনিজ পদার্থের সন্ধান পাওয়া যায়নি।

**4. SOB এর প্রতিনিধি রাস্তার রং এবং Rail line এর Legend পরিবর্তন করার কথা বলেন।**

**গৃহীত পদক্ষেপ :** Rail line এর Legend পরিবর্তন করা হয়েছে।

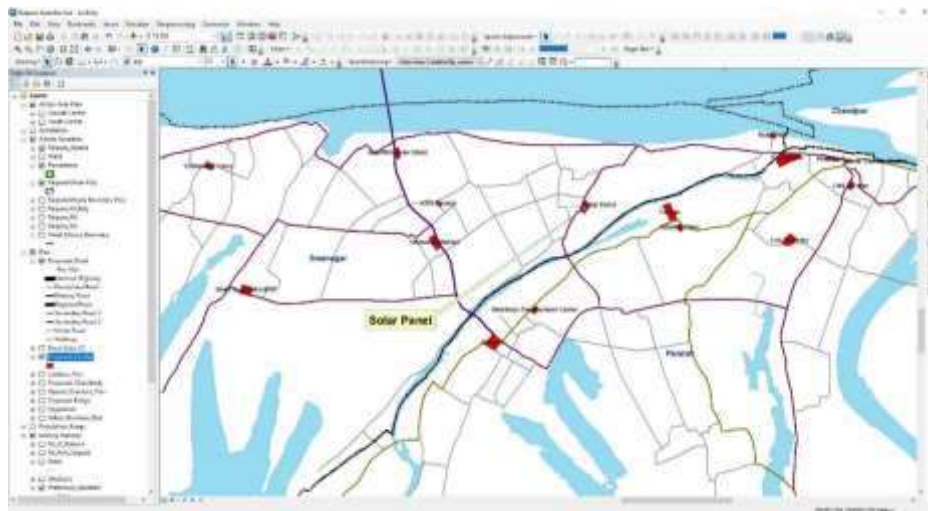


**5. WARPO এর প্রতিনিধি ড. আমিনুল হক রিপোর্টে সূত্র হিসেবে Field Survey, 2015/2016 উল্লেখ করার কথা বলেন।**

**গৃহীত পদক্ষেপ:** রিপোর্টে সূত্র হিসেবে Field Survey, 2015/2016/2017 উল্লেখ করা হয়েছে।

**6. প্রকল্প ব্যবস্থাপক Solar Park প্রস্তাবনা রাখার বিষয়ে মতামত ব্যক্ত করেন।**

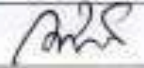
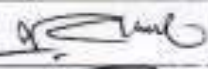
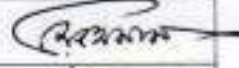
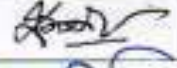

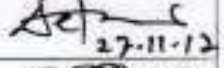
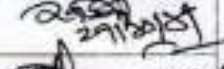
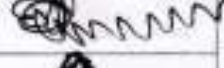




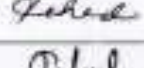
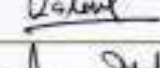





**গৃহীত পদক্ষেপ :** Solar Park প্রস্তাবনা দেয়া আছে বলে পরামর্শক প্রতিষ্ঠান জানান।



**Annex-M: Attendance Sheet and Photographs of Final Workshop**



**Workshop on  
Draft Plan of Raipura Upazila under Fourteen Upazilas Project**

Sl. No	Name & Designation	Mobile No	Signature
01.	Mr. Shafiqul Islam	0972-687010	
02.	Nurul Islam Nazem	01817234025	
03.	Mizanur Rahman	01711-07289	
04.	Md-Jamal mollah.	01815-496180	
05.	Md. Sadique Rahman Sultana A.C.L., Raipura.	01819002271	
06.	MD. DEWAR HOSSEN OFFICER IN CHARGE, RAIPURA	01713373413	
07.	MD. ZAKIR HOSSAIN MOULAH UPAZILA YOUTH DEVELOPMENT OFFICER	01709330365	
08.	Mohammad Masud Rana Upazila Education Officer	01711186122	
9.	01711186122	01716900343	
10.	MD. SHAKIL AHMAD Upazila ICT Technician, Raipura.	01719872246	
11.	Bashir Ahmed molla press club pic	01814934764	
12.	01723412703	7	
13.	Abdulla Al Fazel	01715392871	
14.	MD. Islamul Haque. (sepl)	01726684886	
15.	Afiane. M. Kamal	01819262012	
16.	Md. Abdus Sadique	01718728200	
17.	Shanjida Sultana	01712579164	
18.	MD. Mostafe Ahommed DPHE	01712293299	
19.	RAFIQUL ISLAM	0177041386	

CHIRMAN. PARATULY UP

**Workshop on  
Draft Plan of Raipura Upazila under Fourteen Upazilas Project**

Sl. No	Name & Designation	Mobile No	Signature
01.	A.F.M. Asafat Hossain, UFPO	01914-099999	
02.	Ashim Kumar Das UDPO	01758829857	
03.	Mohammad Rashed Hossain USO	01726-459917	
04.	MD. ALAMIN USO	01815583141	
05.	সত্যজিৎকান্তার সত্যজিৎকান্তার সত্যজিৎকান্তার	03929882662	
06.	নিজুলা সত্যজিৎকান্তার upo (০৬/১৭)	0392960226	Willif member 27.11.2012
07.	ফারুক সত্যজিৎকান্তার, UWRO	01716479715	
08.	Rajina Akter, UAO	01781389586	
09.	Krishna Dayal Roy, A.E.R.P	01712125010	
10.	Mohammad Nurul Islam URDO	01726442072	
11.	Md. Mazibur Rahman, ULO	0177745112	
12.	Md. Nazimul Islam SUFO	01715615398	
13.	Dr. Abu Syeed Mohammad UHRO FPO	01716114774	
14.	Md. Shah Alam Miah UE	01762500714	
15.	Mohammad Porir Hossain	01726-654087	
16.	Nargis Sultana USEO	01712-501382	
17.	Zaman Ahmed molla Reporter	01632206679	
18.	Md. Lashman miah Outkash		
19.	Tgr/ S/ a		



**Workshop on  
Draft Plan of Raipura Upazila under Fourteen Upazilas Project**

[illegible]

রায়পুরা উপজেলা, জেলা-নরসিংদী এর কর্মশালার স্থির চিত্র



চিত্র-১: রায়পুরা উপজেলার খসড়া পরিকল্পনার উপস্থাপন শীর্ষক কর্মশালা।



চিত্র-২: রায়পুরা উপজেলার কর্মশালায় প্রকল্প ব্যবস্থাপক কর্তৃক খসড়া পরিকল্পনা উপস্থাপন।



চিত্র-৩ ও ৪ : রায়পুরা উপজেলার কর্মশালায় উপস্থিত মাননীয় সংসদ সদস্য, উপজেলা চেয়ারম্যান, পৌরসভার মেয়র, উপজেলার কর্মকর্তা সহ ইউনিয়নের চেয়ারম্যান বৃন্দ।



চিত্র-৫ : রায়পুরা উপজেলার কর্মশালায় প্রকল্পের টিম লিডার কর্তৃক খসড়া পরিকল্পনা উপস্থাপন। চিত্র-৬: রায়পুরা উপজেলার মাননীয় সংসদ সদস্য ও প্রধান অতিথিকে ক্রেস্ট উপহার।





চিত্র-৭: রাইপুরা উপজেলার মাননীয় সংসদ সদস্য এর সহধর্মীণিকে ফ্রেম উপহার।



চিত্র-৮: রাইপুরা উপজেলার উপজেলার চেয়ারম্যান ও বিশেষ অতিথিকে ফ্রেম উপহার।



চিত্র-৯: রাইপুরা পৌরসভার মেয়র ও বিশেষ অতিথিকে ফ্রেম উপহার।



চিত্র-১০: রাইপুরা উপজেলার উপজেলা নির্বাহী অফিসার ও সভাপতিকে ফ্রেম উপহার।



চিত্র-১১: : রাইপুরা উপজেলার খসড়া পরিকল্পনার উপস্থাপন শীর্ষক কর্মশালার গ্রুপ ছবি।

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