

Preparation of Development Plan for Fourteen Upazilas

Package-02

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

Ishwarganj Upazila, Mymensingh

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রেজিস্টার্ড নং ডি এ-১

বাংলাদেশ



গেজেট

অতিরিক্ত সংখ্যা
কর্তৃপক্ষ কর্তৃক প্রকাশিত

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..... উপ পরিচালক, বাংলাদেশ ফরম ও প্রকাশনা অফিস,

তেজগাঁও, ঢাকা কর্তৃক প্রকাশিত। www.bgpress.gov.bd

মূল্যঃ টাকা

Preface

This is a great pleasure for all concerned that the **“Preparation of Development Plan for Ishwarganj 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 Ishwarganj Upazila Authority, Member of Parliament, Stake-holders and Member of Civil Societies and the Common Peopole of Locality with the deepest gratitude.

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Government of the People’s Republic of Bangladesh

EXECUTIVE SUMMARY

Ishwarganj Upazila has an area of 281.83 sq. km consisting of 11 Union Parishad. According to survey findings, Density of this area is about 1342 person /sq.km. which is greater than the national density 976 per sq.km and population projection indicates that by the year 2033, considering medium growth rate, the population will increase by 1.37% and 1.08% for Urban and Rural area respectively

A five tier planning approach has been adopted for the Upazila consisting of Sub-Regional plan, Structure Plan (SP), Urban Area Plan (UAP), Rural Area Plan (RAP) and Action Area Plan (AAP). The aim of the project is to formulate conservation plan, development plan and to set up provisional plans for the growth of economy, employment generation and sustainability of the Upazila. Planning strategies and policies are analyzed properly for the development of agriculture, economy, infrastructure, transportations, utility service etc. Besides these open space, water bodies, natural drainage system and other environmentally sensitive element's sustainability has been ensured in the plan.

The whole planning process considers future population, agricultural development, industrial development, uninterrupted traffic flow, environmental conservation, hydrological suitability, geological suitability, contingency plan, public participation and many other different elements to ensure the success of the plan and enable the Upazila viable in social, environmental and economic aspects.

Sub-Regional Plan (20 years) has overall vision to make Ishwarganj Upazila as a well-linked and integrated part through linkages, economy and social connections. The concept here is resource mobilization the plan has embraced ideas of Physical linkages for increased public transportation which in turn will encourage resource and capital distribution by medium of economic and social animations. Ishwarganj Upazila Corridor development is encouraged in these plans under the policies noted, along the share of Dhaka Mymensingh Highway. Ishwarganj Upazila is important due to its surplus agriculture production and fish farming. Regional Highway and railway has gone through it which makes the Upazila center more viable. Ishwarganj Upazila is connected with the railway network. There are 18.97 km railway line and three railway station in Ishwarganj Upazila.

The structure plan (SP) is aimed to provide a long term strategy to the year 2033 for the development of Ishwarganj Upazila. The plan indicates the magnitude and direction of future growth of the Upazila and set for the sectoral policy recommendations. The entire structure plan area is sub-divided into 10 strategic planning zones which covers an area of 281.83 sq.km. About 49512.38 acres of existing land are used in the agricultural purpose followed by 14915.86 acre of residential land and so on. Based on these existing conditions the structure plan has been prepared. Hydrological suitability, Geological suitability analysis, DEM, Contour etc. has been conducted to ensure the appropriate location of the proposals. There is no road less than 20 ft. in the plan. In the drainage plan natural drainage system are optimized. The plan has been prepared considering the DEM and contour of the area in such a way that there is no blockage in the natural flow direction of the water. Besides these to ensure natural flow of water 50 meter and 10 meter buffer is provided along the both side of the main channel where no further development will be permitted. Along with these physical development contingency plan has also been prepared in case of emergency situation in the area. In this plan identification of the open space and water source, road widening, emergency shelter center, emergency response team etc. are identified.

Urban Area Plan (UAP) is formulated to serve as a guide to the future urban infrastructure development together with the land control. About 3344.23 acres' area has been declared as urban area with the extended area for a period of 10 years. These area has been divided into 7 zones. Among the 192.33 acres' area is demarked as new urban area in the Ishwarganj Union. Besides these area for future extension is also defined in the plan. The development proposals under the Urban Area Plan include such areas as housing, infrastructure, utility services , transportation, educational facilities, open space, industrial development proposals etc. Solar Park and Rainwater Harvesting as sustainability promotion has been introduced to the initiative. The Urban Area Plan is more elaborate than the Structure Plan.

Rural Area Plan (RAP) is aimed to guide the physical development of Ishwarganj Upazila (except Paurashava area) including its all the economic and social activities. Many of the proposed facilities are discussed which are more pertaining to the objective of the plan. For these purpose Agricultural training center, agro-based industry, cold storage, cottage industry, dairy farm etc. are proposed in the Rural Area Plan. 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. The Upazila falls into 02 Agro Ecological Zones and most of the area has developed from transformed alluvial deposit by the Brahmaputra and Jamuna Rivers which are considered as agro- ecological zones. The average cropping intensity is of 213% with maximum agriculture land is double and triple cropped which contains about 82% of double cropped area followed by triple cropped area (24%) and single crop area (4%) .Besides these connectivity with the urban area has been increase through developed road network in the upazila. Roads have been proposed to widen in the rural area and some new roads have been proposed.

The Action Area Plan (AAP) is the fifth stage of current plan package where identification of prioritization based nomination are taken into account on existing development pattern. Action Area plan embodies components of the plan, geographical coverage, time frame for implementation and coordination among implementation agencies. Action Area Plan consists of design and comprise maps of appropriate scale. This Plan do not initially cover the entire structure plan area only priority areas are to be dealt with initially. The aim of AAP is to prevent haphazard development and ensure livable environment in areas that are likely to be development soon.

According to a priority list of Action Area Plan, development proposals have been arranged according to four phases on the basis of allotted time. These phases are first phase (2013-2018), second phase (2018-2023), third phase (2023-2028), fourth phase (2028-2033). Out of these phases three of the mentioned proposals has been taken into account with proper objective. First proposal would be the development of New Urban Area at Atharobari Union which covers an area of 243 acres. Second proposal is to develop a Cultural Center at Ward no 03 covering an area of 0.66 acres. The main objective of this new urban area is to reduce pressure from Paurashava area and developed a new commercial zone. Thirdly a Resettlement zone will be developed at wrd no 09.

Apart from development proposal in the planning packages, there are recommendations on plan implementation that includes legal measures, capacity building of executing agencies, financing of development and future approach to urban development .It is expected that this plan package will serve as a guideline to the future infrastructure development of the Upazila with the landuse control and effective management of the facilities. This will ensure planned, economic and physical growth of the Upazila as well as this whole society.

Preparation of Development Plan for Ishwarganj Upazila

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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	Motorized Vehicle
NGO	Non-Government Organizations
NH	National Highway
NMV	Non-Motorized Vehicle
O-D	Origin and Destination
PCU	Passenger Car Unit
PD	Project Director
PMO	Project Management Office
PRA	Participatory Rural Appraisal
PT	Public Transport
R.F.	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 present 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)	= 2.47ac. = 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 “Preparation of Development Plan for Fourteen Upazilas” funded by the Government of Bangladesh envisages preparation of development plan for some specific Upazilas such as Shibpur 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 (**Fig 1.1**) which has been mentioned below:



Fig 1. 1: Development Plan Tier

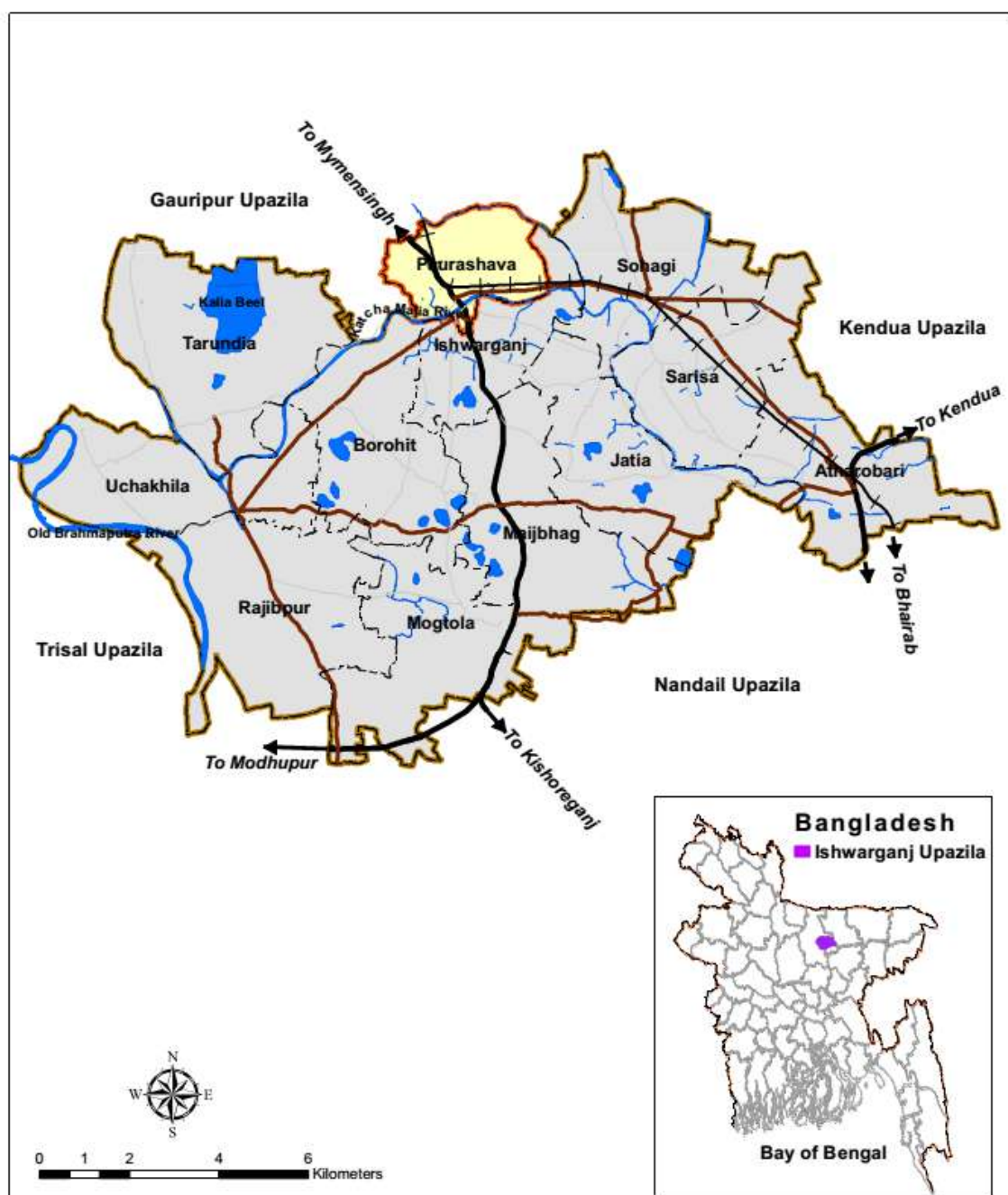
1.2 Project Background

Ishwarganj Upazila having an area of 281.83 sq.km. It is bounded on the north by Gauripur Upazila, on the east by Kendua upazila of Netrokona zila, on the south by Nandail Upazila and on the west by Trishal and Mymensingh sadar Upazilas and total 346 Mouzas. **Map 1.1** Shows the location of the Ishwarganj Upazila.

Bangladesh has been showing 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 1971, the urban population of Bangladesh was 5.5 million while in 2001 the size of urban population rose to about 30 million.

Due to lack of practicing 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. As such, the developments are taking place in unplanned and unregulated manner resulting in low living standard of the people .This situation depressingly influences the investment patterns in the secondary towns resulting not creating employment opportunities for the urban dwellers and generating funds for development and better maintenance of urban infrastructure.

Map 1. 1: Location Map of Ishwarganj Upazila



Legend

- | | | |
|---------------------|-------------------|-----------|
| Upazila Boundary | Regional Highways | Waterbody |
| Union Boundary | Upazila Road | |
| Paurashava Boundary | Feeder Road | |

**PREPARATION OF DEVELOPMENT
PLAN FOR FOURTEEN UPAZILA**
 Government of the People's Republic of Bangladesh
 Ministry of Housing and Public Works
 Urban Development Directorate (UDD) Preparation
 of Development Plan for Fourteen Upazila's
 Package No: 02
 Joint Venture of
 Shettech Consultants Private Ltd.
 ArcBangladesh Private Ltd.

In this regard a comprehensive development plan is required to address the required land use transformation which will not allow any unauthorized and unplanned-development, either in urban area or in rural area. Due to lack of such plan, it is generally found that most of the Upazilas in Bangladesh have developed with least coordinated manner possessing very little development control. In preparing such 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 this situation the project on “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

The vision of the plan is the creation of a livable environment where the people can live and enjoy within affordable means without sacrificing interests. 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 has now going towards achieving the rank in the list developed countries and this plan will help to meet the SDGs of Bangladesh in Upazila stage in order to make the development uniform all over the country to ensure sustainable growth.

Objectives

- To develop, improve and update provisions for better transport network, housing, social and community for needs 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.

1.4 Approach to Plan Preparation

The Preparation of Development Plan of Ishwarganj Upazila is a participatory method has been followed which is down to top planning process where opinion, ideas, and needs of common people and stakeholders are considered to prepare a successful plan. After signing the agreement, The Reconnaissance survey has been carried out and submission The Inception Report. Detailed survey has been carried out in order to know the existing condition of the area. Total 8 types of surveys like Physical Feature, Geological, Hydrological, Agricultural, Participatory Rural Appraisal (PRA), Formal Informal, Socio-Economic and Transportation survey has been conducted and different thematic maps has been prepared.

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 also done for risk free plan preparation and Contingency Plan for risky zone. Before proposed any facilities multi criteria analysis has been conducted, whether the land is suitable or not. Draft plan has been prepared through Stakeholder Consultation meeting at Upazila and Union level where MP, UNO, Union Chairman, Civil Society, Political Leader and local people were present and gave their opinion and suggestions on draft plan. Addressing their opinion and suggestions a day long workshop has been conducted and present the final plan of Ishwarganj Upazila.

Public Hearing has been done at Upazila and Union Level. Where Final Plan was present for local level. People came to know about the plan and consultants explain about the plan. Comments and suggestions were noted down on register khata and finally explained in the final plan. Opinion of public hearing was incorporated in order to know the plan's usefulness in local level and then Final plan has been prepared. The overall methodology has been presented in **Fig 1.2** and **Fig 1.3** shows the five steps of planning approach.

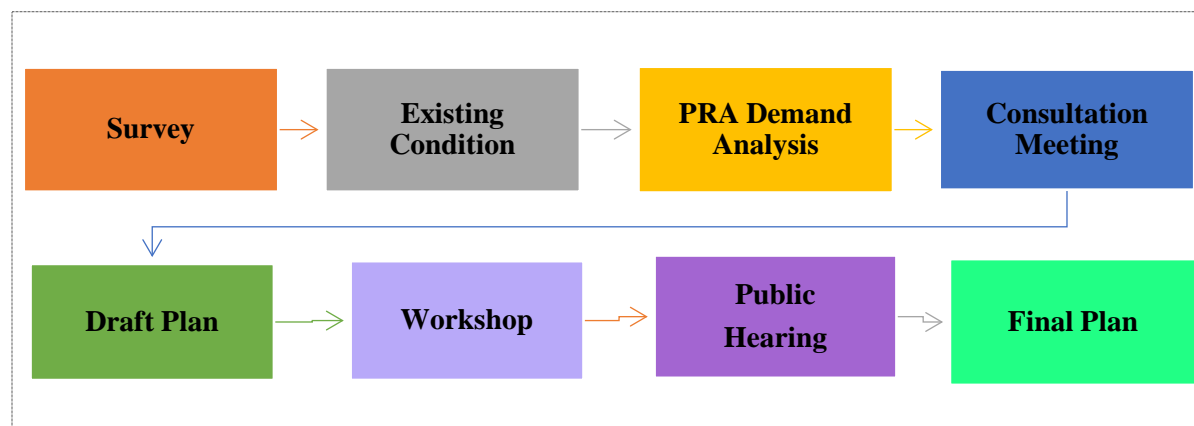


Fig 1.2: Overall Methodology

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 type of survey and studies were conducted and prepare a database and get an insight into the existing conditions. On the basis of findings of the studies, Survey Report was prepared.

Fourth step were review of Survey and PRA findings for making draft plan. Reviews were made by exchange of opinion with the cross section, people and stakeholders either groups or individual basis. Important task or activities in this step was to formulate strategies, policies, and preparing plans for all five stages like Sub-Regional Plan, Structure Plan, Urban Area Plan, Rural Area Plan, Action Area Plans for selected areas.

Fifth and Final step was review and evaluation of the Strategies, Plans, feedback and opinion of experts and public hearing. After compilation of all the opinion, then Final Plan has been prepared.

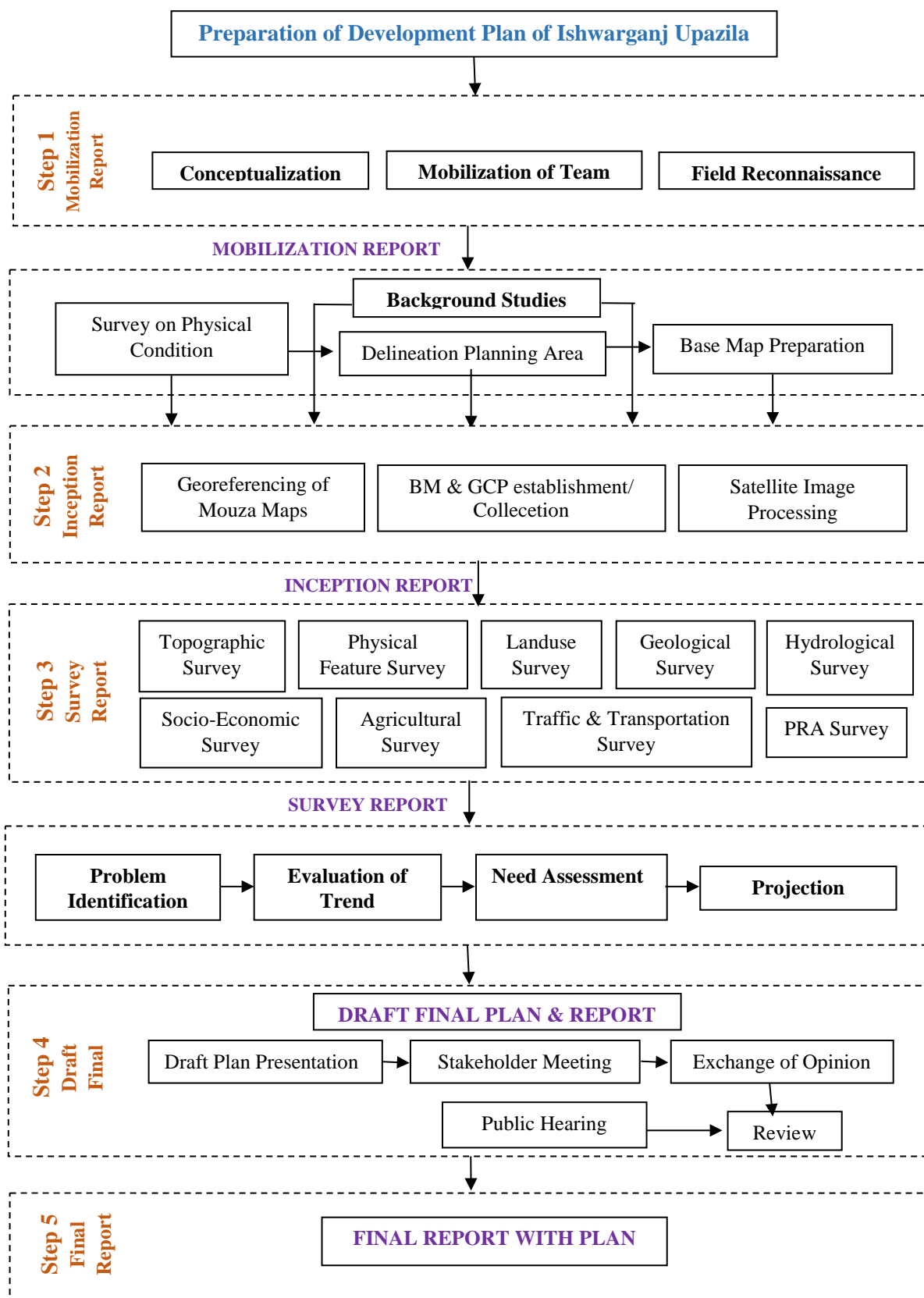


Fig 1. 3: Planning Approach

1.5 Limitation of the Study

Limitations of a study may be seen as it signifies avoiding the complications to keep the study process in adorned routine without affecting the study result at a large extent. In order to avoid complications, in few cases, less relevant variables are avoided or information gap is neglected and variation of the data due to lengthy process is not considered. Like any other, this plan preparation process also has its limitations. Although these limitations can be seen as of minimum concern, but it deviates the output of the plan from the original with 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. In this time lag, the development of the survey area has been stagnant. So the collected physical feature data has been changed when the actual plan preparation process starts. Hence existence of an information gap is eminent.

Because of the lengthy process, a number of impediment was to face in the rearrangement in the political appearances. In this time gap in some parts of the study area local political, govt official have been changed. Different stakeholders express their different views about the plan and execution of the plan. So the main plan is little bit changed during different environment. Survey has been conducted in the dry season during the initial phase of the plan. This particular survey data according to the season can generate different scenario in the final output. Hence separate surveys for 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 number active earthquake fault line in the study area. So the risk of earthquake is very low in the study area. Hence, more complex equations in risk calculations has 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 census data 2011. But this previous population data has been collected from secondary sources. In the plan there are many aspects like industries, agricultural, small scale industries and many other economic activities. But in number of the cases, gender issue has been discussed. Number separate facilities for women has been delineated in the plan. The experience learn from the plan preparation (2013-2033) project would be pave the basis of people oriented development plan

Chapter 02:Sub-Regional Plan

2.1 Introduction

Ishwarganj Upazila is located in the periphery of Dhaka Metropolitan region. Being 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 Mymensingh district. These two conditions provide Ishwarganj Upazila with immense potentials to become economically and socially integrated with the Dhaka Metro region and Mymensingh industrial regions which opportunities are basis for development.

2.2 Objectives of Sub-Regional Plan

To achieve the vision of developing Ishwarganj Upazila as an economically vibrant, livable, sustainable and a well-planned Upazila, the following objectives are put forth:

- The development plan will guide the Upazila to become integrated with Dhaka and Mymensingh as their economic sub-system;
- Providing strength by development of various linkages of physical, economic and social connections; and
- Making a balance between the growing population and employment.
- Making provision and plans for the growth of economy, employment, social, and environmental conditions.
- Making contribution to national and regional development and reducing pressure from the capital city.

2.3 Nature of Sub-Regional Plan

The overall vision of the sub-regional plan is to make Ishwarganj Upazila as a well-linked and integrated, livable and sustainable Upazila. It contains the policies drawn for development of Ishwarganj 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 (urban/rural) 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 Ishwarganj Upazila can be considered as the center of activities for trade and commerce as wholesale and retail sale of agriculture products as well as industrial products in prominent bazars. The huge business hub is largely depend on agriculture production. About 31.5 % households are involved in trade and service activities, mainly goes to outside Upazila to serve the region.

Communication system of Ishwarganj with Capital city Dhaka and other divisional town is quite nice for both internal and external communication. Highway and Railway has gone through it which makes the Upazila Center more viable. Ishwarganj Upazila is connected with the railway network. Daily train service connecting Dhaka to Mymensingh is by a pair of train. Ishwarganj is served by Mymensingh section of Meter Gauge line. There are 18.97 km railway line and three railway station in Ishwarganj Upazila. The name of stations is Shohagi, Ishwarganj and Atharobari.

Ishwarganj Upazila is situated 147 km from Dhaka and 24 km from Mymensingh (BBS, 2011). Though the National Highway N-3 (Mymensingh to Bhairab Highway) has flown through Mymensingh District to Trisal Upazila. Ishwarganj Upazila is well connected in regional context and Regional Road R-360 is the main regional road which has linked with surrounding Upazilas such as Nandail, Kishorganj and Kendua etc.



Photograph 2. 1: Ishwarganj Boro Mosjid

There are some of very prominent areas in Ishwarganj Upazila. Luxmigonj Bazar, Mirzapur, Tarundia, Uchakhila, Borohit, Sohagi Railway Station, Atharabari Railway Station and Bazar, Uchakhila Bazar etc. Mirzapur is a famous village in Ishwarganj Upazila. Once upon a time all habitants of this village are Hindus except a Muslim family. This Muslim family is also very prominent in this area. Mr. Abdullah Mondal is the chief of this family. Once upon a time Ishwarganj and Uchakhila bazar was very famous market in Mymensingh division. Basically these were famous for jute and cow/bull market. There are some well-known archaeological heritage and relics like Bhulsoma Jami Mosque (1600), Naluapara Jami Mosque (1625), Teloari Jami Mosque, Atharobari Jamindar Bari (**Photograph 2.2**), Ishwarganj Boro Mosjid (**Photograph 2.1**) etc.

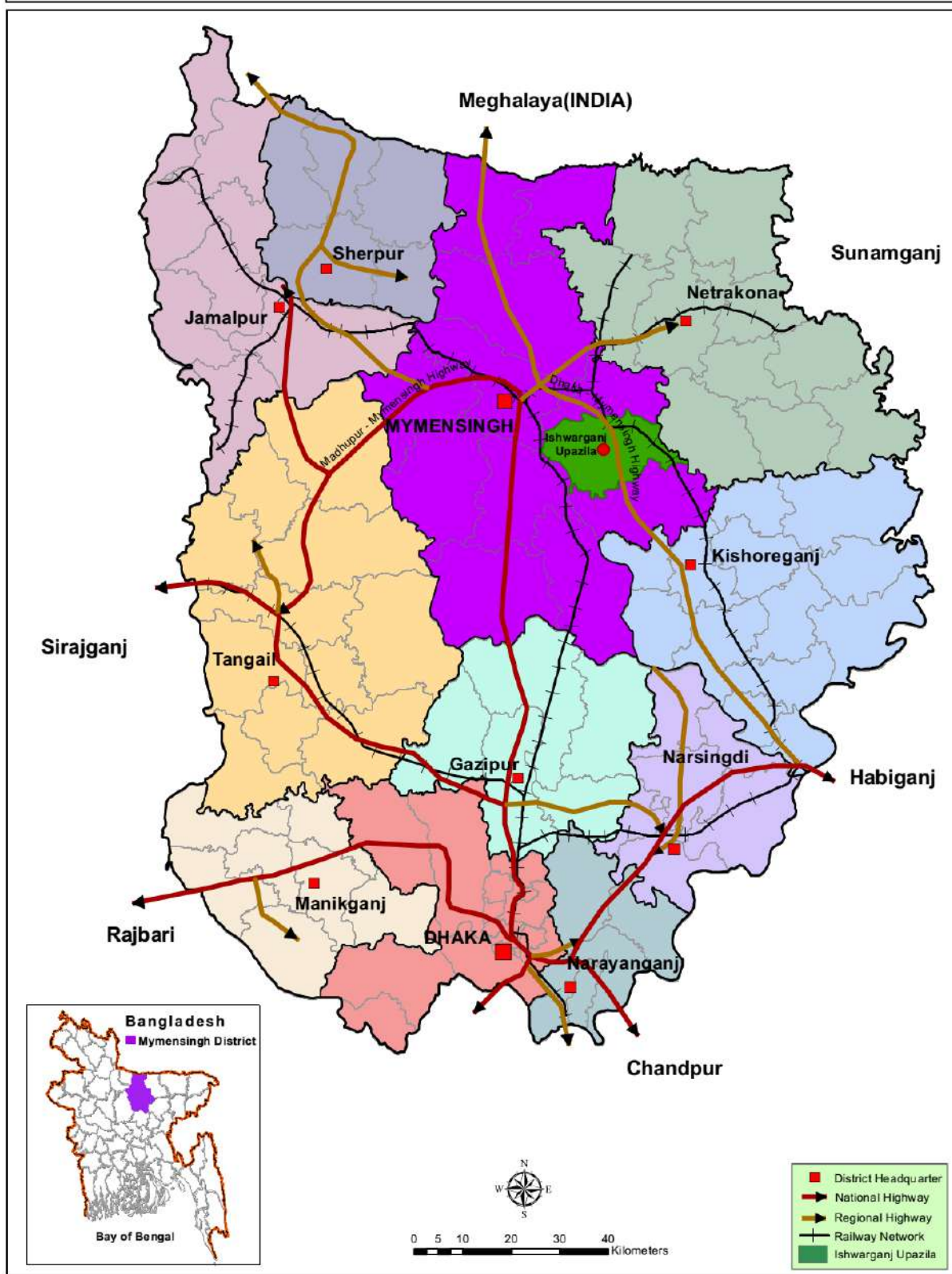
Regional importance of the Ishwarganj Upazila is governed with its agriculture products, with rice being the dominating. It has productive plain land, agriculture, housing, rural settlement, urban built-up area, forestry, water bodies, capture and culture fisheries etc. These diversified uses of land have been giving financial benefits in one hand but on the other creating many problems in respect of criteria based uses and conflicts among the users. Most of the people of this Upazila are directly or indirectly dependent on agriculture. The lands and soils of Ishwarganj Upazila are very suitable for rice and vegetable cultivation. Land resources of this Upazila have been brought into seed production and fish farms as commercial basis. **Map 2.1** Shows Regional Linkage of Mymensingh District and Ishwarganj Upazila.

Atharobari Bazar is a greatest Hat in Mymensingh. From the ancient period Atharobari was famous for Roybazer, Last year this Bazar izara/tender was above 2 crore. Kalbala Bazar is also famous for Jute market, there are a lot of Jute Godowns for processing Jute in Mymensingh Division. It is famous for Jute processing from the age of golden fiber. Atharobari Zamindar Bari was famous for his location, beauty and prosperity. If Mymensingh is famous as education city but Atharobari is famous for his prosperity. Once upon a time Ishwarganj and Uchakhila bazar was very famous market in Mymensingh division. Basically these were famous for jute and cow/bull market.



Photograph 2. 2: Atharobari Jamindar Bari

Map 2. 1: Regional Linkage of Ishwarganj Upazila



2.5 Sub-Regional Plan of Ishwarganj Upazila.

Ishwarganj Upazila has great significance in the context of road network. Regional Highway has gone through it which makes the Upazila Center more viable. Mainly based on agriculture, the economy of Ishwarganj has flourished through trade and cottage industries. Road side linear development and peripheral growth is observed within the study area accommodate considerable amount of informal activities contributing to local economy which will gradually intensify if left unprotected. It is one of the nearest important hub of agricultural and industrial production of capital Dhaka. It is necessary to plan the region so that the potentials of the area can be tapped and serious problems can be minimized. It is thus necessary to prepare a development plan for the Upazila focusing on agro-industries in order to contribute to the national development as well as to develop the local economy.

The discussion made in this chapter under the heading National Contexts, Regional Contexts provided the basis for a Sub-Regional Plan. The national sub-regional plan will promote Ishwarganj Upazila as an agro-based area. As an agricultural and fisheries hub, this Upazila can serve Dhaka by supporting agricultural product and fish. In terms of service provisions, the Upazila to be self-sufficient so that economic resources do not leave from the region to Dhaka. The following policies were put forward to achieve these plans:

Policy 01: Emphasize should be given on agricultural production and on expanding source of income (Agricultural land not enough to generate sufficient income)

Plan 01: Agricultural production should be increased by proper monitoring.

- a) Agro based industry for better use agricultural production.
- b) Cold storage to preserve excess seasonal agricultural production so that farmer/producer should not sold their products at low price.
- c) Vertical and compact development to preserve and protect agricultural land.
- d) Availability of credit for farming and storage facilities.

Plan 02: Maximum farmers has land less than 1 acre and production from those agricultural land is not enough for whole year income source that's why plans are needed to increase their source of income.

- a) Development of agro based industry would be another income source for this Upazila.
- b) Increased activities of regarding industry for increasing source of income
- c) Small and medium size enterprises for the promotion of economic activities and new employment generation.
- d) The SME sector development for helping the process of generating new employment.

Policy 02: Increasing mobility within the Upazila through developed road network is very important for the development of Ishwarganj Upazila. Developed road network, growth centres and developed basic utility services are some of the main requirements of a good developed plan of any area.

Plan 01: In the preparation of development plan for Ishwarganj Upazila, the consultant has done transportation survey which has great implications on the Development Plan.

- a) To create easy traffic movement within the whole Upazila including Paurashava and Unions, the roads have to be widened. The main artery of both the Paurashava and unions has to be kept free from any development.
- b) Improve linkage between different growth center and urban area with increased and improved road network.

- c) Improved railway network.
- d) All missing linkage on roads is recommended to be linked for easy, convenient and safe traffic movement.
- e) To develop and give facilities for easy means of transport for the promotion of public transport and terminals.
- f) Make a priority for in space allocation of ROW for better space utilization and promoting non-motorized traffic avoiding interruption, ensuring speed with motorized traffic.

Plan 02: Developing Growth Centre/Markets as transfer points for agricultural goods will create more potentials for agricultural development.

- a) Four Growth centers situated at Atharobai, Sohagi, Maijbagh and Uchakhila union. Transport facility with growth center to other union should be developed so that people can easily move one place to another place.
- b) New growth center should be developed Mogtola and Tarundia so that the farmers can market their product through these markets and get fair price.

Plan 03: Basic service facility such as educational facility, health facility and commercial facility should be developed so that this Upazila would be self-dependent for providing service facilities to the people. People need not depend another Upazila to get better facility.

- a) Regional road and a railway network to connect Mymensingh and other Upazila.
- b) Developed Road network with Mymensingh and other Upazila so that people can move for job, Business or different purpose and comeback.
- c) Health facility, fire service and security system should be more advanced by increasing manpower and infrastructure.

It is to be noted that these development should be made in such a manner that it does not disturb traffic number of proposals 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 policy framework for further plans and development actions. It is also oriented with the policy development for the project area in relation with national and regional policies or framework through close liaison between planning authority and government department. This report consists of plans that comprises a broad policy guidelines. 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 broad indication of land use.

3.2 Objectives

The main objective of Structure Plan is to showcase the strategies with substantial elaboration. 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 framework for the next hierarchy of plans, like Urban Area Plan and Action Area Plan.

3.3 Demarcation of the Planning Area

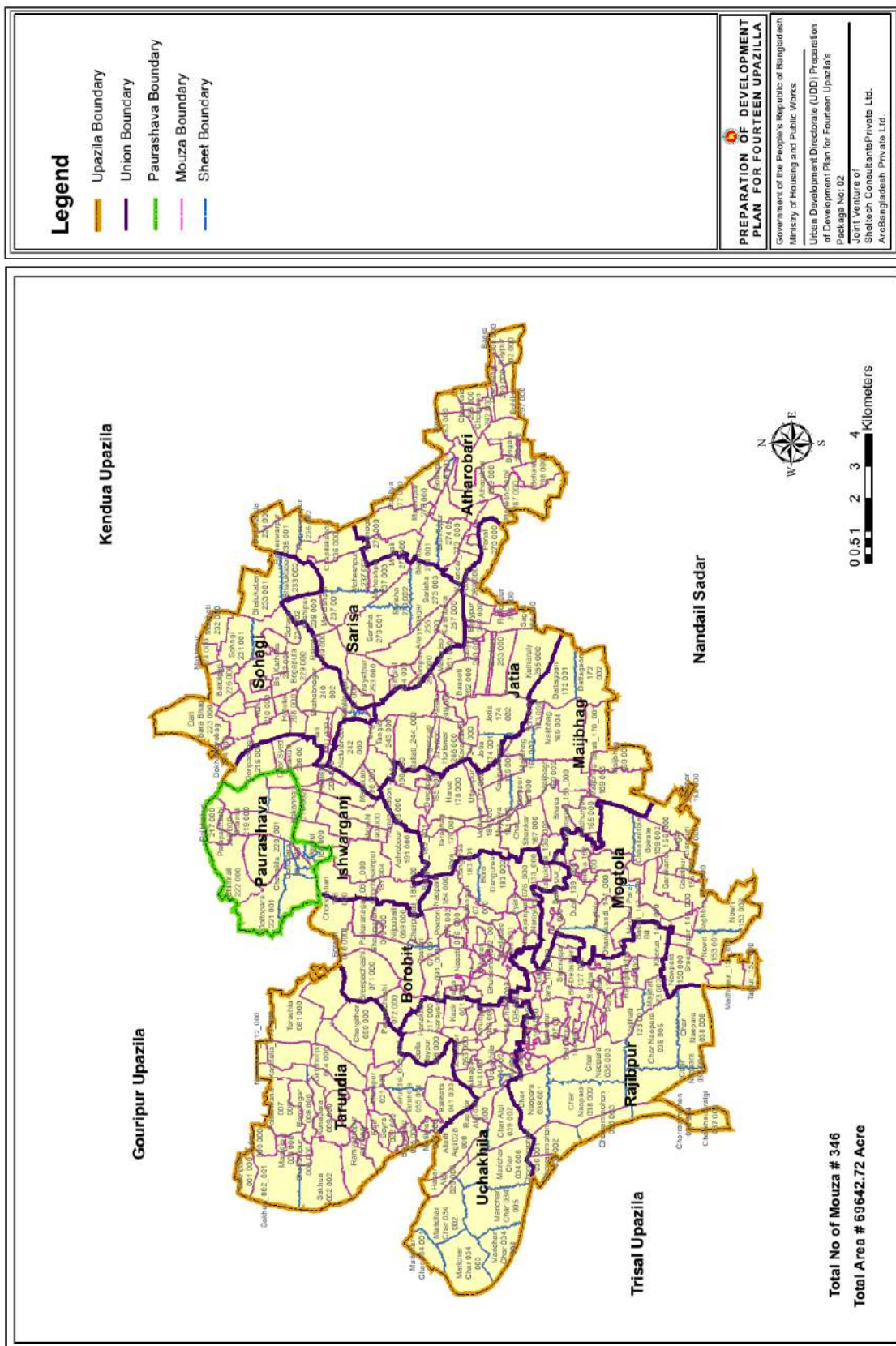
The Structure Plan is determined on the basis of reviewing its growth, geographical context, geological and hydrological aspects, socio-economic context and other relevant issues. As per ToR, the study area of the planning is determined as the whole Upazila comprising Paurashava and 11 unions with an area of 281.83 sq.km (**69642.90** acre).List of Mauza name shown in Annex. **Table 3.1** and **Map 3.1** shows planning area of Ishwarganj Upazila.

Table 3. 1: Planning Area of Ishwarganj Upazila

Name	Population	Area		Name	Population	Area	
		Acre	Sq.km.			Acre	Sq.km.
Atharobari	36739	5384.56	21.79	Sarisa	28305	5304.64	21.47
Borohit	29350	6092.09	24.65	Sohagi	27853	5258.29	21.28
Ishwarganj	21223	3627.38	14.68	Tarundia	30610	8042.09	32.55
Jatia	31515	5683.96	23.01	Uchakhila	30710	6155.42	24.91
Maijbhag	38925	7158.81	28.97	Paurashava	28631	3152.61	12.76
Mogtola	35729	5928.82	23.99	Total	376348	69642.90	281.83
Rajibpur	36758	7854.24	31.79				

Source: Field Survey, 2016.

Map 3.1: Planning Area of Ishwarganj Upazila



3.4 Broad Landuse 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 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 illustration of the policies and strategies. **Table 3.2** and **Map 3.2** Shows the Structure Plan of Ishwarganj Upazila.

Table 3.2: Structure Plan

Structure Plan Categories	Area (Acre)	%
Agriculture	30130.55	43.26
Circulation Network	734.44	1.05
Growth Center	225.79	0.32
Hat Bazar	455.12	0.65
Industrial Zone	595.12	0.85
New Growth Center	210.72	0.30
New Urban	437.25	0.63
Rural Settlement	30068.73	43.18
Urban Area	3034.98	4.36
Waterbody	3750.20	5.38
Total	69642.90	100.00

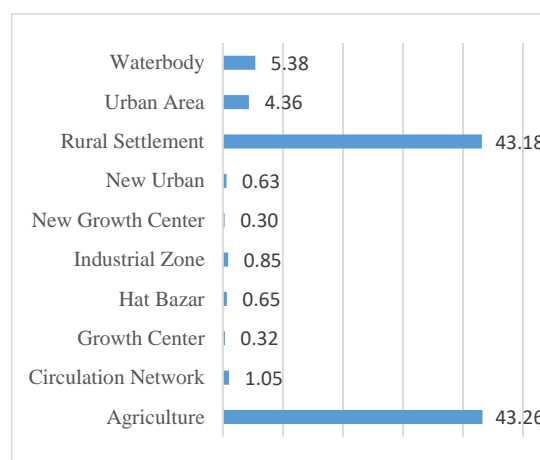


Fig 3. 1: Structure Plan of Ishwarganj Upazila

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 landuse 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 30130.55 acres land out of total about 69642.90 acres has kept as agriculture area. Agriculture Zone covers 43.26% land. Maximum land of Maijbag, Mogtola, Tarundia and Rajibpur Union is double cropped. In structure plan those land has been proposed for preserved as agriculture land.

The main purpose of this zone are to

- Protecting high value agriculture land
- Promote farming activity and farming operation in the land especially suitable for the purpose.
- Conserve agriculture lands within the urban area.

Circulation Network

Circulation network contains major road network and railways linkage with regional and national settings. About 734.44 acres land has been proposed for circulation network. Total 186.89 km new road has been proposed for increase transport network. Bypass on the outer part of the existing urban settlement about 3.36 km has been proposed to reduce pressure of motorized vehicles from core urban area as it becomes a major link for its internal traffic.

- Development of Regional Connectivity.
- To reduce traffic congestion within the Paurashava area
- Widening of existing Narrow Roads.

Growth Center

Growth centers are service centers (rural or urban) which has a potential for further development. It has been conceived as points of attraction for the people who otherwise would go to large congested urban areas. About 225.79 acres land has kept for Growth Center development.

- 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

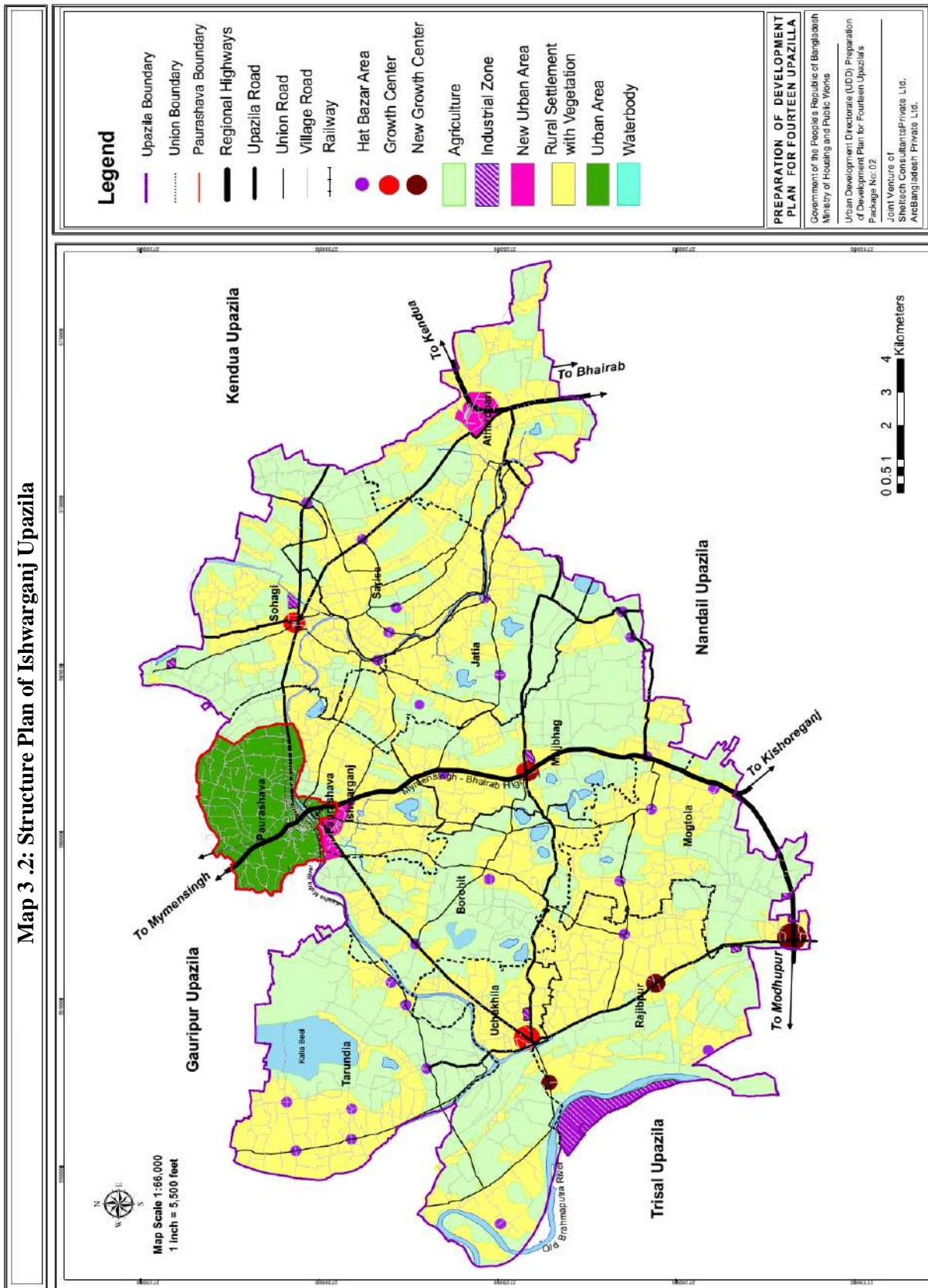
Hat Bazar serves as a trading junction for local people in rural areas where the economic traffic is the most high. These area is considered as the market place for the villagers provide a noticeable number of commercial activities and have a higher concentration of structures than the rural settlement area. Total about 455.11 acres (0.65%) land has been kept for Hat Bazar Development. Total 41 Rural Service and Sells Center has been proposed all over the Upazila.

- Promote trade and commerce compactly associated with all other facility.

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 595.12 acres (0.85%) has kept for industrial zone. The site is recommended for only small scale industries of nonpolluting. Agro based industry major consideration for this zone. Agro based industry major consideration for this 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.



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 210.72 acres area has been kept for New Growth Center. 3 No of Growth Center has been proposed which located at Mogtola, Rajibpur and Uchakhila Union. Those Growth Center are well connected with Paurashava by existing and proposed road network.

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 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 cover an area 3034.83 acres (4.35%). Community clinic, park, playground, cattle hut, cold storage and sludge Treatment Plant also proposed urban area

New Urban Area

In preparing the Structure Plan some areas are identified outside the existing Paurashava area. Due to some growth and development factors of these areas are considered as New Urban area. New Urban Area consist of west portion of Atharobari Union. About 437.25 acres has been proposed for new urban area besides existing urban area. This area will be developed within the plan period (2033). This zone also accommodates the required area for proposed public facility like administrative services, utilities, recreational area, major religious and educational area etc.

Rural Settlement and Vegetation

Rural settlement is a sparsely populated community that exists away from densely populated urban centers and has low population density. In Ishwarganj Upzila, Rural Settlement area is predominantly influenced by agriculture, homestead farming and vegetation etc. Rural Settlement haphazardly developed at road side areas. About 30068.73 acres (43.18%) land has been kept for rural settlement and vegetation. Future rural settlement will be developed in those place.

Waterbody

This zone covers various types' water bodies such as river, canal, khal, beel and pond etc. Waterbody under this category are grouped under two functional sub categories, natural water system – rivers and canals; water retention –controlled canal and large ponds. About 3750.20 acres of waterbody has been proposed to preserve. According to Water Plot 2013 Foreshore Protection, 50m/10 m buffer zone has kept restricted area from development.

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 are connects the decision making in setting proposals for future urban development.

4.2 Physical infrastructure

Geographically the location of Ishwarganj Upazila is very near to Dhaka and the prospect of Upazila is very high. High-rise residential structure are mostly develop in core area. Physical feature survey shows that there are in total 88,855 structures in Ishwarganj Upazila (8,561 in Paurashava and 80,294 in Rural area) of which 65.6% are Katcha, 18.20 % are semi-pucca, only 12.24 % are pucca structures and rest of Under Construction. **Table 4.1** Shows structure type of Ishwarganj Upazila

Map 4. 1: Structure Type of Ishwarganj Upazila.

Features		Nos.	Types of Structure	Nos.	%
Structure	Urban	8561	Pucca	1,806	21.10
			Semi-pucca	2,410	28.15
			Katcha	4,023	46.99
			Under Construction	322	3.76
	Rural	80294	Pucca	9,072	11.30
			Semi-pucca	13,770	17.15
			Katcha	54,230	67.54
			Under Construction	3,222	4.01
Total			88,855	100	

Source: Field Survey, 2016

Road is one of the significant physical features of an area. Survey results shows that 25% are pucca, 71% are katcha and the rest are semi-pucca (**Fig 4.1**). Ishwarganj Upazila comprises two rivers named Old Brahmaputra, and Katcha Matia River. Kalia Beel is remarkable beauties of the Upazila.

4.3 Socio –Economic

According to Bangladesh Bureau of Statistics (BBS, 2011) there are some 80,074 househlds in Ishwarganj Upazila. Total number of populations are 3, 76,348 of which males are 1, 87,217 and females are 1, 89,131. From the survey it has been observed that about 31.25 % of the total households are

engaged in trade and commerce which includes various types of business like agro based business, readymade garments, raw materials related business, construction business, transport business etc.

Poor technology unskilled labor force, low investment makes such economic activities uncompetitive with the other cities and towns. Public investment is not enough to generate growth impulses, lack of availability of funding sources is also acting as hindrance for economic development.

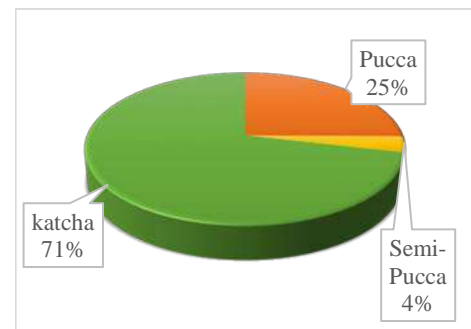


Fig 4. 1: Types of Roads

Ishwarganj Upazila has two economic activities.

- 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 Land use

The information depicted from the survey shows that there is dominance of agriculture landuse which cover about 71 % of the total followed by residential land use. Following **Table 4.2** and **Map 4.1** shows the existing landuse of the study areas.

Table 4. 2: Existing Land use of Ishwarganj Upazila

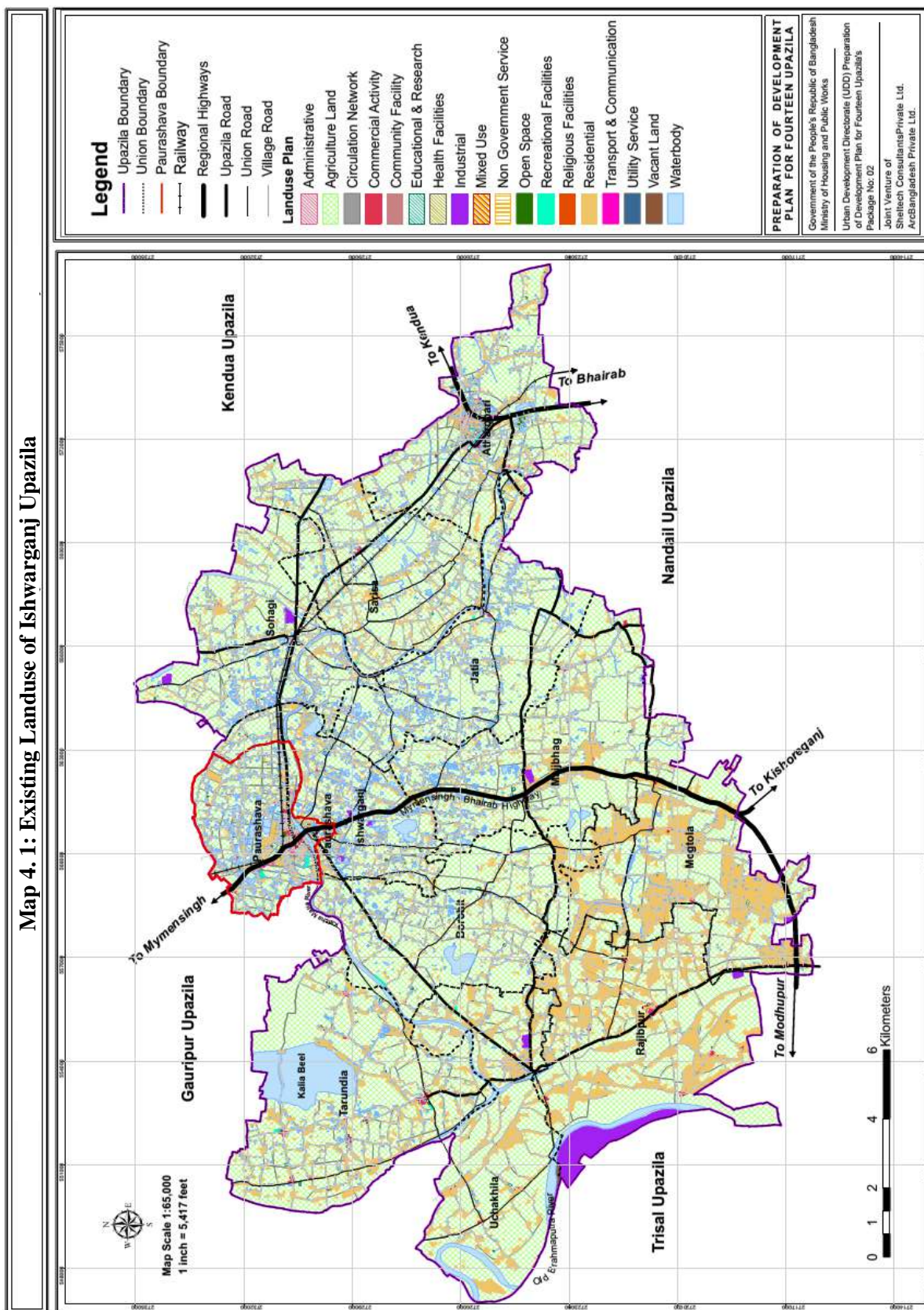
Landuse Categories	Area(In acres)	%
Administrative	45.78	0.07
Agriculture	49512.38	71.09
Circulation Network	741.18	1.06
Commercial	254.66	0.37
Community Facilities	5.21	0.01
Educational & Research	130.69	0.19
Health Facilities	7.34	0.01
Industrial	23.25	0.03
Mixed Use	44.07	0.06
Open Speace	25.11	0.04
Recreational Facilities	3.44	0.00
Religious	62.70	0.09
Residential	14915.86	21.42
Transport & Communication	1.74	0.00
Utility Services	0.00	0.00
Waterbody	3869.51	5.56
Total	69642.90	100.00

Source: Field Survey, 2016.

Administrative: Administrative landuse generally encompasses all types of Government and Non-Government Office. About 45.78 acres of lands in Ishwarganj Upazila are used for administrative purposes.

Agriculture: About 49512.38 acres of lands have been used for agriculture purposes. Additionally some other uses are also considered as agriculture use such as dairy firm, poultry firm, etc.

Circulation Network: Circulation Network are used about 741.18 acre lands .There are 779.91 km kacha roads, 224.75 km pucca and 3.63 km semi-pucca roads.



Commercial: Katcha bazaar, market and different types of shops area are used for commercial purpose. There are almost 55 Nos Hat/Bazars and 3 Nos Growth Center in Ishwarganj Upazila. About 254.66 acres of lands are used in commercial purpose. **Map 4.2** Shows existing growth center and hat bazar of Ishwarganj Upazila.

Community Facilities: Community facility comprises mosques, temples, community centers, cyclone shelter, graveyards etc. Total 5.21 acres of lands are occupied by community facility.

Education Facilities: Educational land use mainly primary school, NGO School, high school, college, madrasa, etc have been considered. From the land use survey it has been found that about 130.69 acres of lands are used for educational purpose. There are 6 College, 200 primary Schools and 30 High Schools and 147 Madrasa in Ishwarganj Upazila. **Map 4.3** shows existing educational facilities of Ishwarganj Upazila.

Health Facilities: About 7.34 acres of lands are allocated for health facilities. There are a total of 23 clinic in Ishwarganj Upazila. **Map 4.4** shows existing health facilities of Ishwarganj Upazila.

Industrial: Industrial use of Ishwarganj Upazila generally includes factory, rice mill, saw mill, bakery, ice mill and other mill or factory. About 23.25 acre lands have been used for industrial purposes. **Map 4.5** Shows location of existing industries in Ishwarganj Upazila.

Mixed Use: At Ishwarganj Upazila, only 44.07 acres of lands are used for mixed use purpose. Here mixed uses have been considered where two or more types of land use are occur in a single structure such as residential and commercial or residential, commercial and institutional uses take place in a single structure.

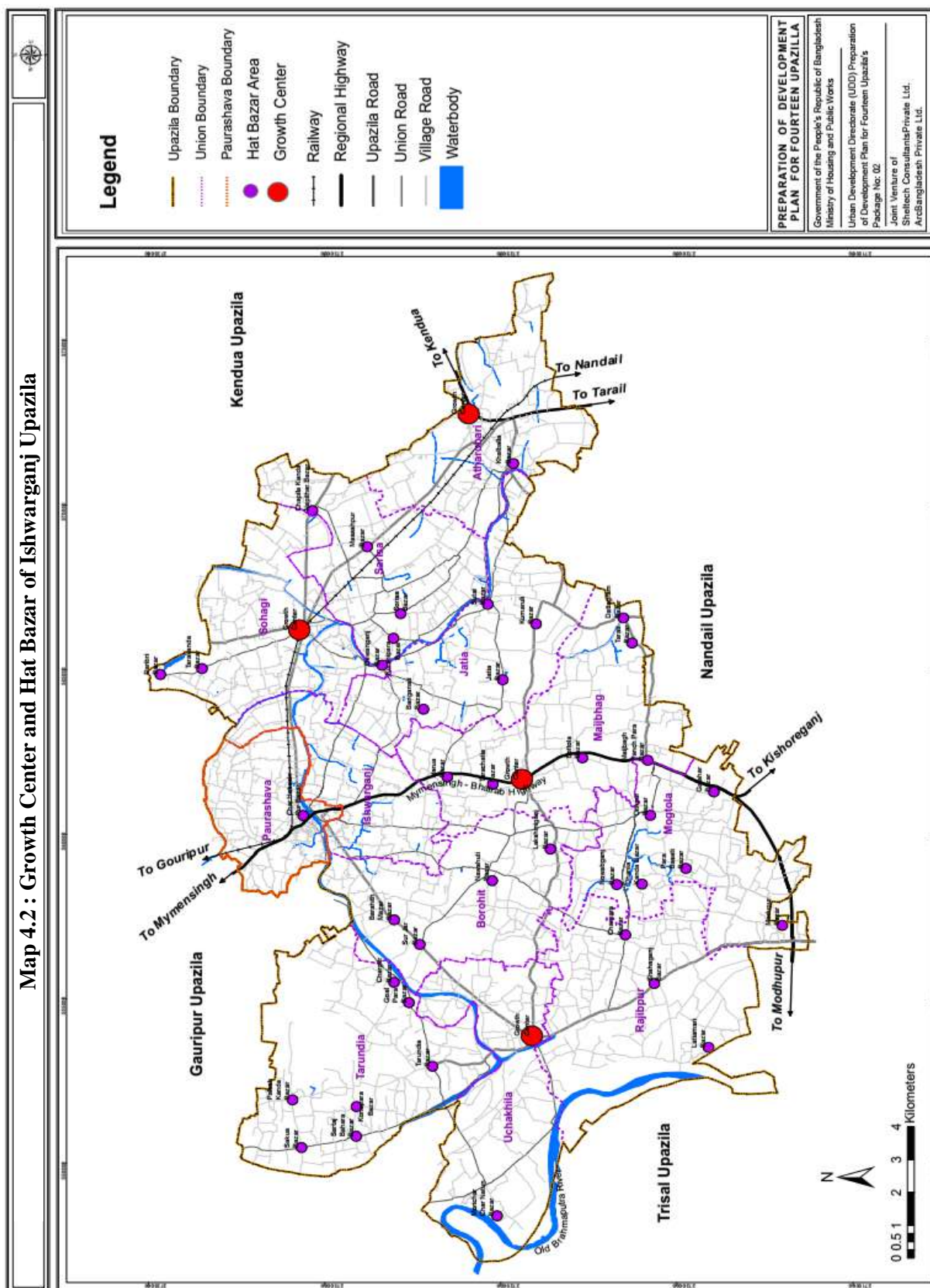
Recreation and Open Space: It is found from the land use survey that about 28.55 acres of land used for recreation purposes.

Religious: At Ishwarganj Upazila, Religious facility comprises mosques and temples. Total 62.70 acres of lands are used for religious purpose. There are total 1036 Nos Mosque and 12 Nos Mondir in Ishwarganj Upazila.

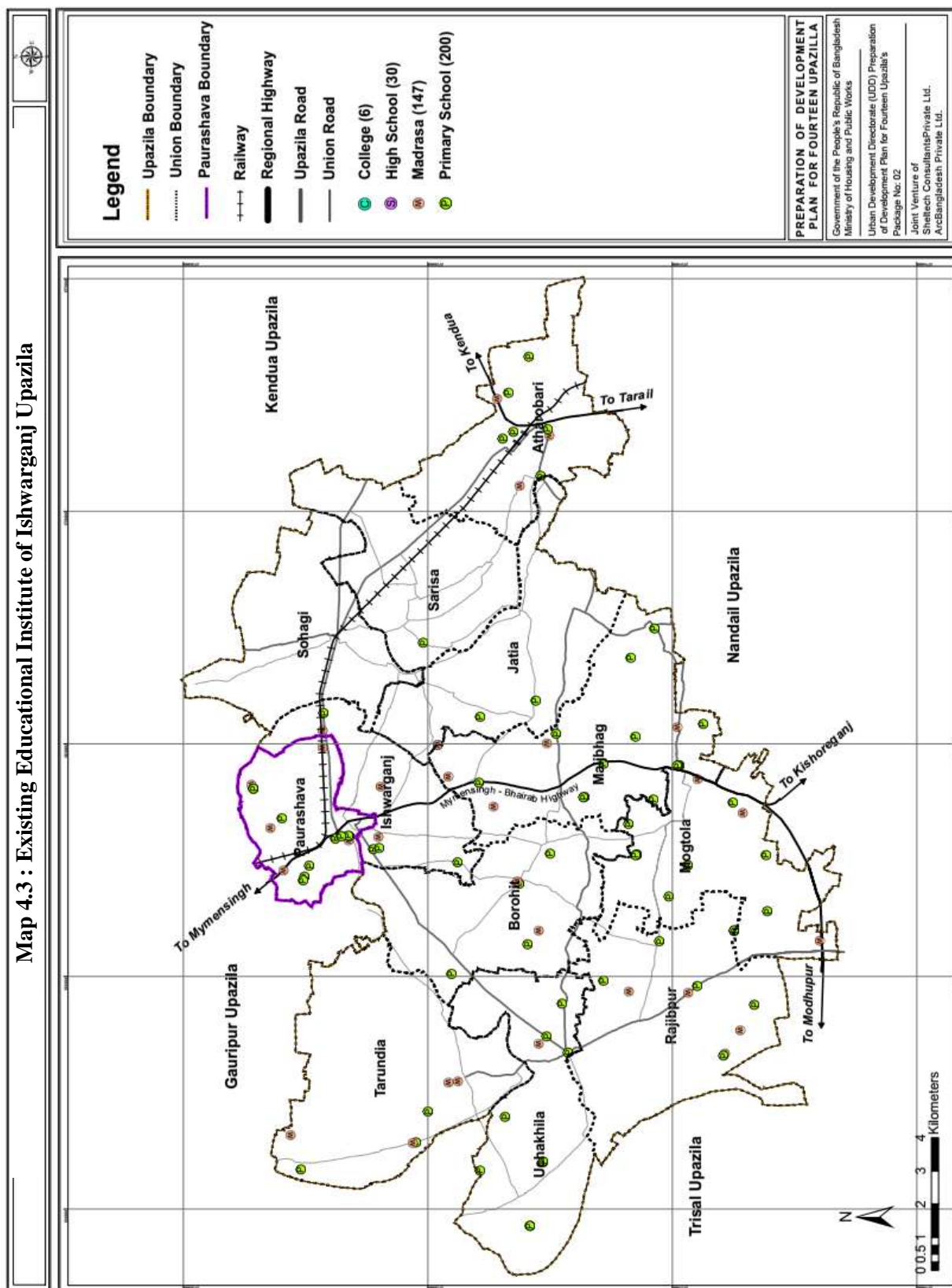
Residential: From the land use survey, it has been observed that about 14915.86 acres areas have been used for residential purposes.

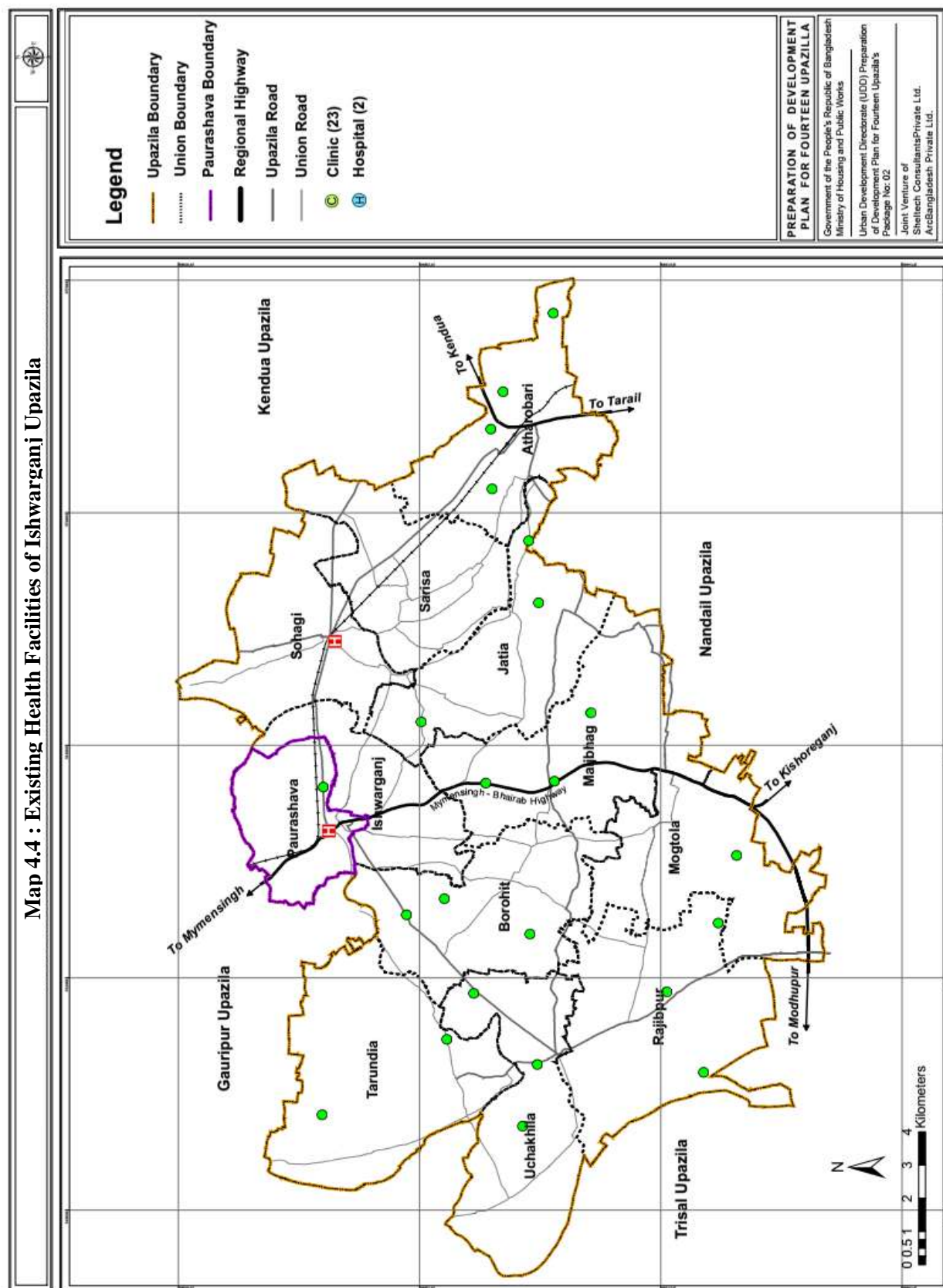
Transport and Communication: Transport and Communication comprises bus stand, passenger shed and road facilities. Total land area transportation and communication is 1.74 acre.

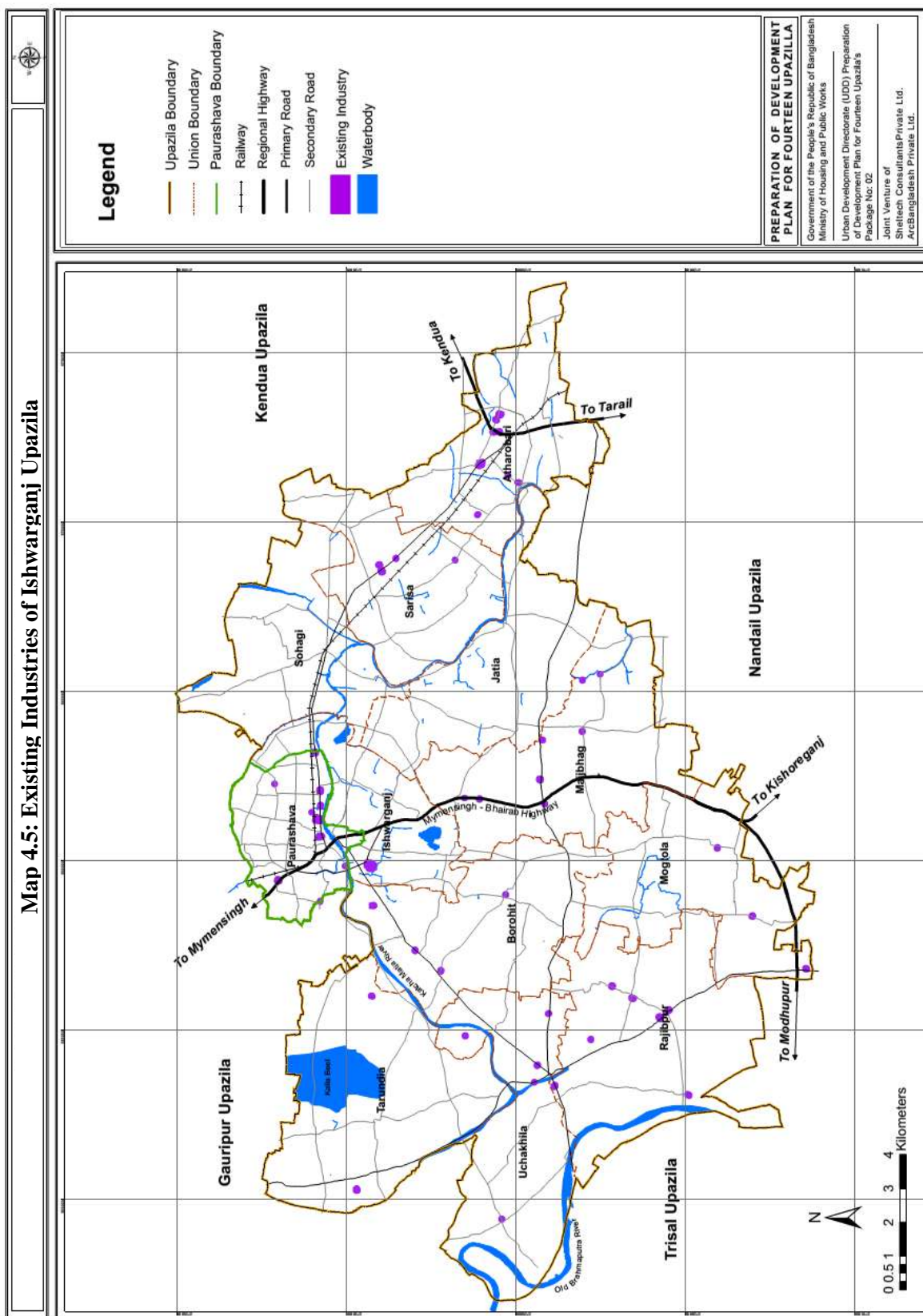
Waterbody: Waterbody comprises river, canal, beel, ditches, ponds etc. Waterbody covers an area of 3869.51 acres. **Map 4.6** shows existing waterbodies in Ishwarganj Upazila.

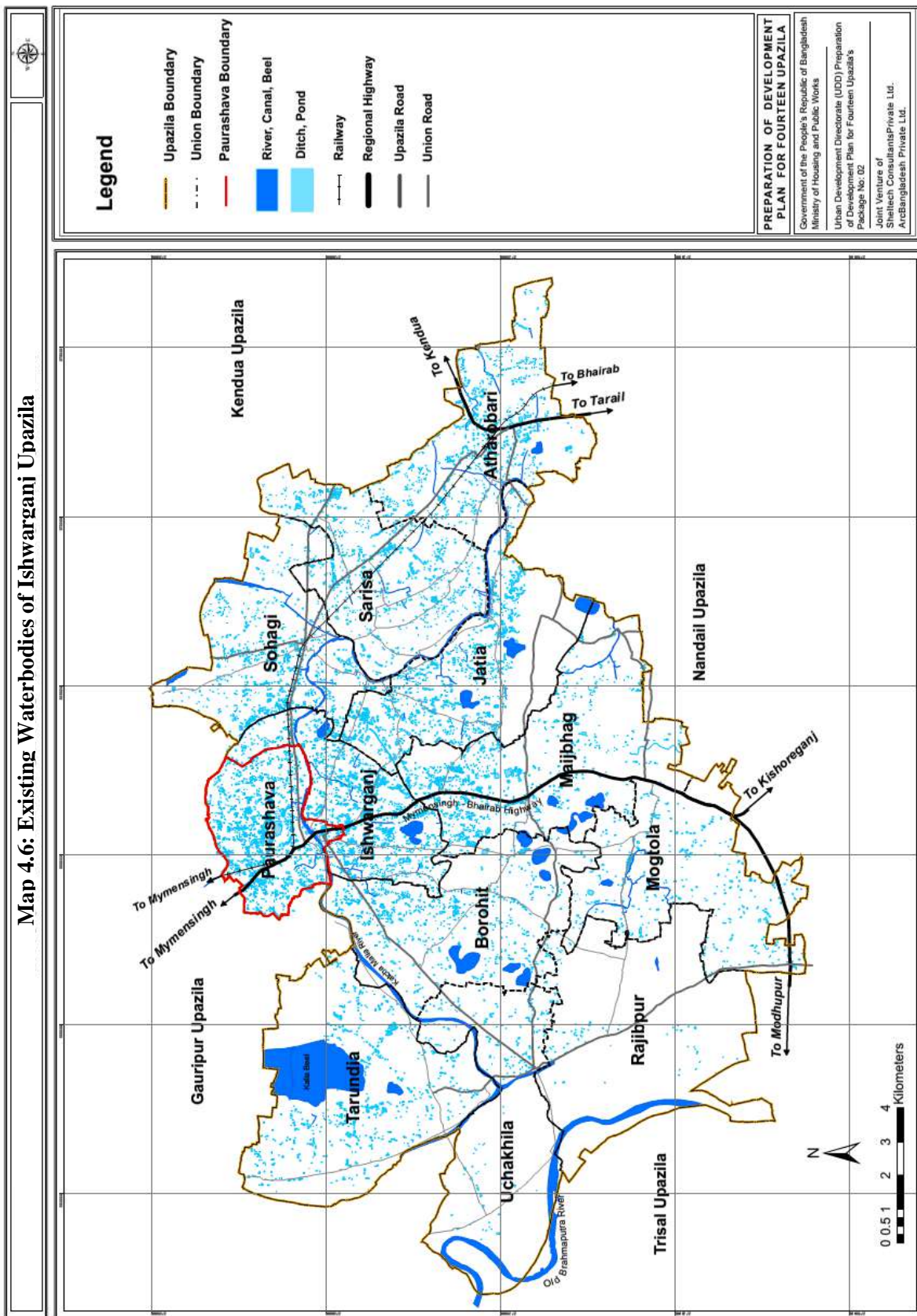


Map 4.3 : Existing Educational Institute of Ishwarganj Upazila









4.5 Transportation

Ishwarganj Upazila is connected to Dhaka through Gazipur. The National Highway (N-03) has passes through Mymensingh District to Trisal Upazila. Ishwarganj Upazila is well connected in regional context and Regional Road R-360 is the main regional road which has linked with surrounding Upazilas such as Nandail, Kishorganj, Kendua etc. There are many private local bus service available for intra-upazila movement among Ishwarganj Upazila. Rickshaw is the most used mode of transport followed by tempo, motorbike, babitaxi etc. Types of modes have been presented in **Fig 4.2**. Most of the people travel by auto rickshaw/tempo and the percentage is 44%. This percentage is the highest among others. Second most popular mode is Bus. About 35% people choose bus for travelling.

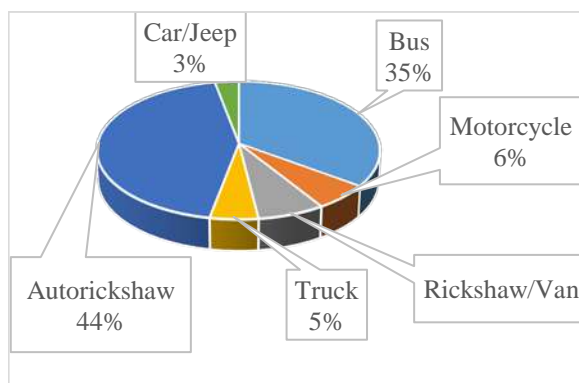


Fig 4.2: Types of Modes

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. Three tools were selected such as **Social Mapping**, **Venn diagram** and **Technology of Participation** for collecting information from the field. Paurashava and nine unions have been covered through PRA.

Key findings of PRA are as follows;

From the social mapping, it is evident that Ishwarganj Paurashava and all unions are having almost common problems. Total 38 number of problems have been identified, which are;

- Insufficient Educational Facilities,
- Unemployment, Water logging,
- Poor communication system,
- Poor medical facilities,
- Lack of vocational training,
- Electricity
- Drug addiction,
- Early marriage, and
- Corruption

Paurashava is also suffering from lack of medical facilities, educational, communication, absence of gas connection, waterlogging etc. **Fig 4.3** and **Fig 4.4** Shows preparation of Social Mapping and Ven Diagram in Ishwarganj Upazila.



Fig 4.3: Preparing Social Map



Fig 4.4: Problems Identification with Venn diagram.

The local inhabitants also identify the potentials of the respective area which may be used as resources during planning period. Most of the participants mentioned Agricultural land (Paddy), Fisheries, Fruit garden, Poultry Farm, Foreign Remittance and Cattle Rearing as their main potential to ensure development among all the identified potentials. **Fig 4.5** Shows Technology of Participation activities in Ishwarganj Upazila.

The participants have demanded the development in many aspects which needs to be fulfilled for improving their lifestyle as well as environment. It is found that, most of the demands are communication, education, electricity, employment sector and present in all over the area. **Table 4.3** and **Map 4.7** Shows PRA demand analysis of Ishwarganj Upazila.

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.

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, electricity and sanitation sector are found almost all the area. On the other hand, gas supply, auditorium, park facilities are asked by few people from one or two union.



Fig 4.5: Technology of Participation

Table 4.3: PRA Demand Analysis of Ishwarganj Upazila

Demand	Paurashava/Union	Development Priority
Improvement of communication system	Atharobari, Barahit, Sohagi	Long Term
Improvement of electricity system	Rajibpur, Sorisha, Uchakhila, Mogtola	Long Term
Ensure supply of pure drinking water	Rajibpur, Sorisha, Sohagi, Tarundia, Uchakhila	
Technical training institute for women	Atharabari, Barahit, Ishwarganj, Jatia, Magtala, Maizbagh,	Long Term
Establishment of Hospital	Rajibpur, Sorisha, Sohagi, Tarundia, Uchakhila	Long term
Developed quality educational system	Atharabari, Barahit, Ishwarganj, Jatia, Magtala, Maizbagh, Rajibpur, Sorisha, Sohagi, Tarundia, Uchakhila	Mid Term
Prevent occurrence of early marriage	Maizbagh, Rajibpur, Sorisha, Sohagi, Tarundia, Uchakhila	Mid Term
Electricity and gas for all	Jatia, Magtala, Maizbagh, Rajibpur	Mid Term
Lack of educational institute	Sohagi, Tarundia, Uchakhila	Mid Term
Lack of health facilities	All	Mid Term
River and canal dredging	Maizbagh, Rajibpur, Sorisha	Short term
Street light	Rajibpur, Sorisha, Sohagi, Tarundia, Uchakhila	Short term
Water logging	All	Short term
Improve drainage system	Jatia, Magtala, Maizbagh	Short term

Source: Field Survey, 2016



4.7 Population Growth and Projection

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

Ishwarganj 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 increasing population all the economic facilities will boost up in order to increase the urbanization of this Upazila under the influence of the Capital city Dhaka.

Method Used

Population projection has been conducted on the basis of following methods and techniques:

- The base year for such above mentioned projection is 2011 as per available census data.
- Finally, Exponential Compound Population Projection is used to conduct the Population Projection. Projected growth rate for urban area is 1.37% and Rural Area (except Paurashava area) is 1.08 %.
- Future population is estimated considering 20 years planning period.

By using Exponential Compound Growth Method, following formula is used to calculate the projected population:

$$P_n = P_o (1 + r)^n$$

Where,

P_o = Population of base year,

P_n = Population of projected year,

n = Number of years,

r = annual rate of growth.

Population Projection

Population projection means to estimate the future population of an area and in order to make a 20 year population projection of nine unions of the Upazila including the Paurashava, Exponential Compound Growth Method has been used.

The population data, which has been collected from Bangladesh Bureau of Statistics (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:

- The total population of Ishwarganj Upazila is 3, 76,348 of which male 1, 87,217 and female is 1, 89,131. Density of this area is about 1342 per square kilometers.
- It is numbered that the population growth rate of Ishwarganj Upazila decreased in the past. But, from the year 2001, it shows inclination.

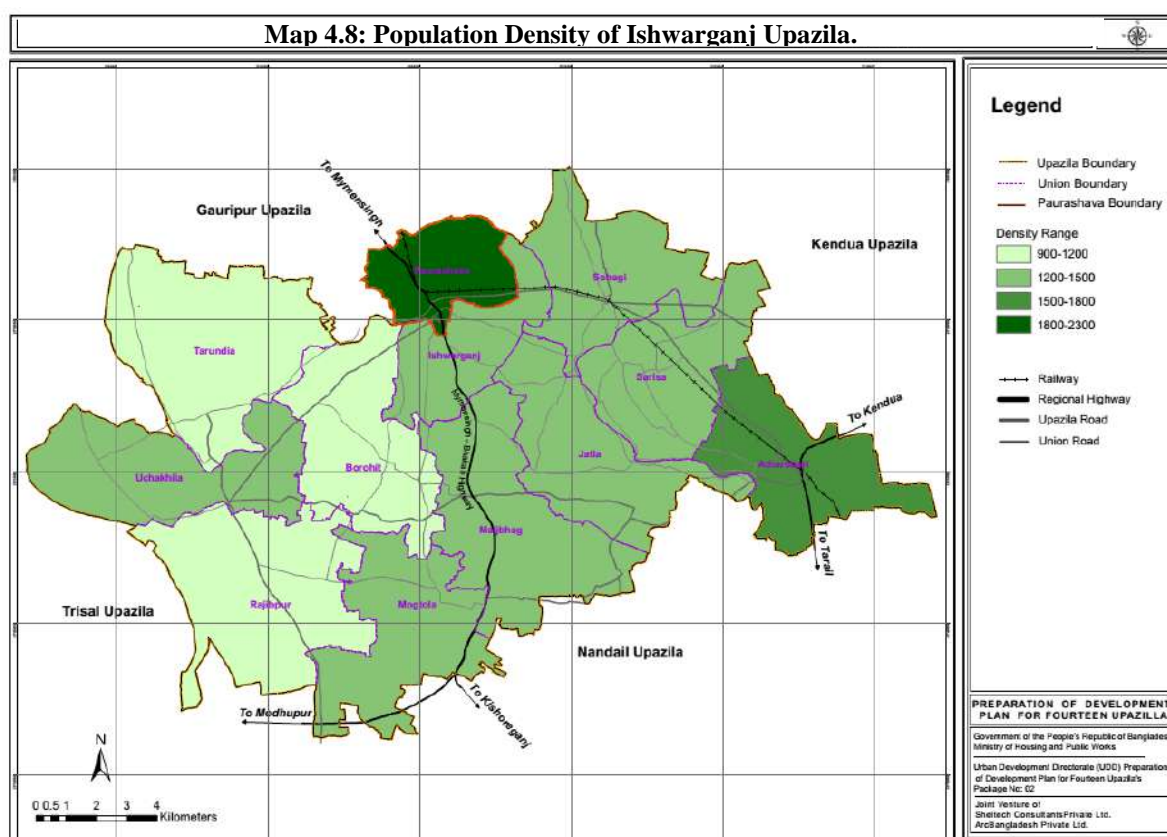
According to the population projection, population of Ishwarganj Paurashava will be 38,837 in the year 2033 considering the medium growth rate of 1.37%. Urban growth rate 1.37 % is fixed here considering Zila urban and Mahalla Urban Growth rate as there was no urban area in 2001 in Ishwarganj Upazila.

Population of Rural area (other than Paurashava area of Ishwarganj Upazila) will be 4, 42,649 in the year 2033 considering medium growth rate of 1.08%. **Table 4.4** depicts the projected population during the year 2013-2033 respectively and **Map 4.8** Shows Population density of Ishwarganj Upazila.

Table 4. 4: Projected Population during the Year (2013-2033)

Area	Base year Population (2011)	Projected Population(On the basis of medium population growth)				
		2013	2018	2023	2028	2033
Paurashava	28631	29382	31510	33788	36227	38837
Atharabari	36739	37501	39617	41850	44206	46693
Barahit	29350	29788	31478	33262	35144	37131
Ishwarganj	21223	21304	22526	23816	25177	26614
Jatia	31515	32048	33863	35778	37800	39932
Maijbagh	38925	39783	42025	44391	46887	49522
Mogtala	35729	36447	38505	40676	42968	45386
Rajibpur	36758	37521	39638	41872	44230	46717
Sarisha	28305	28697	30327	32048	33863	35778
Sohagi	27853	28225	29829	31522	33308	35193
Tarundia	30610	31103	32866	34727	36690	38761
Uchakhila	30710	31207	32976	34843	36812	38891
Total	3,76,348	3,85,017	4,07,176	4,30,594	4,55,338	4,81,486

Source: BBS, 2011



4.8 Geological Analysis

An extensive geo-scientific investigation is one of the fundamental prerequisite for any sustainable infrastructural development initiative. In this context, a systematic study including geological, geophysical, geotechnical study was done in the proposed project area. The study report would be useful for planning, designing and future maintenance of the project area. Moreover, the current study would also be beneficial for the planners as well as the concerned authorities to take relevant decisions pertaining to disaster risk reduction and mitigation. Keeping those in mind, prior to any sort of infrastructural development in the area the current study is an inevitable component of the project.

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 guide line; 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 Madhupur 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 location

All the borings was conducted and field borelog were prepared by visual classification of soil done in the presence of the experienced technical personnel. The borehole records have to be taken that include soil type, nature of sample, soil moisture content and consistency, SPT blow counts (N Value), ground water observation and apparent origin (fill, alluvium, recent sediments, etc.) and daily field logs have been prepared. **Fig 4. 6** shows Geotechnical and Geophysical test location of Ishwarganj Upazila.

Surface geology

The study area is characterized by relatively flat terrain comprising of floodplain deposits (Alluvial Sand, Alluvial Silt & Clay) throughout the area as shown in the **Map 4.9**. A surface geological map of the area exemplifies the physiographic features of the terrain and also reveals the geological attributes. The surface geological 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. Table depicts the surface geological (geomorphological) classification of the study area based on litho-genetic category, with a brief lithological description.

The surface geological 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. Depicts the surface geological (geomorphological) classification of the study area based on litho-genetic category, with a brief lithological description **Table 4.5**.

Table 4. 5: Surface Geological Map Units and Lithological Characteristics

Litho-Genetic Category	Map Unit	Detail Description
Floodplain Deposits	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 non-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. An unconsolidated aggregate of silt particles is also termed silt, whereas a consolidated aggregate is called siltstone
	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 non-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. An unconsolidated aggregate of sand particles is also termed sand, whereas a consolidated aggregate is called sandstone
	Alluvial Silt & Clay	Clay particles are with diameters less than 0.005 mm and rocks that is composed essentially of clay particles. Rock in this sense includes soils, ceramic clays, clay shales, mudstones etc. The term alluvial silt & clay are used for loose, unconsolidated sediments, which has been eroded, reshaped by water in some form, and re-deposited in a non-marine setting where both silt and clay size particles are dominated. Alluvial deposits are usually most extensive in the lower part of a river's course, forming floodplains and deltas.

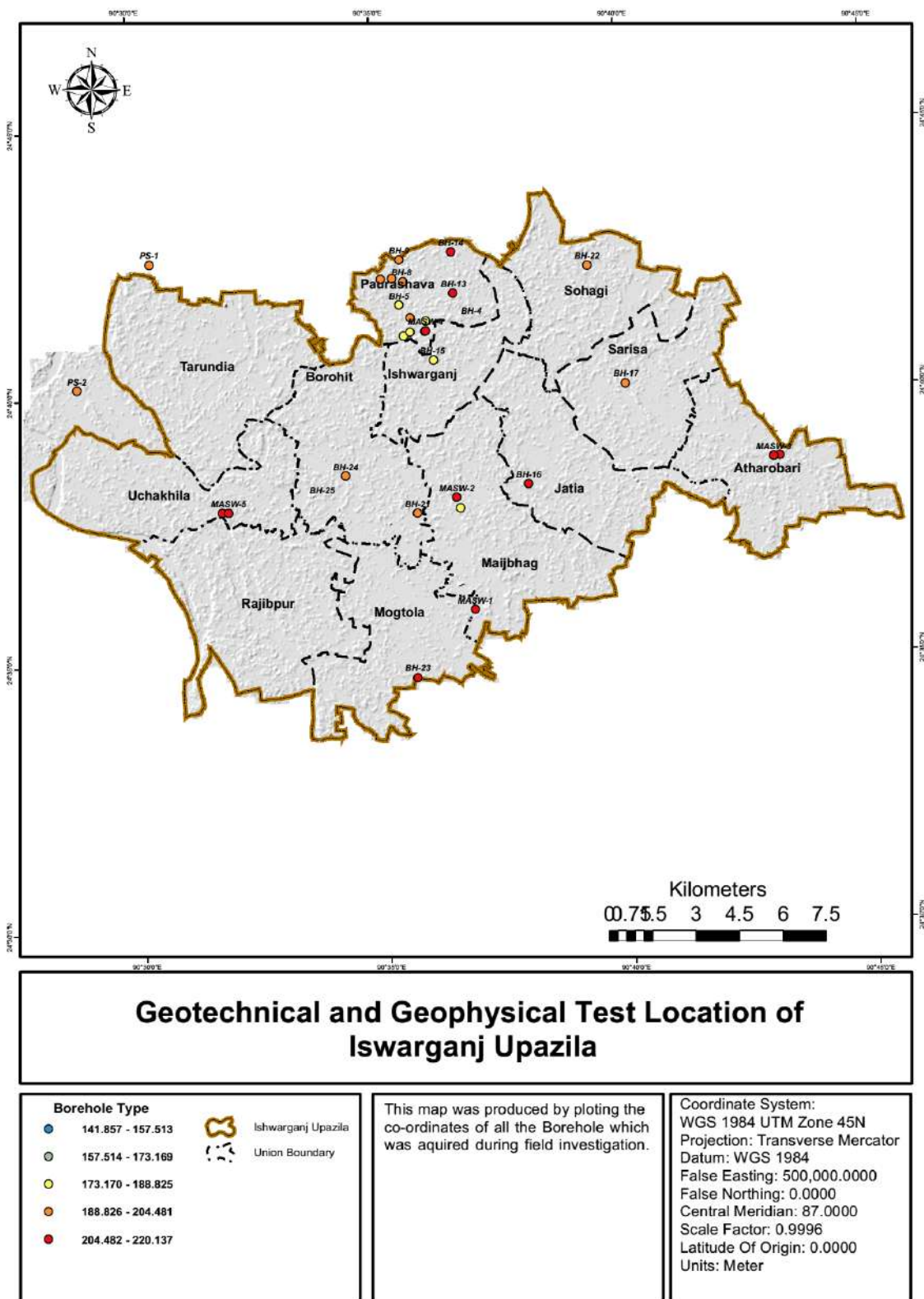


Fig 4. 6: Geotechnical and Geophysical Test Location of Ishwarganj Upazila



Landuse suitability

Land Suitability based on subsurface sediment criteria, foundation layer depth, Shear wave velocity (Vs) and PGA seismicity of the area. **Map 4.10** shows the Land Suitability of Ishwarganj Upazila. It has been observed that Ishwarganj Paurashava, Ishwarganj, Sohagi, Borohit, Uchakhali, Rajibpur, Jatia, Maijbag and Atharobari union of the project area is very good for infrastructure development which suggest that those areas are composed of 2-3m thick compacted sediments. As a result of compact sediments, 4-6 storied light infrastructure of commercial, residential or/and industrial purpose is suitable with a foundation depth of up to 5 m (suitable on Madhupur clay). Large and tail infrastructure requires pile foundation placed on Soil layer no 3 or 5.

Table 4.6: Landuse Classification for Infrastructure Development

Sl No.	Infrastructure Suitability	Subsurface Sediments	Infrastructure foundation suitability	Suggested land use suitability
1	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 no 3 or 5.	Commercial area Residential area Industrial zone
2	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 no 3 or 5	Commercial area Residential area Industrial zone
3	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
4	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

Sl No.	Infrastructure Suitability	Subsurface Sediments	Infrastructure foundation suitability	Suggested land use suitability
5	Very Poor	Mainly silty clay, with alternate layers of Organic clay and peat. Thickness is more than 10 m. In low floodplain areas less organic layers can be expected.	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

According to foundation layer analysis Uchakhali, Rajibpur, Atharobari and Jatia union; South western part of Tarundia, middle part of Borohit and Sohagi union, some parts of the Ishwarganj Paurashava, Ishwarganj and Maijbhag union are moderately suitable for infrastructure development which comprises moderately soft sediments up to 12m depth. As a result, 4-6 storied light infrastructure requires on-site subsoil investigation and proper foundation design and deep pile foundation is needed for large and tail infrastructure of commercial, residential or/and industrial purpose. And the soil condition of north eastern Tarundia union; eastern half of Borohit, western half of Ishwarganj Paurashava and Ishwarganj union; central part of Sarisa union and some small part of Sohagi and Maijbhag union is poorly suitable for infrastructure development and subsoil comprises 5-7 m of loose and soft silty clay and clayey silt with few layers of organic clay. Thus detail subsoil investigation and proper foundation design is required for all types of infrastructure, due to low bearing capacity with hazard potential. **Fig 4.7** Shows foundation layer recommendation for Ishwarganj Upazila.

Table 4.7: Geological Land Suitability Area

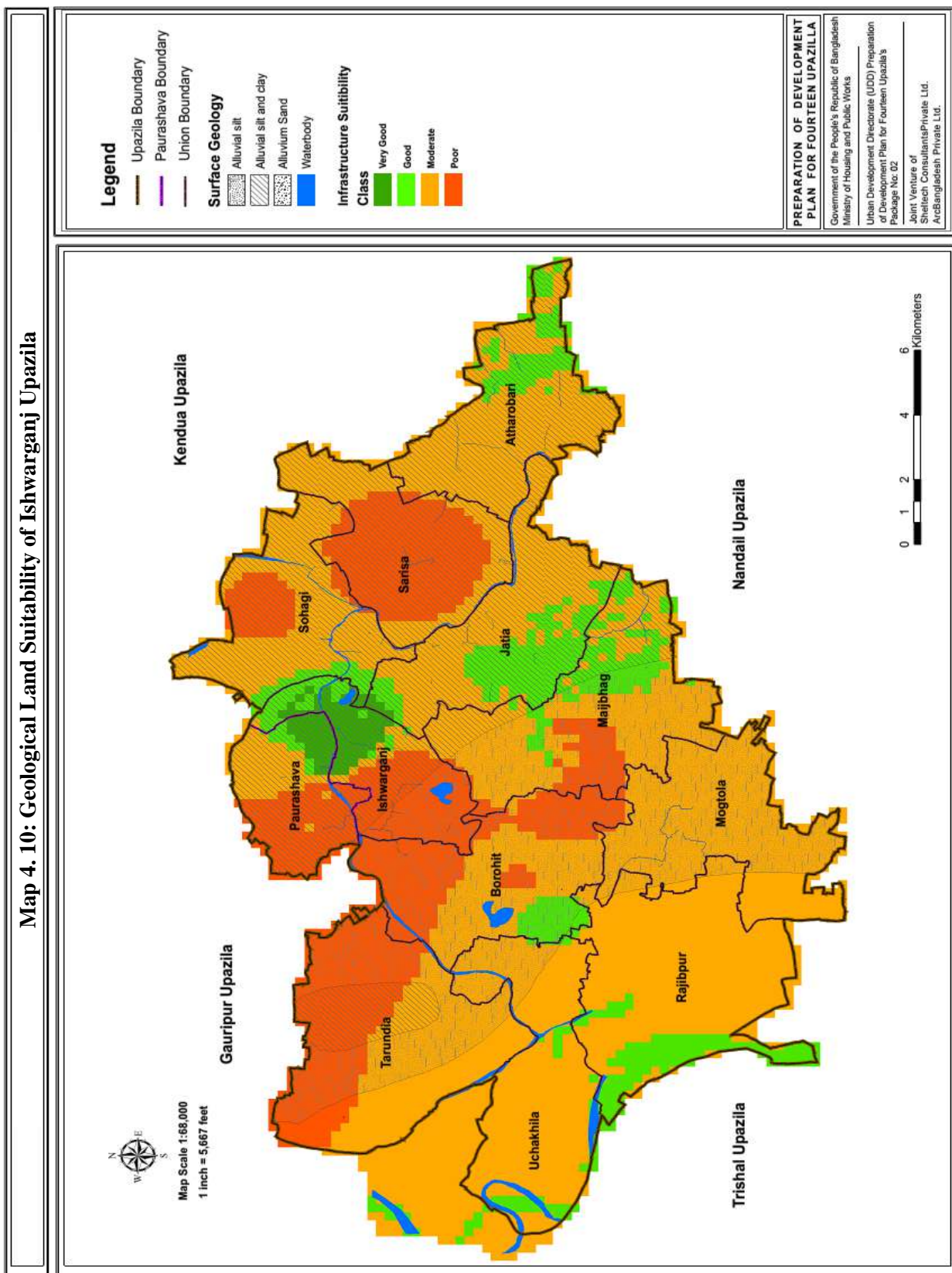
Suitability	Area(acres)	%
Good	8278.03	10.85
Moderate	50100.62	65.65
Poor	16571.5	21.72
Very Good	1359.08	1.78
Total	76309.23	100

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 tsunamis. 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 correlation for PGA value and modified Mercalli intensity scale suggest that there is a probability of VIII degree intensity severe earthquake in Ishwarganj with an probability of expedience of 10% in 50 years. Earthquake with an intensity of VIII degree may damage slight in specially designed structures; may cause considerable damage in ordinary substantial buildings with partial collapse and may damage great in poorly built structures. Fall of chimneys, factory stacks, columns, monuments, and walls may occur due to such earthquake. Heavy furniture may overturn.

The SA value (for 1.0s period) of soil of the Ishwarganj Upazila ranges from 0.608 to 0.766 g. The red areas having SA value 0.608 to 0.678g are 3rd degree earthquake sensitive for high rise buildings. On the other hand the yellow areas having SA value 0.679 to 0.747g are 2nd degree earthquake sensitive for high rise buildings. 3rd degree sensitive means it's almost free from earthquake hazard zone and 1st degree sensitive areas means possibilities for earthquake hazard. **Fig 4.8** Shows earthquake sensitive area of Ishwarganj Upazila.



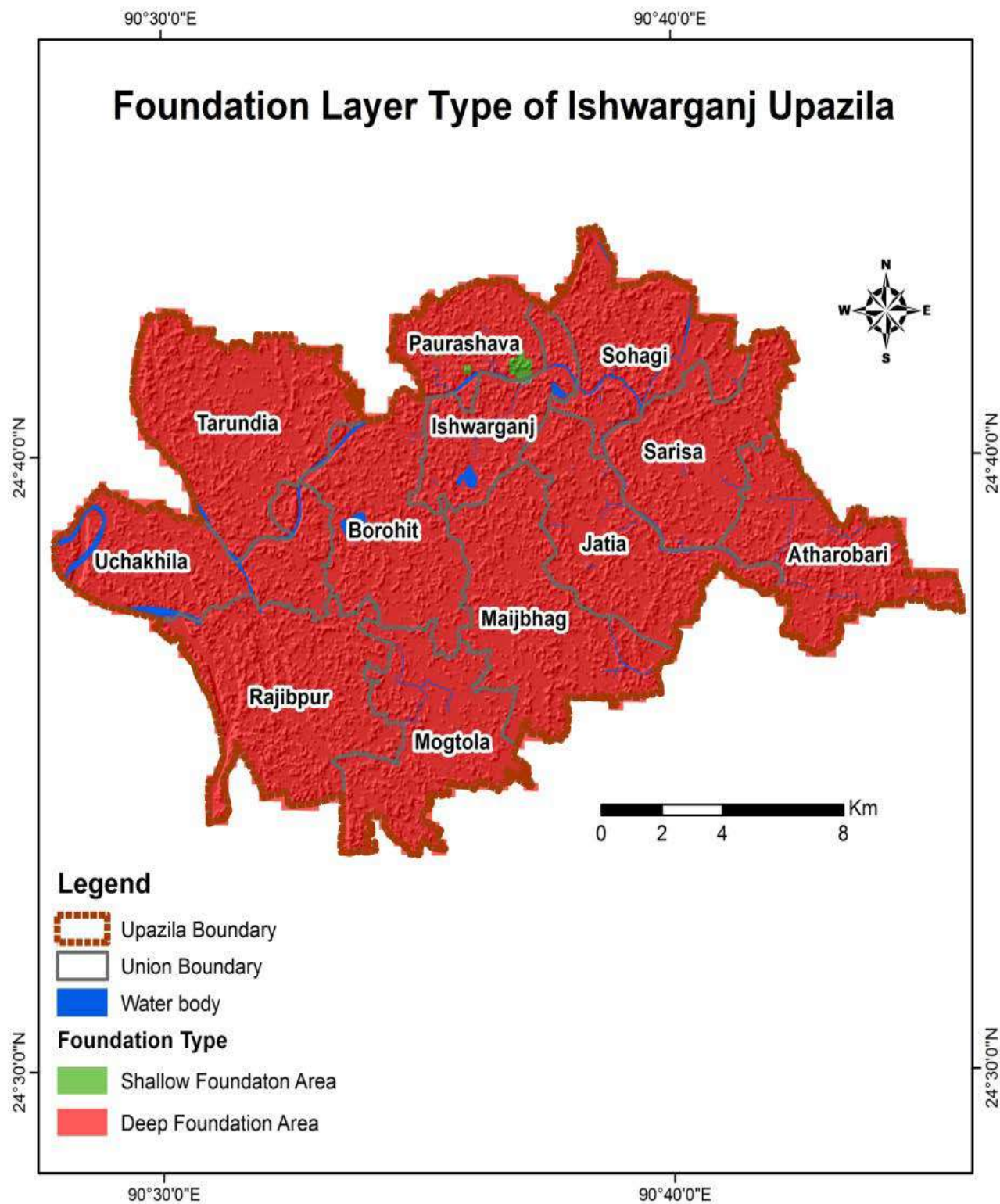


Fig 4. 7: Foundation Layer Suitability of Ishwarganj Upazila

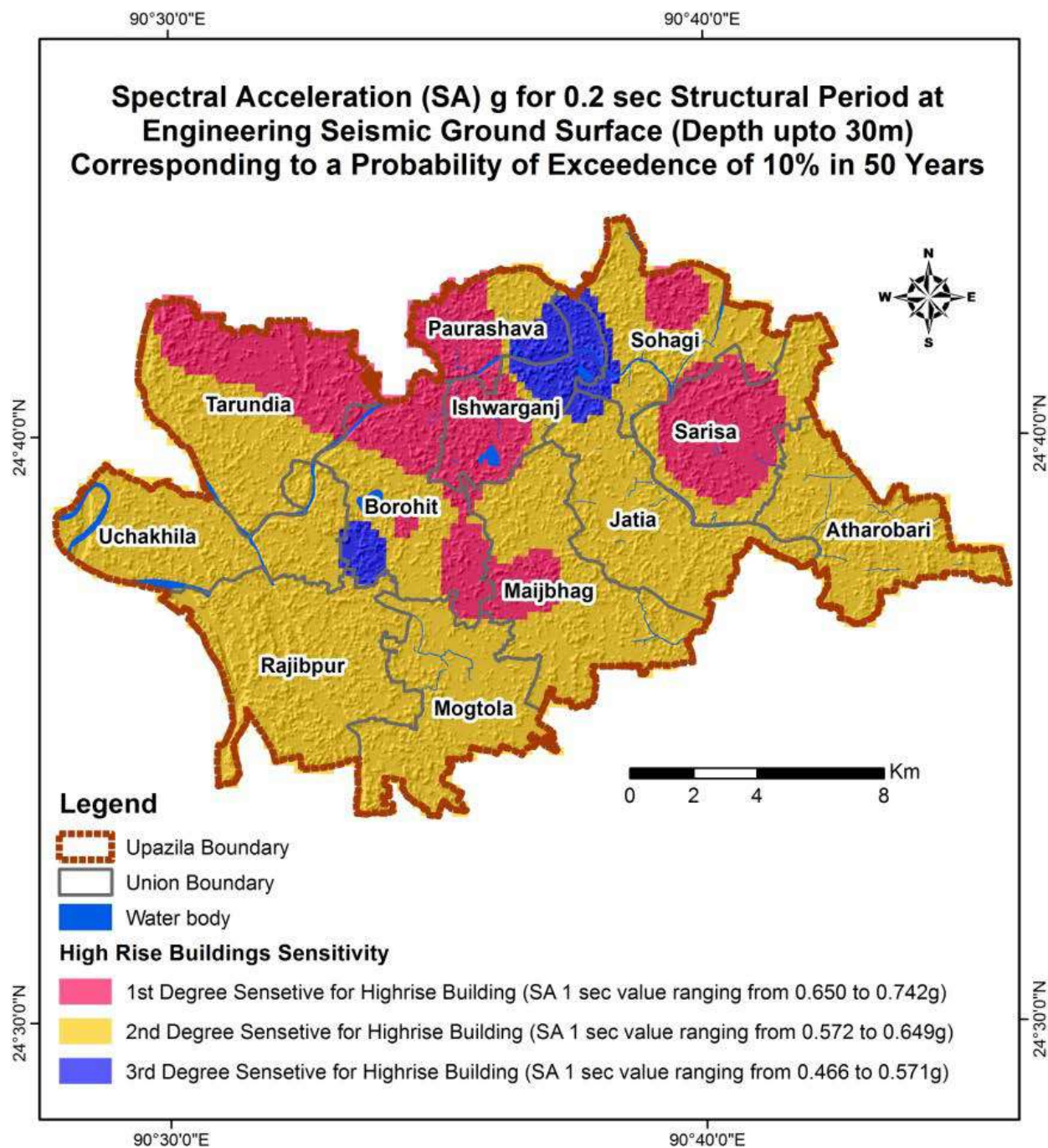


Fig 4. 8: Spectral Acceleration (SA) for Long Period (1.0s) of Ground Surface at Ishwarganj Upazila

4.9 Hydrological Suitability

To identify the best suitable area for agriculture an analysis has been done. It is derived from the data of water depth and DEM.

Raster Calculation

“Depth of water” * .6 + “DEM” * .4

Table 4.8: Weightage Criteria for Hydrological Suitability

Weightage Criteria	%
Depth of water	60
DEM	40
Total	100

Water Depth = Water Depth positively influenced the agriculture suitability.

Depth 0 – 0.3m = F_0 = Permitted for agriculture and other uses

Depth 0.3 – 0.9m = F_1 = double/triple crop land and permitted only for Agriculture.

Depth 0.9 – 1.8m = F_2 = Single crop land and permitted only for Agriculture.

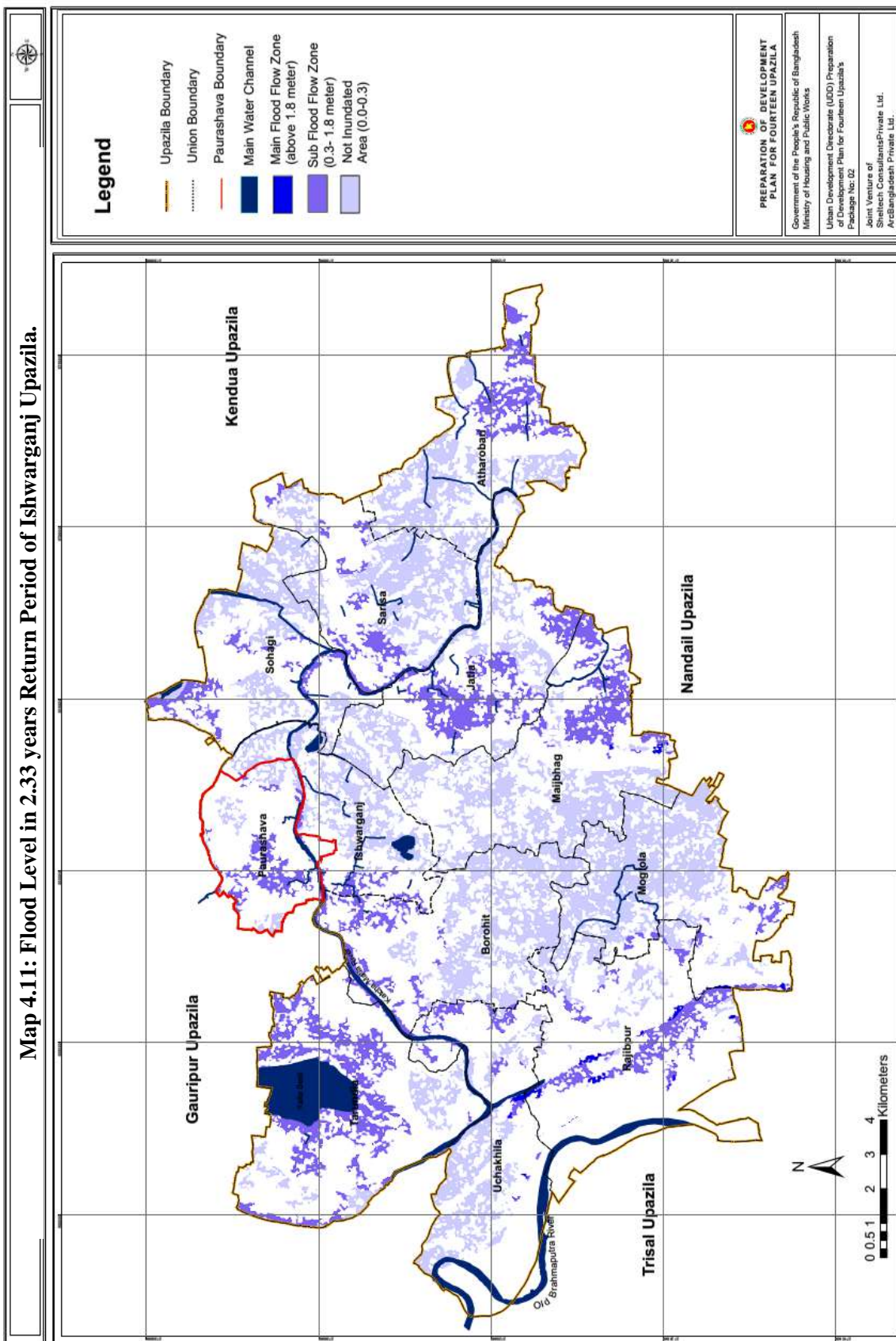
DEM = DEM Inversely influenced the Hydrological suitability from maximum to minimum value.

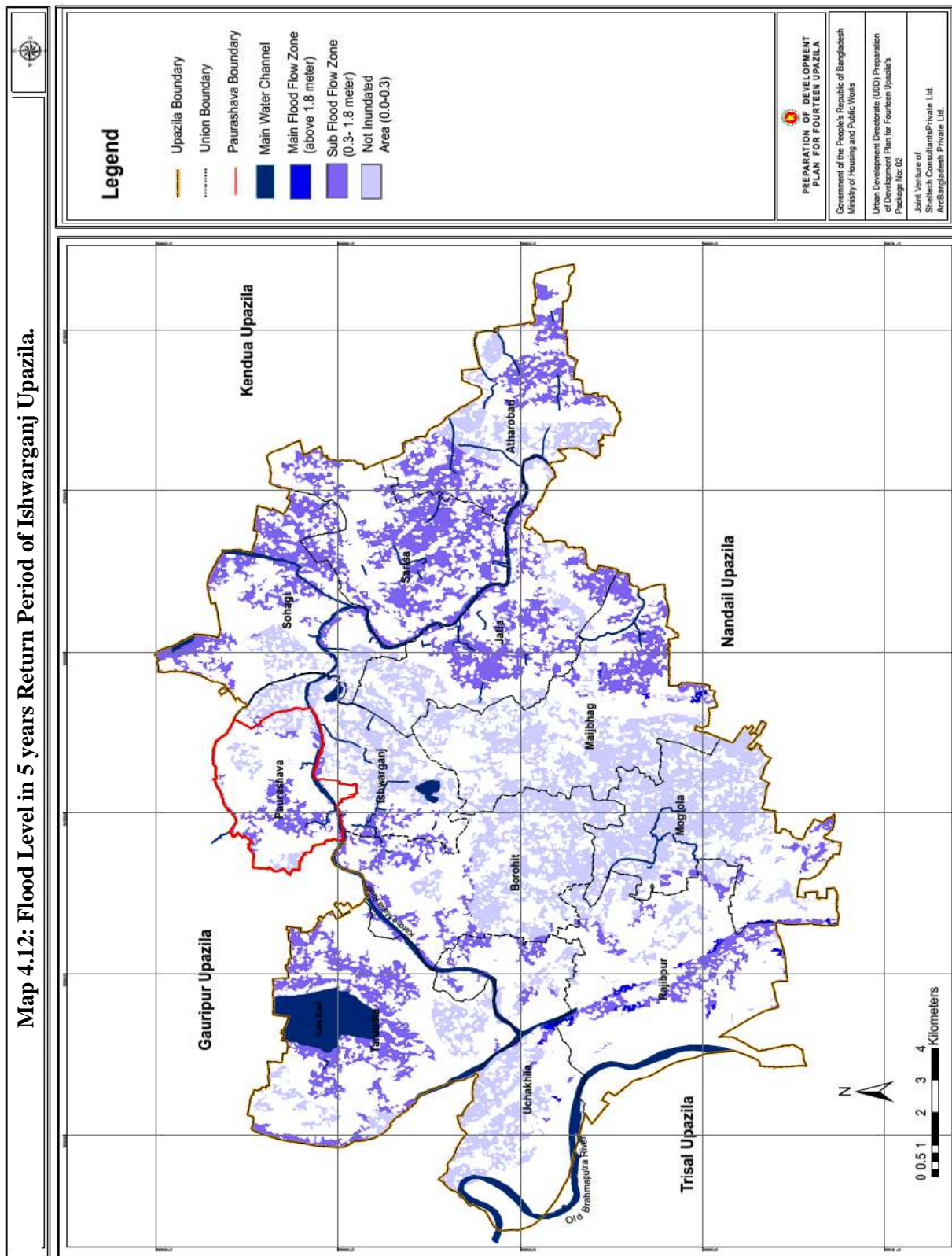
From the Hydrological Analysis of Ishwarganj Upazila 4 types of area has been delineated. The first one is the major water bodies which cannot be utilized for any other purpose. Kalia Beel in Tarundia, Kachamatia River, Dottopara khal, Old Brahmaputra River, Maheshwarpur Khal etc are in this category.

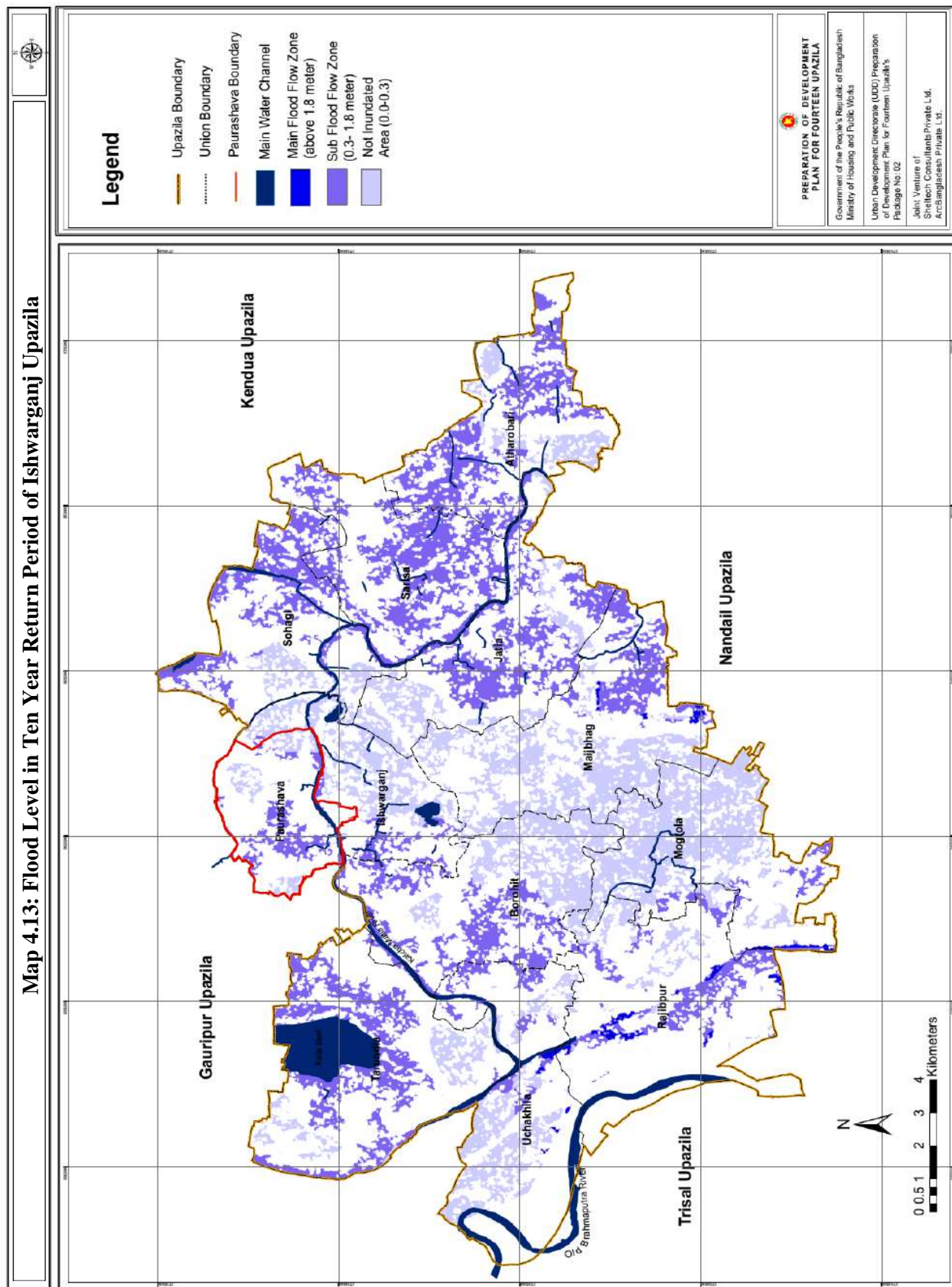
Table 4. 9: Hydrological Land Suitable Area

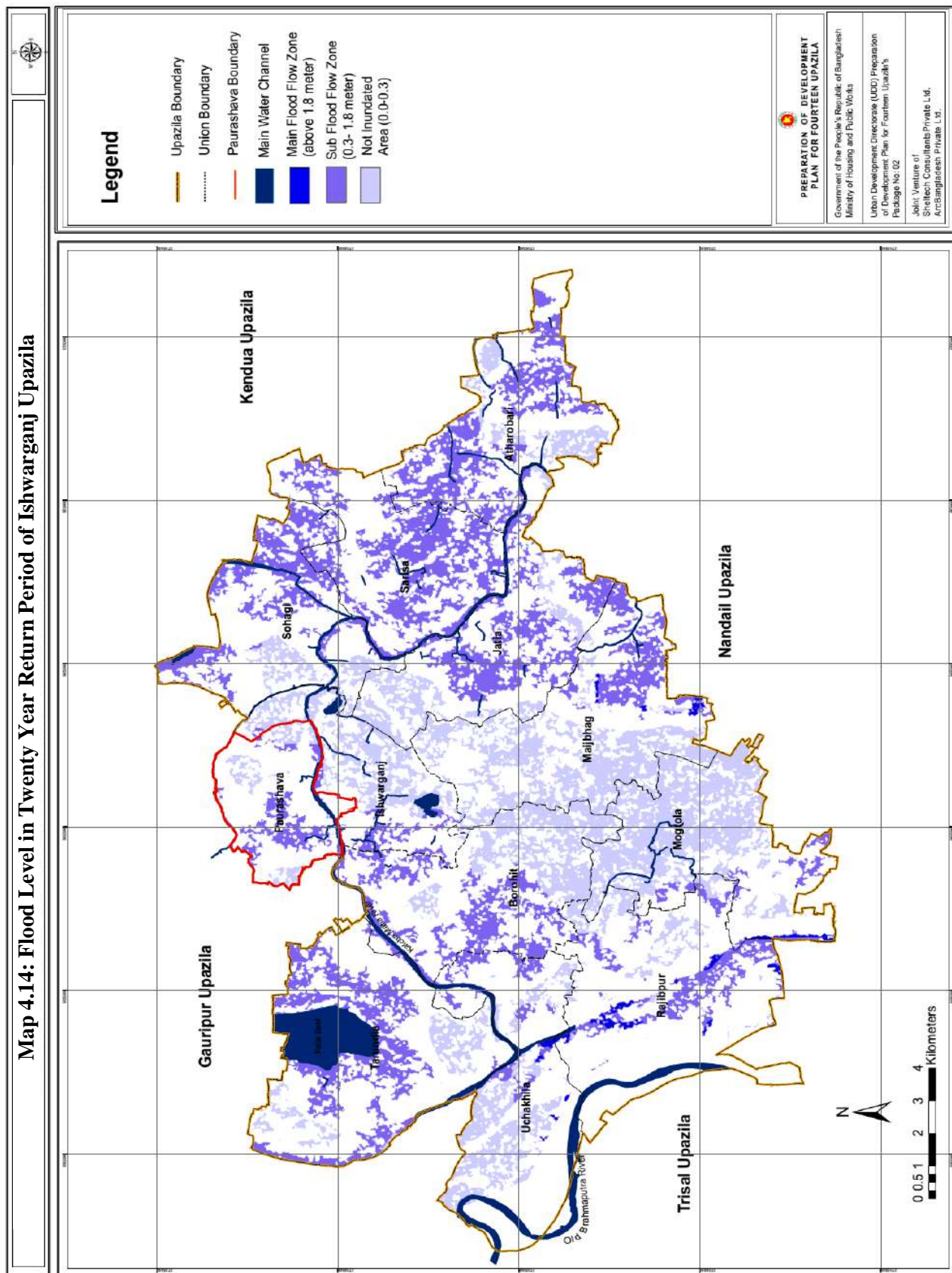
Category	Area (Acres)	%
Not Inundated	13970.11	51
Sub-Flood Flow Zone	13064.08	48
Main Flood Flow Zone	268.28	1
Total	27302.47	100

Map 4.11-4.14 Shows Land Inundated Area During Last 2,3,5,10 and 20 Years in Ishwarganj Upazila. In this suitability analysis of Ishwarganj Upazila it shows 4 categories of land inundation type i.e; not suitable for other use or waterbodies, suitable for agriculture, moderately suitable for other uses and area which are not inundated. Most of the area of Ishwarganj has been found not inundated. Suitable land for agriculture has been found in most of the parts of Tarundia, Sohagi, Sarisa and Jatia and some parts of Borohit and Atharobari. Moderately Suitable land for other uses has been found mainly in Mogtola, Maijbagh, Ishwarganj and some parts of Atharobari, Jatia and Uchakhila.









4.10 Agricultural Suitability

To identify the best suitable area for agriculture and analysis has been conducted using water depth, slope and cropping intensity. These following factors has been incorporated in the following way.

Raster Calculation

"Cropping Intensity" * .6 + "Depth of water" * .4

Table 4. 10: Weightage Criteria for Agricultural Suitability

Weightage Criteria	%
Cropping Intensity	60
Depth of water	40
Total	100

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

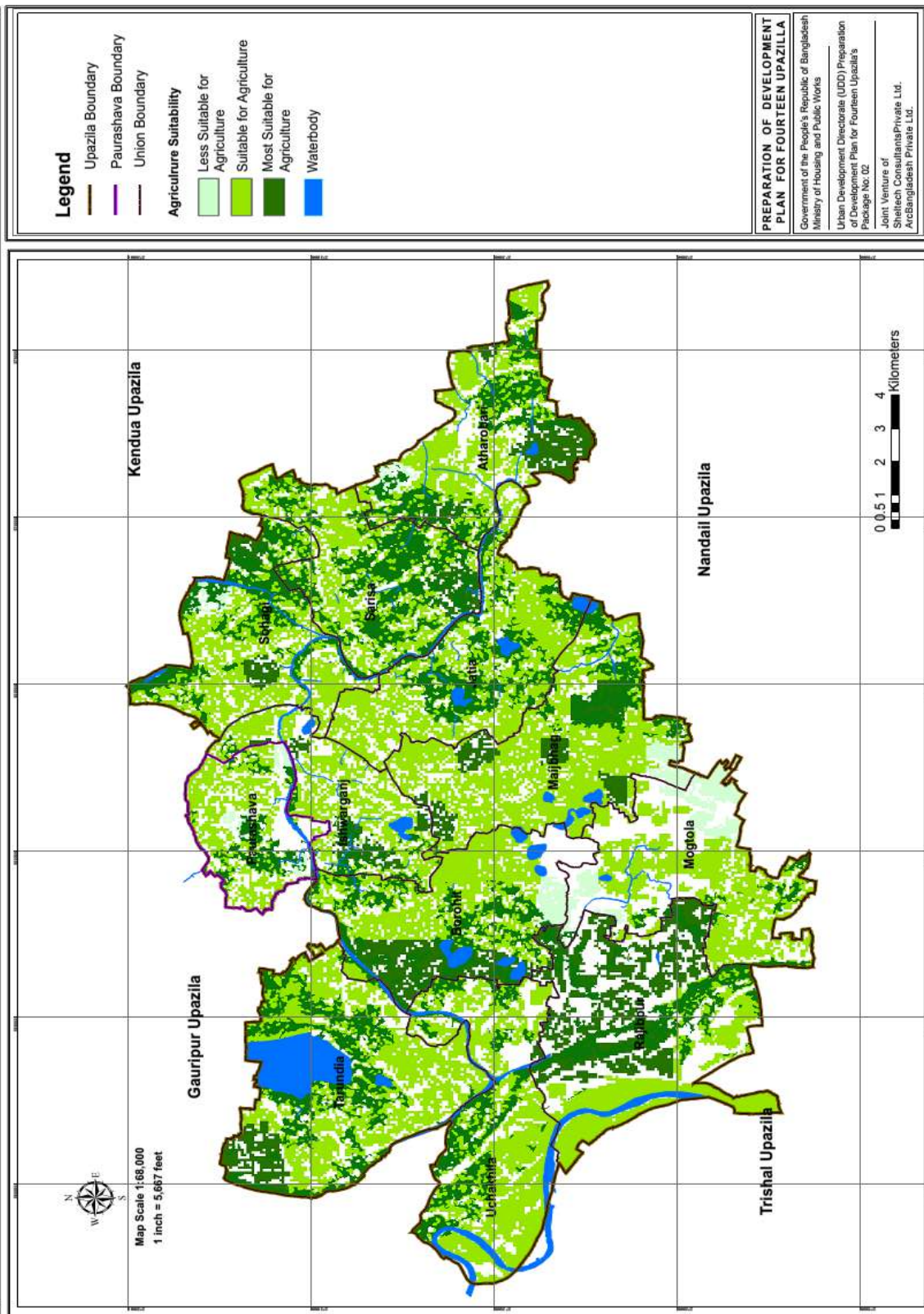
Depth 0.9 – 1.8m = Single Crop Land

Table 4.11: Agricultural Land Suitable Area

Suitability	Area(Acre)	%
Less Suitable for Agriculture	1899	3.34
Suitable for Agriculture	47569	83.68
Most Suitable for Agriculture	7381	12.98
Total	56849	100

Map 4.15 shows the Agricultural land suitability of Ishwarganj Upazila. Tarundia, Borohit, Rajibpur, Sohagi, Sarisa and Jatia a union has been most suitable for agricultural purpose. On the other hand, many small parcel of lands are scattered all over Uchakhila , Rajibpur and Mogtola Union.

Map 4.15 : Land Suitability for Agriculture of Ishwarganj Upazila



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 4.12: 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
Total	100

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”.

Table 4.13: Human Settlement Land Suitable Area

Suitability	Area (Acres)	%
Lowest Suitable	9123.93	25.88
Less Suitable	10213.9	28.97
Suitable	8490.41	24.08
More Suitable	5310.51	15.06
Most Suitable	2117.32	6.01
Total	35256.1	100

Based on the 5 criteria described above the human settlement suitability these analysis has been conducted. **Map 4.16** Shows human settlement land suitability of Ishwarganj Upazila. The output of the analysis has been showcased into maps which shows the most suitable part of the Upazila for the focused practices. From the analysis it has been found that Paurashava, Ishwarganj and some parts of Mogtola 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 Ishwarganj Paurashava. And moderate suitable land for human settlement has been found all over Ishwarganj Upazila except Sarisa.



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. 14: Weightage Criteria for Urban Suitability Analysis

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

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.

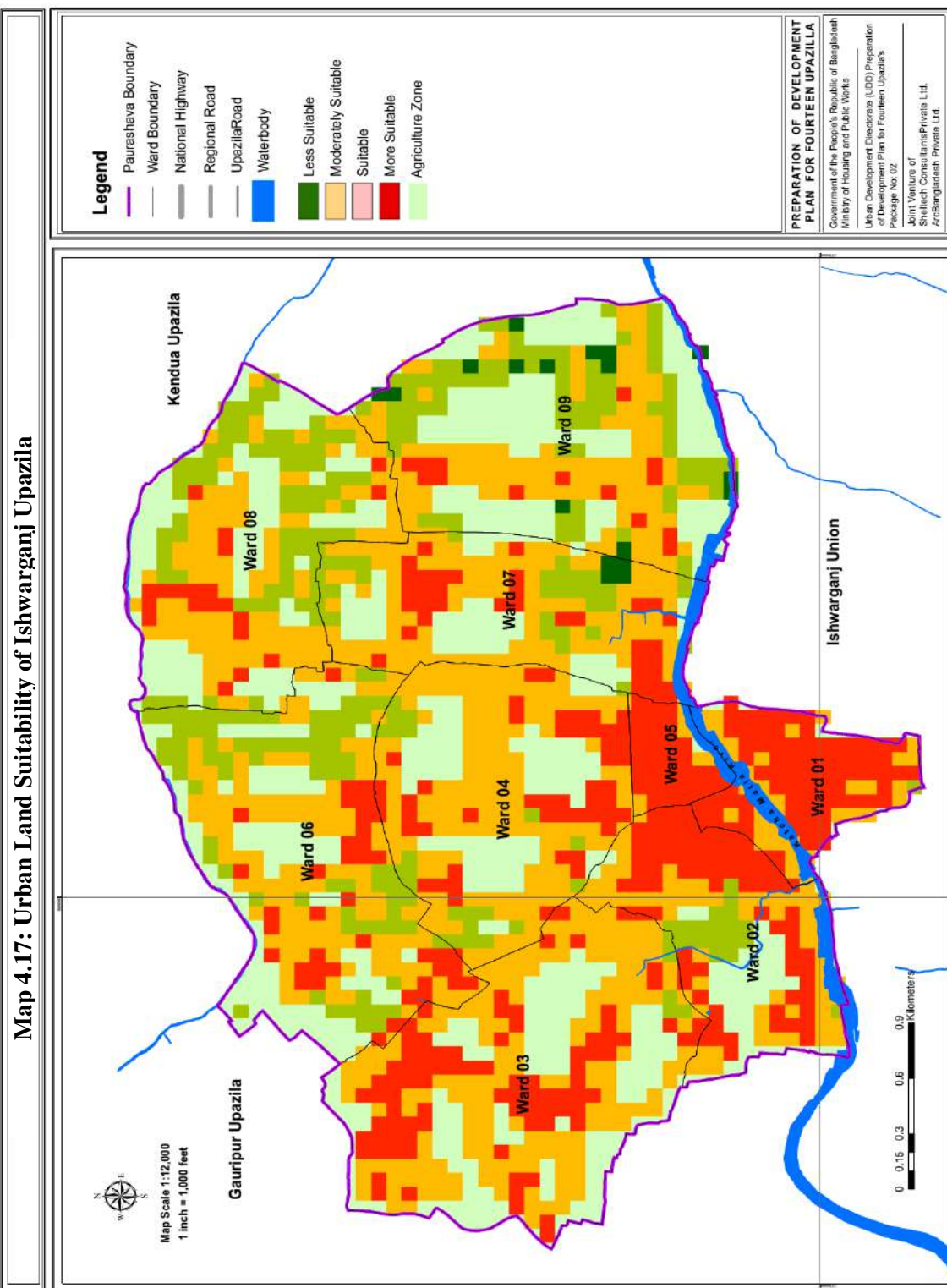
Proximity to road = Proximity to Road influenced the human settlement suitability according to road type. (Katcha = 1; Semi pucca= 2; Pucca =3)

Infrastructure Suitability = Infrastructure Suitability positively influenced human settlement suitability from “poor” to “very good.

Table 4.15: Urban Land Suitability

Criteria	Area(Acre)	%
Less Suitable	23.70117	1.03
Moderately Suitable	443.7349	19.27
Suitable	1246.685	54.14
More Suitable	588.5167	25.56
Total	2302.638	100

Map 4.17 shows urban land suitability of Ishwarganj Upazila. Based on the human suitability analysis suitability for urban area has been delineated. The red color in the map shows the least suitable area for human settlement. As per the produced map indicates, least suitable area has been found in ward number 1, 5, 2, 3.



Chapter 5: Strategies and Policies for Sectoral Development

5.1 Economic Development

Policy-01: Light Industries Need to be developed to flourish the Industrial Sector Development

Justification: In order to accelerate the economic development of Ishwarganj Upazila in the long run, it is required to encourage the industrial establishment within Upazila area.

To control the haphazard in the midst of industrial development, measures will be undertaken as followed

- Following 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

Implementing Agency: BSCIC, DOE

Policy-02: Promote Agro based Industries in the Growth Centers

Justification: Ishwarganj Upazila is dependent on agriculture and small business through direct or indirect involvement. Emphasis is required for accelerating the economic development trend by restoring the economic base. Small growth Center should be developed in different union. Public and private investment should concentrate in these growth center. This policy will create opportunities for developing basic agro-based industries in Ishwarganj Upazila. Agro-based industries will help the existing producers to increase their earning and increase the employment opportunities through ensuring increased capacity.

Implementing Agency: Upazila Parishad, DOE

Policy 03: Promotion of Rural Growth Centers as Trading Hub of the Rural Area.

Justification: If National Business can be encouraged to locate in promoting Upazila, they will provide earning capacity for their locally recruited employees but the opportunity for services to be provide to support the businesses. The Upazila will assist central government in promoting Upazila as potential location for inward investments.

Implementing Agency: Paurashava, DOE, BSCIC

Policy 04: Employment Generation through Development of Potential Sectors

Justification: In order to sustain economic activity of the Upazila for longer period with proper sustenance, the area is disposed towards Agriculture and 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 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

Implementing Agency: BADC, DOA

5.2 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 targeted to make them adequate for convenience and comfort. For example, passenger shades, sufficient and footpaths are inadequate for balanced traffic management.

Implementing Agency: Paurashava, RHD

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 development.

Implementing Agency: Paurashava, RHD

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 promotion of modern motorized traffic, avoiding interruption, ensuring speed with motorized traffic.
- 10-20 feet plantation on road sides will be proposed.
- Separate service lane of 2.5m has been proposed in primary roads
- 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 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.

Implementing Agency: Paurashava, RHD

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

- To make environmental and economic balance provision of modern-motorized vehicles are kept
- To ensure safe movement of citizen, pedestrian pathway should be provided.

Implementing Agency: Paurashava, RHD

5.3 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 2033 through various means, including:

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

Implementing Agency: DPHE, Paurashava

Policy-02: Management of Toxic Waste from Industry.

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

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

Implementing Agency: DPHE, Paurashava, DOE

5.4 Agriculture Development.

Policy 01: Promotion Agriculture.

Justification: Promotion of agriculture would help raising income and savings to employment. The main objectives of agriculture sector is to increase production and simultaneously ensure value addition. Surplus from agriculture will help development of agro-based industries and investment in other productive sectors.

Policy 02: Conservation of Agriculture.

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

Implementing Agency: MOA, BADC

5.5 Open Space and Recreation

Policy-01: Ensuring Community Level Recreational Facilities

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.

Implementing Agency: Paurashava, Public/Private Sector

Policy 02: Development of Public Park

Justification: The initiative for increasing the standard of living, it will take the methods of developing the life style. It is of no doubt that preparing the Upazila area with healthy lifestyle practices will surely invest

in the well being of the locals. This will give the opportunity to be productive and enriching social elements to higher levels. This attempt is consisted with a list of targets as can be seen in the following;

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

Implementing Agency: Paurashava, Public/Private Sector

5.6 Housing Development

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

Justification: Upazila and Paurashava has to consider affordable housing facilities for the medium income households. Private sector will be operated for profit earning, the low income people will have access to these schemes. Thus to reduce unplanned development and settlement, the development authority may take measures for those groups. Also by providing with services and facilities, general people can be encouraged to build their own houses.

Implementing Agency: Paurashava/NHA

Policy 02: Densification of Residential Areas.

Justification: Housing category needed 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 is a highly densified area where vertical expansion is more pertaining rather than horizontal expansion. Developing on the vertical axis, it should be met with relevant policy standards.
- Periphery portion where land price is comparatively low, can be declared for low income groups.

Implementing Agency: Paurashav/NHA

Policy 03: Stop all illegal Construction.

Justification:

- Prevention of exceeding land carrying capacity
- Promotion of urban environment with low limits of corruption and stopping unauthorized establishments.

Implementing Agency: Paurashava/NHA

5.7 Ecology and Environment

Policy-01: Preservation of Ponds and Water bodies.

Justification: To ensure persistence of natural water bodies and fish resources as it is a crucial aspect from any benefit point of view but mostly 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

Identifying and conserving inland natural tanks as ponds are critical of the critical tasks that should be undertaken. These water bodies work as retention reservoir for aquatic resources and furthermore hosts cultivation and vital components to retain ecological balance.

Implementing Agency: Paurashava, LGED, DOE

Policy 02: Treatment of Industrial Waste before Discharging into Rivers.

Justification:

Ensuring safe discharge of waste water into river systems carries significance which is unparalleled to any other measure in order to preserve environment. This reckless act of disposing waste water untreated into aquatic system invites threats that places ecosystems in ruination. Aquatic life is obliterated due to disturbing the overall temperature of the system and water is tainted on levels that it becomes irremediable. Consecutively, the ecosystem as a whole or the ecological environment is vandalized. This threatens the end consumers, humans and other species as well. The motives which drives the policy would be;

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

Implementing Agency: Paurashava, DOE

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

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

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

Implementing Agency: Paurashva, LGED

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/non-structural measures), mitigation, Preparedness techniques against any natural disaster through comprehensive disaster risk management.

To reduce the impact of hazards similar measures will be undertaken which are;

- Embankments, flood control suice gates and other structural interventions
- Introducing Early Warning System
- Providing multi-purpose cyclone shelters for declining vulnerability when hazard strikes as well as using for academic benefits during times of nonhazardous phenomenon.

Implementing Agency: Paurashav, BWDB, LGED

Policy-05: Pollution Control

Justification: Pollution level such as water, air and soil pollution rate is very low. Besides air and soil pollution rate is also negligible. But this should not allow increasing pollution rates. To ensure safe environment for the Paurashava area, maintenance of the surface water quality is vital.

To control pollution following measures will be required:

- Make surface waters free from domestic wastes and other toxic wastes which require proper waste management
- Riverside dumping needs to be restricted and dumping site has to be located through prescribed land use planning
- Discourage the high hazardous industries (Only Green Category Industries of DOE)
- Excessive pesticides and fertilizers use in Agriculture field causes soil pollution, therefore it is required to follow the Pesticides law, 1985

Implementing Agency: Paurashava, DPHE, DOE

Policy-06: Ensuring Safe Sanitation for All

Justification: There exist two types of latrine viz. Katcha and Pucca. Besides, dumping of solid wastes in a manner also to be known as littering is a common phenomenon. To follow up these practices with fitting remediation the following points are to be considered;

- Dumping Site and solid waste transfer sites demarcation in Land Use Plan through 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

Implementing Agency: Paurashava, DPHE, DOE

5.8 Heritage Development**Policy01: Conservation of Heritage Site.**

Justification: Ishwarganj Upazila is famous for the cultural heritage. Some of the existing historical heritage site of Ishwarganj is Sonaimuri pahar, jomidar Mohon Shahas home, Dhupirtech Buddh Paddn Mandir, Jankhartech purakriti, Tomb of Shah Mansur and grave of Shaheed Asad are mentionable.

- 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.

Implementing Agency: Paurashava, MoEF

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.

Implementing Agency: Paurashava

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 crucial for development project which directly or indirectly contains the variables of structural growth. In order to evaluate sustainability and ensuring long term investment security considering the associated risks of project components is an unavoidable measure. Risk is not uniform to every segment, it in terms of hazard and vulnerability of an area change its point of influence. Giving fair amount of effort to this case of concern was not overlooked in this development initiative of this Upazila as well. Study has gone to lengths of assessing contemporary conditions and afflictions of the target Upazila to accumulate data in order to be set for preventive measures for collective betterment of the future.

6.2 Existing Risk Scenario

The assessment in this regard was to discern how much of the existing structures are susceptible to risk containing factors. Risky structures are mainly found in the core area of Ishwarganj Paurashava. These verdicts were made on the basis of Federal Emergency Management Agency (FEMA) which follows and analyses through eight categories of lenses to assess existing data. The conducted measures were taken into account the basis of Overhanging, Soft story, Pounding, Set back, Short collum, Ground set, Mobile tower and Titlting. Risk analysis has observed to define structures in a spectrum where three classes has been distinguished. About 22 structures are denoted highly risky, 68 structures as moderately risky and 146 structures as less risky.

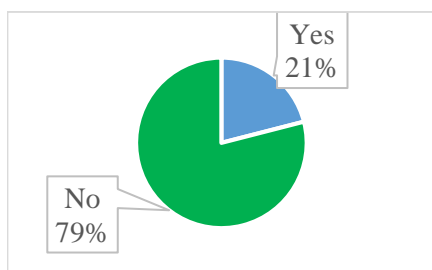


Fig 6.1: Short Collum

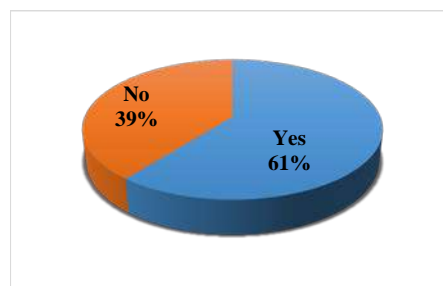


Fig 6.2: Set Back

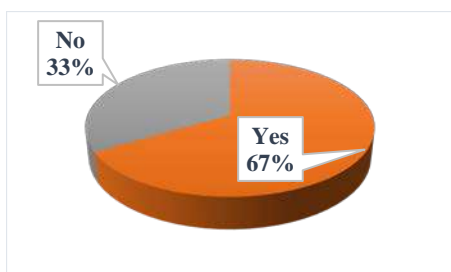


Fig 6.3: Overhanging

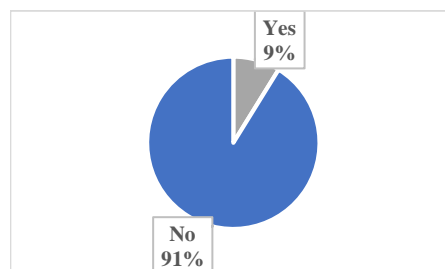


Fig 6.4: Soft Story



Photograph 6.1: Short Collum



Photograph 6.2: Overhanging



Photograph 6.3: Set Back



Photograph 6.4: Soft Story

In the Ishwarganj Paurashava within the core area about 142 structure are found to be risky. Among them from a comparative analysis it has been revealed that about 14 structure are highly risky, 50 structure are moderately risky and 78 structures are less risky. Among them 128 pucca structure are found to be risky. **Map 6.1** Shows existing risky structure of Ishwarganj Upazila. Among the risky structures auditorium, bank, cinema hall, high school, college, Govt. Quarter, Govt. Offices, Upazila Server Station, Upazila Parishad, hospital, Fire Service, Madrashah, Mosque, NGO, Thana, shopping complex, etc. are important structure which are found to be risky. The vulnerable structure are found mainly in Bazar Area, Char Hossainpur, Charnikhola, Dhamdi, Dottopara, Joypur, Kakonhati, Kalibari, thana area etc. About 67% building (**Fig 6.3**) has overhanging and 79 % building (**Fig 6.1**) have short collum problems. Photographs Shows Vulnerable structure in Ishwarganj Upazila

On the other hand in other union risky structure are less than Paurashava. About 94 risky structure are found in all other risky zone. Among them 44 structures in Atharobari, 18 in Sohagi, 12 structures in Uchakhila and 20 structures are found in Mogtola. In these all other zone about 8 Structures are Highly Risky, 18 are moderately risky and 68 are less risky. Bank, Schools, Govt. Offices, Mosque, Mobile Tower are found to be main risky structures in those zones. Risky Structure are mainly found in Alinagar, Atharobari Bazar, Bogahuta, Gologonda, Madhupur, Roy Bazar, Sohagi Bazar, Uttar Bongaon area. No of risky structure are shown in the **Table 6.1** and **Table 6.2** with their structure use.

Table 6. 1: Important Structure of Paurashva/Atharobari Zone.

Name	Paurashava /Union	Name	Paurashav /Union
Palli Biddut Zonal office	Paurashava	Upazila Poverty Alleviation Office	Atharobari
Basic Bank Ltd	Paurashava	Diagnostic	Atharobari
Ishwarganj Girls School	Paurashava	Makbul Islam Govt. Primary School	Atharobari
Afjal Shopin Complex	Paurashava	Ray Bazar Girls High School	Atharobari
Zila Parishad Market	Paurashava	Agrani bank Ltd.	Atharobari
Pouro Sritishudho Market	Paurashava	Grameen Brand	Atharobari
Ishwargonj Sador Hospital Quarter	Paurashava	Darus Salam Zame Mosjid	Atharobari
Chor NiKhla high school	Paurashava	Ray Bazar Foytul Atif Zame Mosjid	Atharobari
Ishwargonj Sador Hospital Quarter	Paurashava	Mosjid Market	Atharobari
Baitul Quran Hafezia Madrasa	Paurashava	Teloyari Zame Mosjid	Atharobari
Upazila Lifestock Office	Paurashava	Teloari Ashrafia Madrasa	Atharobari
Upazila Sarver Station	Paurashava	Kamrul islam Bhuyan Complex	Atharobari
Chief Executive Officer Residence	Paurashava	Rupali Bank Ltd.	Atharobari
Baitul Quran Hafezia Madrasa	Paurashava		
Ishwarganj Fire Service	Paurashava		
Shonali Chinema Hall	Paurashava		
Lawer Somitty (Personal Bhabon)	Paurashava		
Ishwarganj Degree College	Paurashava		
Administrative Bhaban (Ishwarganj Thana)	Paurashava		
Ishwargonj Gov.Primary School	Paurashava		

Source: Field Survey, 2016

Table 6.2: Risky Structures of Ishwarganj Upazila

Structure Use	No of vulnerable Structure			Total
	Less Risky	Moderately Risky	Highly Risky	
Administrative	1	-	-	1
Commercial Activities	24	14	4	42
Community Facilities	2	-	-	2
Educational & Research	21	4	3	28
Government Office	15	6	1	22
Health Facilities	1	-	-	1
Miscellaneous	1	-	-	1
Mixed Use	5	5	3	13
Non-government Office	2	2	-	4
Recreational Facilities	2	-	-	2
Religious Facilities	2	2	1	5
Residential & Homestead	68	35	10	113
Transport & Communication	2	-	-	2
Total	146	68	22	236

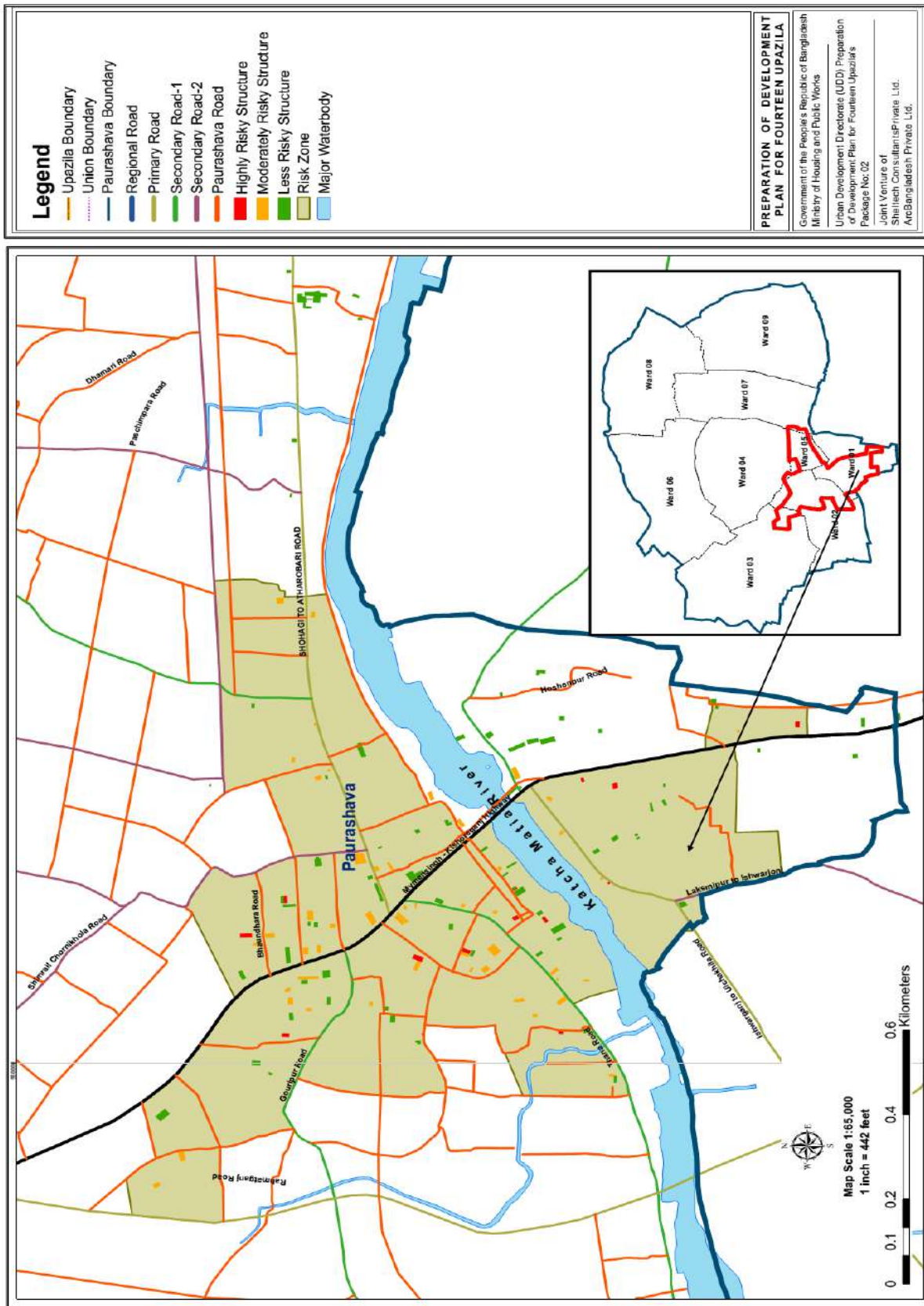
6.3 Contingency Plan for Minimizing Earthquake Risk

Ishwarganj Upazila falls in the earthquake zone II where the seismic coefficient is 0.05. So Ishwarganj 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 Ishwarganj Upazila are vulnerable. **Map 6.2** shows contingency plan of Ishwarganj Upazila. There are about 236 problematic structures in Ishwarganj Upazila. All are found to be vulnerable and risky. For these structure a contingency plan has been prepared to make sure safety of the structures in case of earthquake.

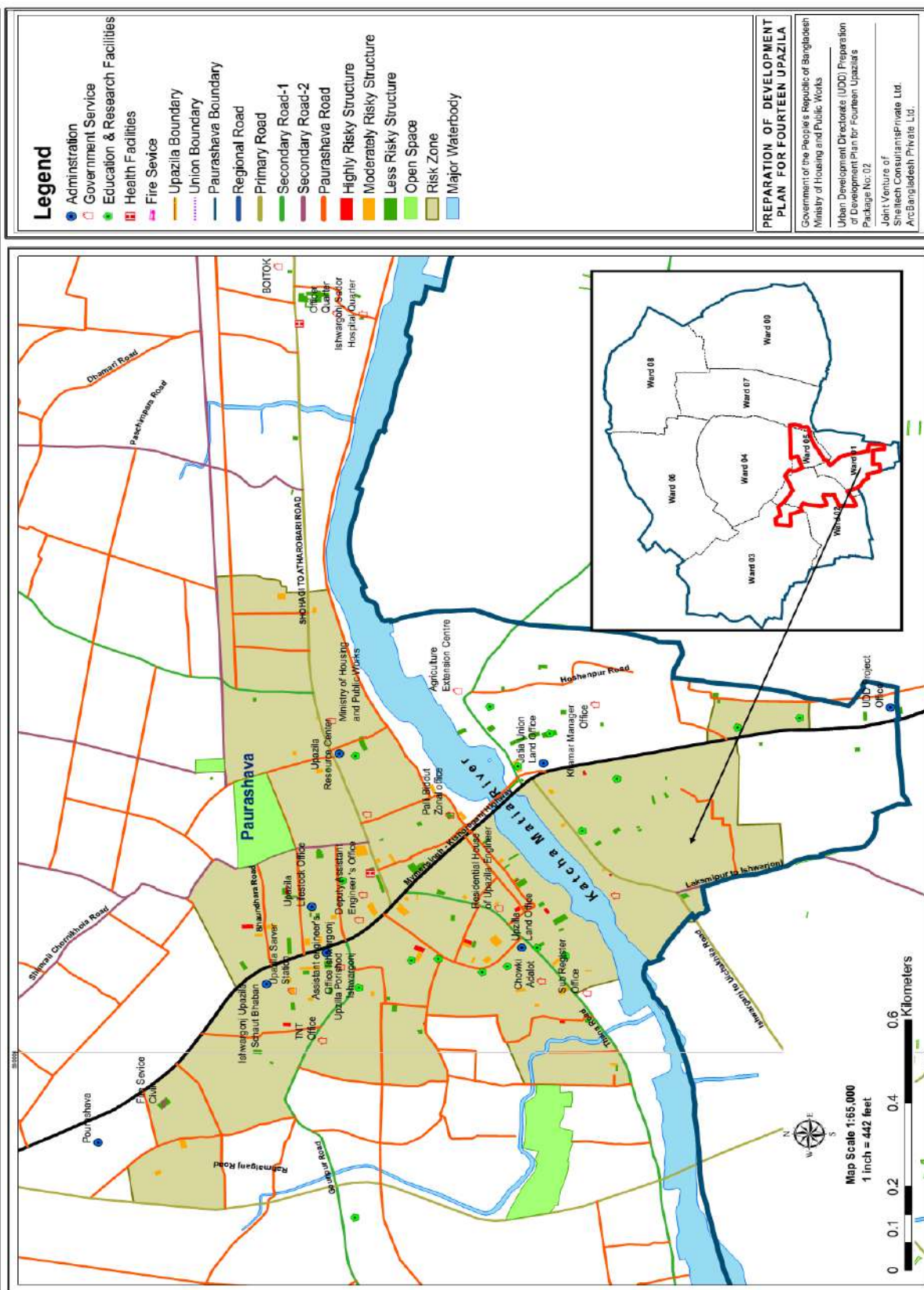
Planning Assumptions

- Earthquakes are impact type events and provide no 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.

Map 6. 1: Risk Structure of Ishwarganj Upazila (Paurashava Zone)



Map 6. 2: Contingency plan of Ishwarganj Upazila (Paurashava Zone)



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 Ishwarganj 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

Sector wise Contingency Action Plan

Table 6.3: Sector Wise Contingency Action Plan

Sectors	Actions	Physical Planning
Health	Preparedness planning for Community Clinic Mobilization of doctors and medical teams	Location of Clinic (Existing and Proposed) Connectivity with the Clinic
Food Security Cluster	Supply and distribution of Food and relief	Location of Godown and Food Storage
Shelter	Identification of Shelter Place	Location of Open Space and Safe Govt. Institution, multipurpose of Govt. School College
	Identification of the people needing shelter in camps	Proximity of this place
WASH	Restoration of water supply and drainage	Identification of water hydrant and reservoir
Logistics	Risk Assessment Accommodations facilities for humanitarian workers (tents)	Accessibility to the vulnerable locations
Fire Service	Preparedness planning for Fire Service	Location of Fire Service Station Fire Service Route Planning
Child Protection	Family training Coordinate with other sectors	
Early Recovery	Governance Debris Management	Waste Disposal Site locations

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 Ishwarganj 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 these 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 govt. 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 Govt. Institution**

Two hospitals have been identified in the whole Upazila. One is in the Paurashava area and another is in the Sohagi union risk zone. Besides these hospitals there are a lot of clinic in the whole upazila. There are one clinic near Ishwarganj Paurashava risk zone. 3 clinics are near Atharobari risk zone, 2 clinics are near Mogtola risk zone and 2 clinic is near Uchakhila risk zone.

- **Locating Open Space**

There are three large open space near Ishwarganj 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**

Ishwarganj 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 Kachamatia river flows through the Ishwarganj Paurashava which serves as the major water hydrant. Old Brahmaputra River can also serve as the water hydrant in the Mogtola 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 Ishwarganj Paurashava has been situated near the Paurashava building which is situated in Dottopara area. It is by the side of the main secondary road of Ishwarganj upazila. Hence it well connected with the risk zone areas. Besides these proper road widening has been conducted for proper maneuvering of the vehicles.

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 6.4**.

Table 6.4: Affected Structures due to Road Widening

Area	Structure Type	No of Structure
Urban	Katcha	475
	Semi-Pucca	300
	Pucca	205
	Under Construction	05
Rural	Katcha	1702
	Semi-Pucca	2100
	Pucca	171
	Under Construction	02
Total		4,960

Source: Field Survey, 2016

About 376 pucca structure, 2177 katcha structure, 2400 semi pucca structure has been identified to be effected due to road widening. Katcha and semi pucca structure are mainly affected in the Ishwarganj Upazila. Ishwarganj 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 Ishwarganj Upazila will be maximum against earthquake.

Chapter 7: Urban Area Plan

7.1 Introduction

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

7.2 Demarcation of the Planning Area

The Ishwarganj Paurashava area comprising 9 wards with an area of 12.75 sq.km (3152.60 acres). The proposed planning area has been estimated to be 13.53 km or 3344.93 acres that includes apart from the existing Paurashava area. The potential urban area within vicinity. Following **Table 7.1** shows planning area.

Table 7. 1: Planning Area of Ishwarganj Upazila.

Ward No.	Area	
	In Acre	In Sq.km
Ward 1	161.17	0.65
Ward 2	269.98	1.09
Ward 3	539.09	2.18
Ward 4	398.77	1.61
Ward 5	56.94	0.23
Ward 6	485.51	1.96
Ward 7	320.44	1.29
Ward 8	414.36	1.67
Ward 9	506.29	2.04
Newly Added Area	192.33	0.78
Total	3344.93	13.53

7.3 Structure Plan

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 10 years. Thus, Land use Plan is the reflection of Structure Plan policy which will be revised after 10 years. Urban Area Plan is segregated under some broad classes that will basically guide future growth with wide aspects. The landuse zone have been proposed for specific planning and shown the following **Table 7.2** and **Map 7.1**.

Agriculture Zone: Agricultural land denotes the land suitable for agricultural production, both crops and livestock. All types of agricultural activities such as crop production, vegetable production, and aquaculture practices will be dominant as well as aquaculture and poultry will be included in this zone. About 1712.44 acre of land has been proposed for agriculture purpose.

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 has the highest population concentration and density. About 484.08 acre of land has been proposed for Core Area.

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 192.33 acres of land has been proposed for Future Extension Area.

Future Urban Area: 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 142.82 acres of area has been proposed for Future Urban.

Major Circulation: Major circulation contains major road network with regional and national settings. About 151.59 acre of land has been proposed for major circulation.

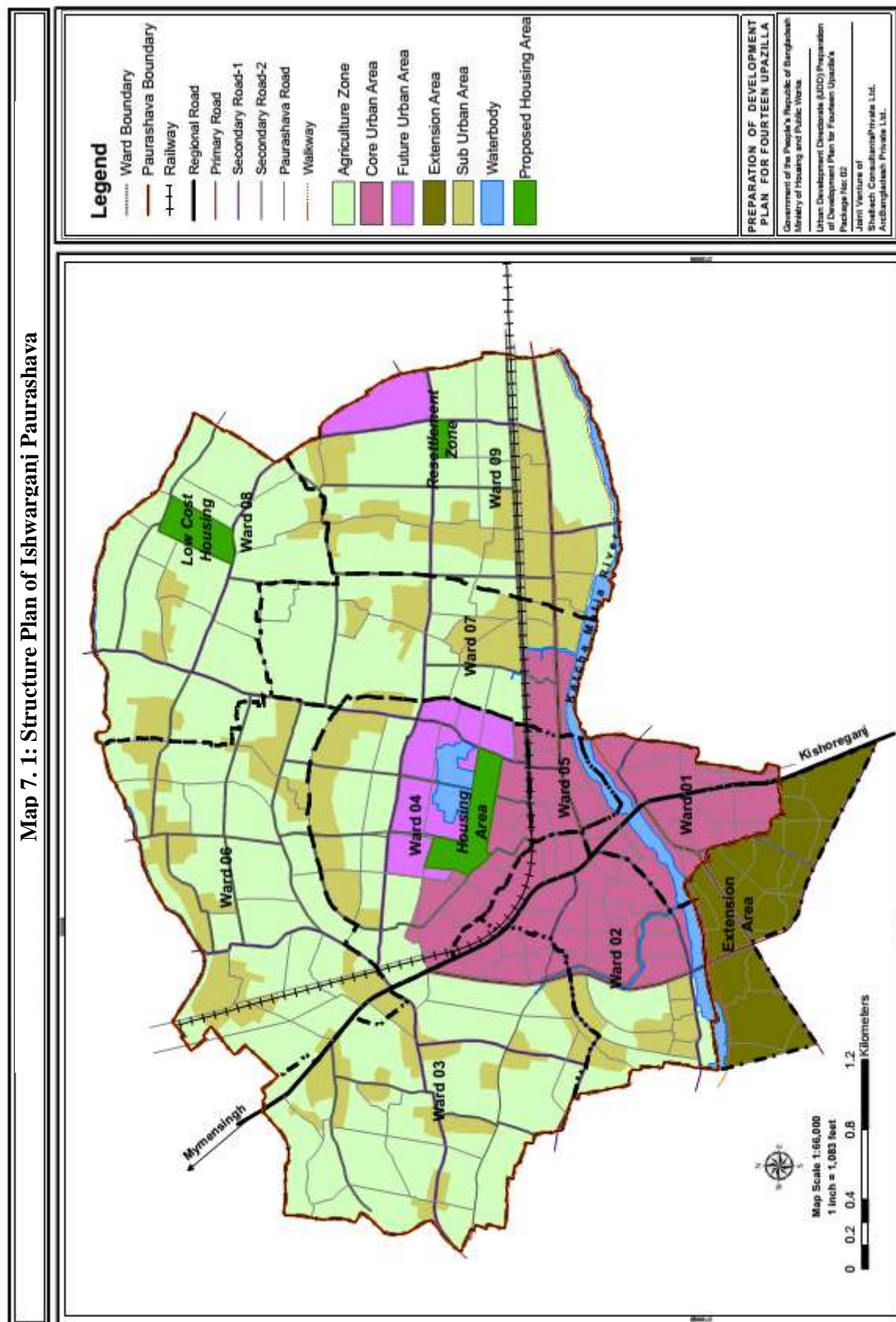
Sub Urban Area: This zone is developing areas which will take further decades to reach the population densities of the urban core area. About 576.09 acre area has been proposed for Sub-Urban Area.

Waterbody: Water body containing an area equals to or more than 0.25 acres excluding those of khal, irrigation canal and river will be treated as this category. About 85.57 acre has been proposed for waterbody.

Table 7. 2: Structure Plan of Urban Area

Zoing	Area(Acre)	%
Agriculture Zone	1712.44	51.20
Core Area	484.08	14.47
Extension Area	192.33	5.75
Future Urban Area	142.82	4.27
Major Circulation	151.59	4.53
Sub Urban Area	576.09	17.22
Waterbody	85.57	2.56
Total	3344.93	100

Map 7. 1: Structure Plan of Ishwarganj Paurashava



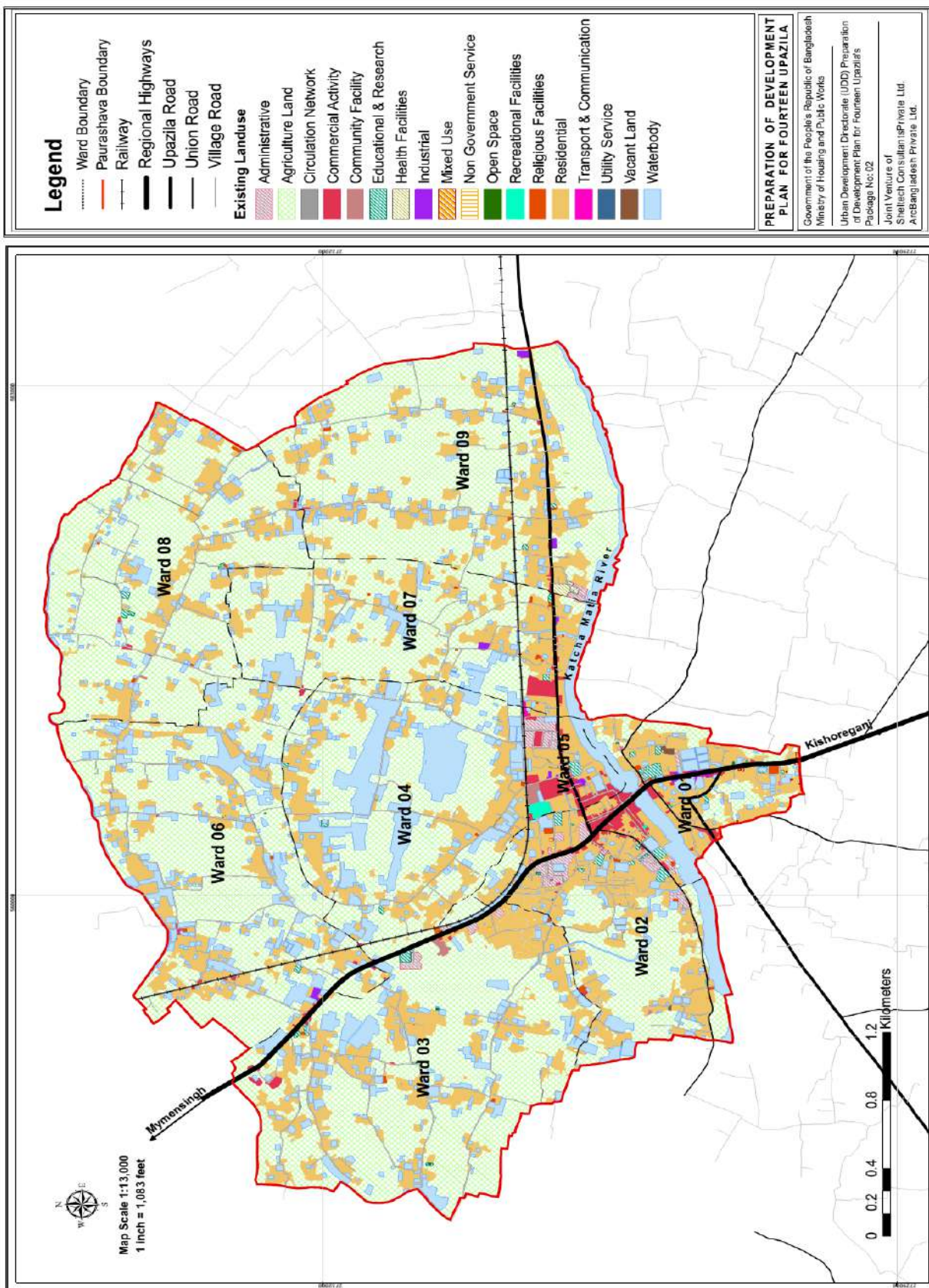
7.4 Existing and Proposed Land use

Landuse Plan follow statutory rules to control landuse according to planning standards. It is based on landuse policy standards, provision of infrastructure and services required and also some basic assumptions have been identified considering landuse category. The existing and proposed landuse have been presented on **Table 7.3** and shown in **Map 7.2** and **Map 7.3**

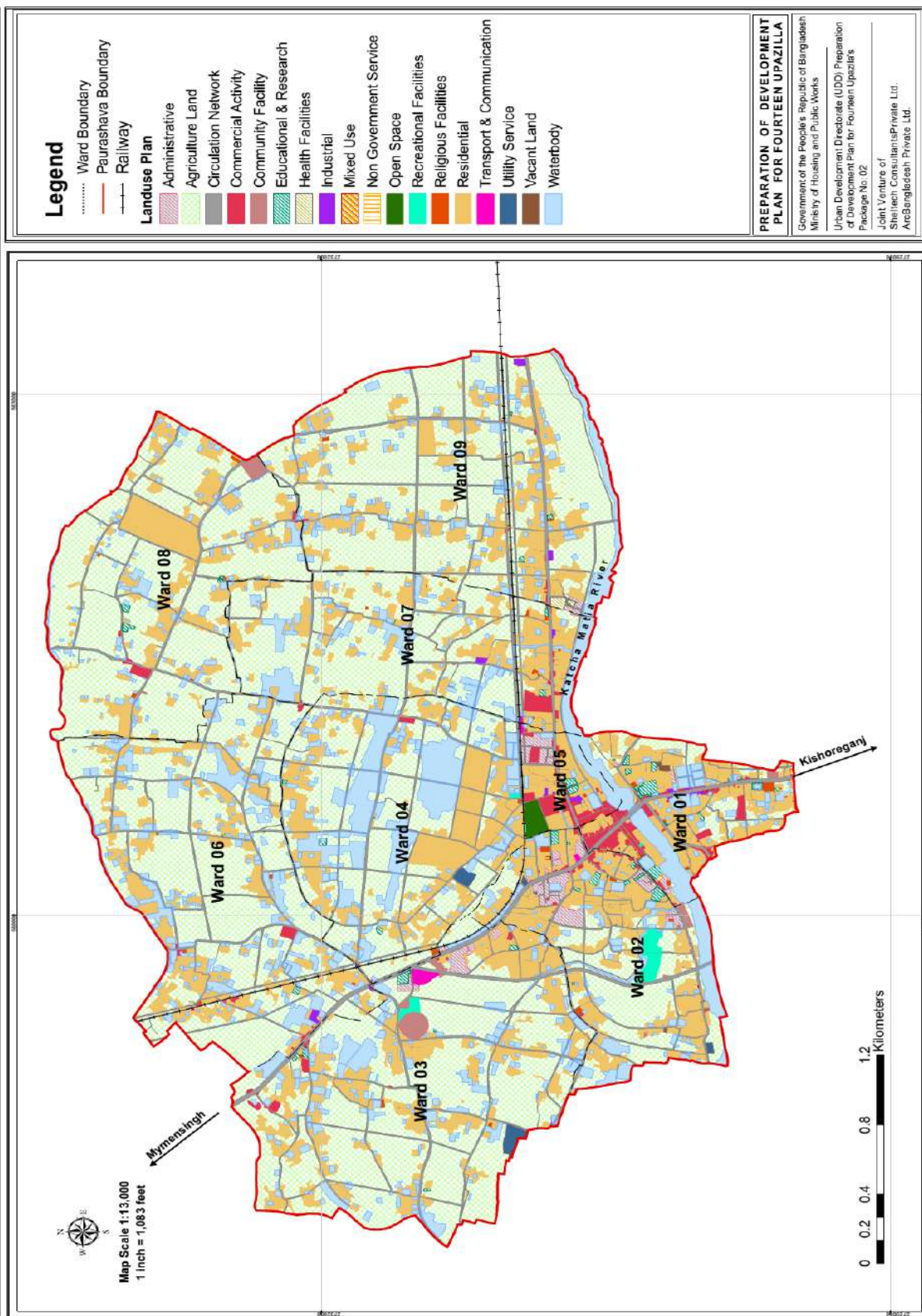
Table 7. 3: Existing and Proposed Land Use.

Landuse	Existing Landuse		Proposed Landuse	
	Area(Acre)	%	Area(Acre)	%
Administrative	25.12	0.80	32.84	1.04
Agriculture	1758.48	55.78	1495.49	47.44
Circulation Network	66.35	2.10	264.19	8.38
Commercial	36.37	1.15	45.71	1.45
Community Facilities	3.77	0.12	13.32	0.42
Educational Facilities	15.59	0.49	16.22	0.51
Health Facilities	1.93	0.06	1.93	0.06
Industrial	4.46	0.14	5.13	0.16
Mixed Use	0.80	0.03	9.62	0.31
Religious Facilities	7.83	0.25	8.56	0.27
Residential	793.37	25.17	795.38	25.23
Recreationa and Open Space	5.77	0.18	17.74	0.56
Transport & Communication	0.40	0.01	2.59	0.08
Utility Services	0.00	0.00	11.53	0.37
Waterbodies	432.35	13.71	432.35	13.71
Total	3152.60	100	3152.60	100

Map 7. 2: Existing Landuse of Ishwarganj Paurashava



Map 7. 3: Landuse Plan of Ishwarganj Paurashava



Administrative

Administrative landuse covers all kinds of government offices and Non-Government Offices including existing and proposed uses. Total 32.84 acre land has been proposed for administration. Auditorium and future government office (about 7.37 acres) has been proposed at ward 2 and 3. Currently 25.12 acre of land is being already used for administrative purposes. Future Government office and Auditorium has been proposed at ward no 02. And 03. **Table 7.4** shows the proposals to meet up the demand of projected people.

Table 7. 4: Proposals for Administrative Facilities.

Proposals	Area (acre)	Ward	Mauza JI Sheet	Plot No
Auditorium	0.35	02	Dottopara 221 003	4129
Future Government Offices	7.37	02,03	Dottopara 221 002	2723,2729-2731,2740-2743,2746-2751,2757
			Dottopara 221 001	1252- 1259,1340,1381
Total	7.72			

Agricultural Area

About 1495.49 acres land has been proposed to protect agriculture from unplanned development and it should be preserved unless other facilities need to occupy.

Circulation Network

Circulation Network refers to all kind of roads along with related facilities; footpaths, walkways, embankments and railway. About 264.19 acres of land have been proposed for circulation network at Paurashava whereas at present about 66.35 acre of land have been used for these purposes.

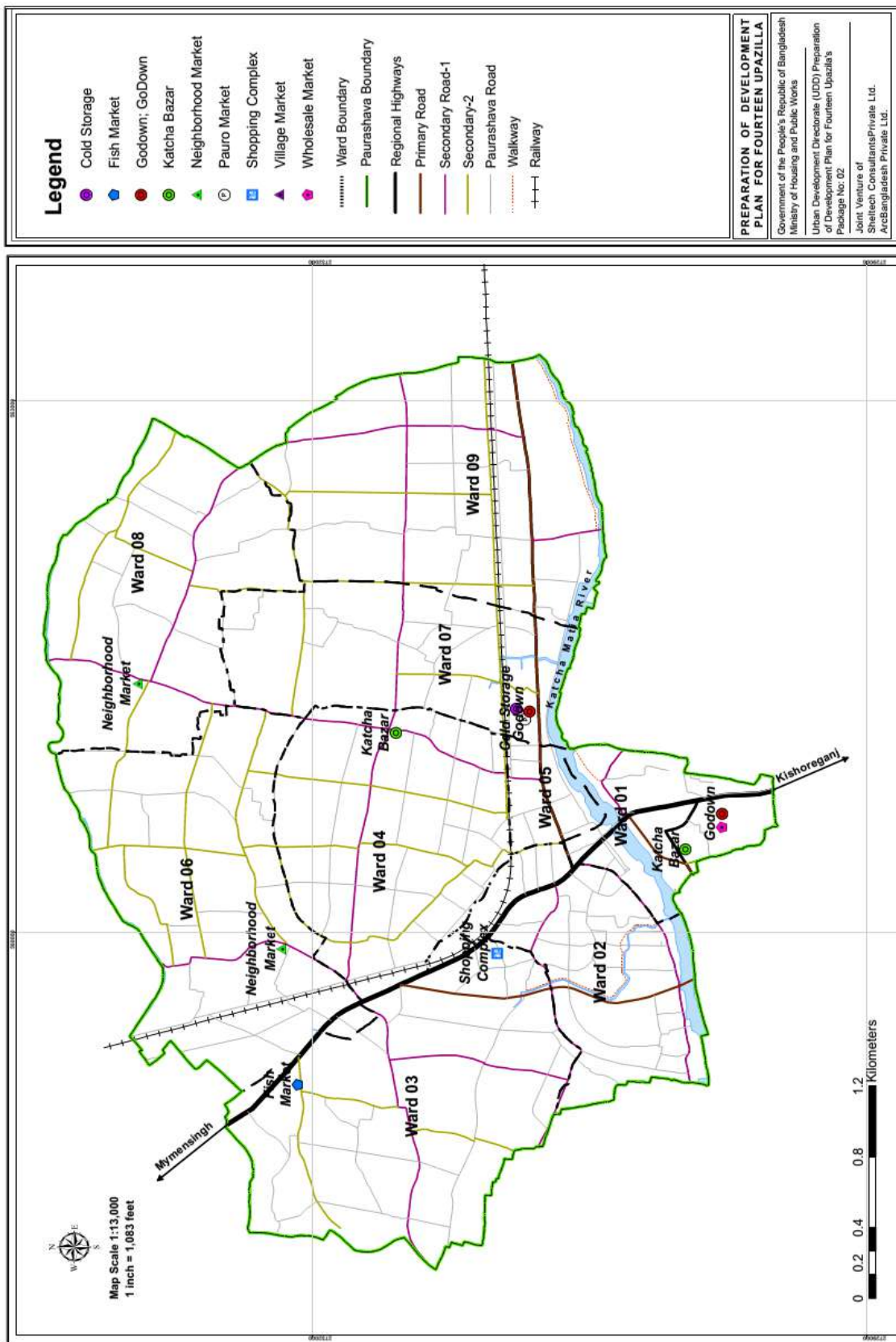
Commercial Activities

About 36.37 acres of land have already exist as commercial purpose. In response to the requirement, about 45.71 acres of land has been proposed for future development. Shopping Complex, Pauro Market, Kitchen Market etc. have been proposed at different ward. **Table 7.5 and Map 7.4** shows the proposals of commercial landuse.

Table 7. 5: Proposals for Commercial Activities

Proposals	Area (in acre)	Ward	Mauza JL Sheet	Plot No
Cold Storage	0.64	07	Dhamdi 219 000	1044
Fish Market	0.71	03	Dottopara 221 001	241,282
Godown	1.06	01	Chorhosainpur 187 004	4130
Kitchen Market	1.14	04	Chornikla 220 001	1193,1207
		01	Chorhosainpur 187 004	4008,4031,4032
Neighborhood Market	2.40	06	Shimrail 222 000	324-326
		08	Paibhakuri 217 000	310-314
Pauro Market	2.16	07	Dhamdi 219 000	1044
Shopping Complex	0.27	03	Dottopara 221 001	1353,1362
Wholesale Market	0.93	01	Chorhosainpur 187 004	4140-4142,4145
Total	9.34			

Map 7.4: Proposed Commercial Zone of Ishwarganj Paurashava



Community Facilities

Community Facilities includes, Eidgah, Community Center and Graveyard etc. About 13.32 acres of land has been proposed for community facilities. Central Graveyard and Islamin Cultural Center have been proposed at ward number 08 and 02. **Table 7.6** and **Map 7.5** shows the proposals for Community and Religious facilities.

Table 7. 6: Proposals for Community Facilities

Proposals	Ward No	Area (in acre)	Mauza_JL_Sheet	Plot No
Central Graveyard	2.74	08	Kakonhati 216 001	342-350
Playground cum Eidgah	4.82	05	Chornikla 220 002	2005,2029-2032,2107,2117
Cultural Center	0.69	03	Dottopara 221 001	1177,1178,1187
Day Care Center	0.22	02	Dottopara 221 002	2599
Islamic Cultural Center	0.49	02	Dottopara 221 004	4264
Shelter Center	0.59	01	Chorhosainpur 187 004	4060,4094,4095
Total	9.55			

Religious Facilities

Religious Facilities includes Mosque, Temple and Church etc. About 8.56 acres of land has been proposed for Religious facilities. Masjid Complex has been proposed at ward number 02. **Table 7.7** Shows Proposed religious facility.

Table 7.7: Proposals for Religious Facilities

Proposals	Area (in acre)	Ward	Mauza JL Sheet	Plot No
Masjid Complex	0.73	02	Dottopara 221 004	4264
Total	0.73			

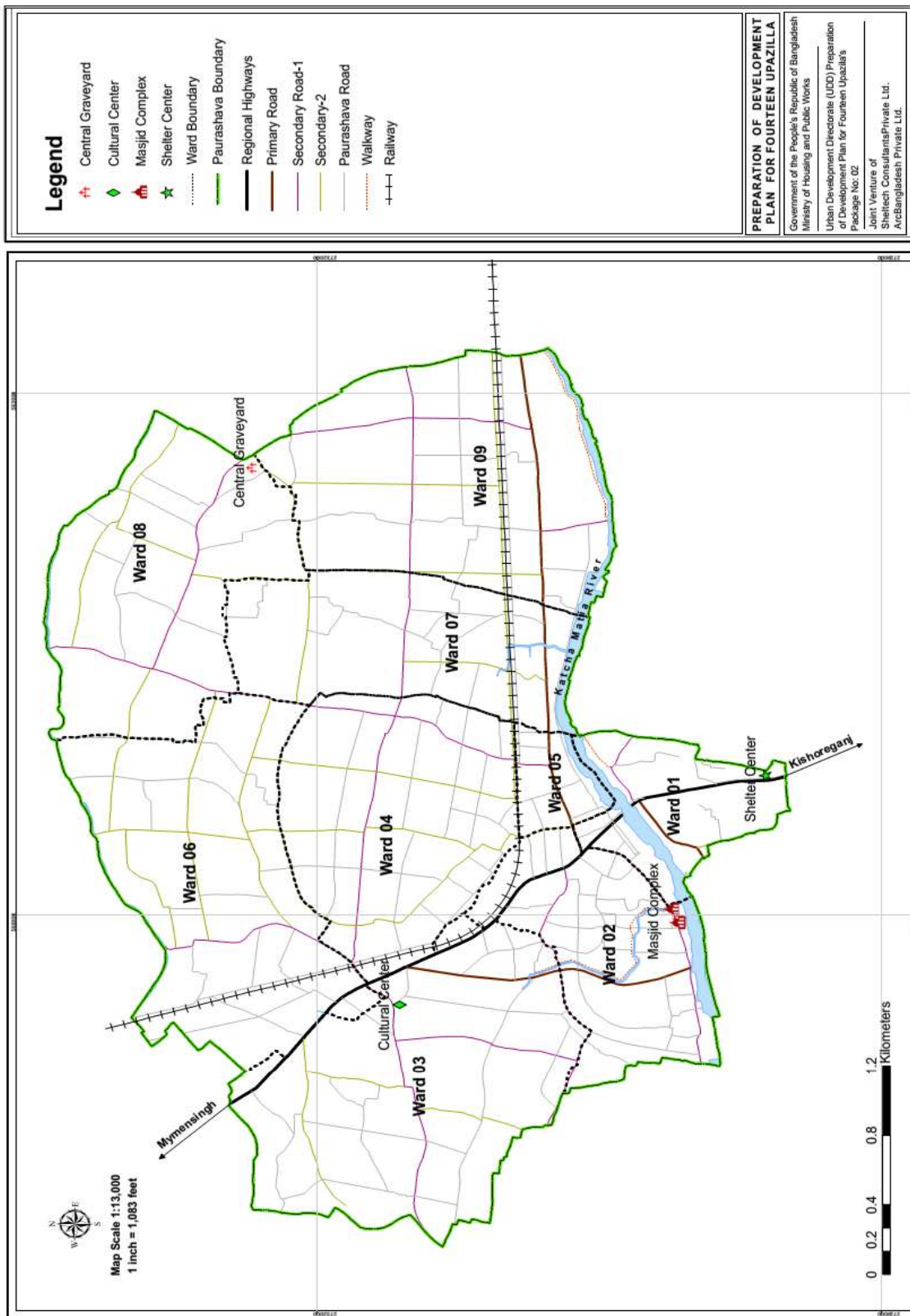
Educational Facilities

Educational zone refers all kind of educational institutes; School, Colleges, Madrasha etc and in the proposal, about 16.22 acre in total has been proposed for Education. **Table 7.8** and **Map 7.6** shows proposals for education and health facilities

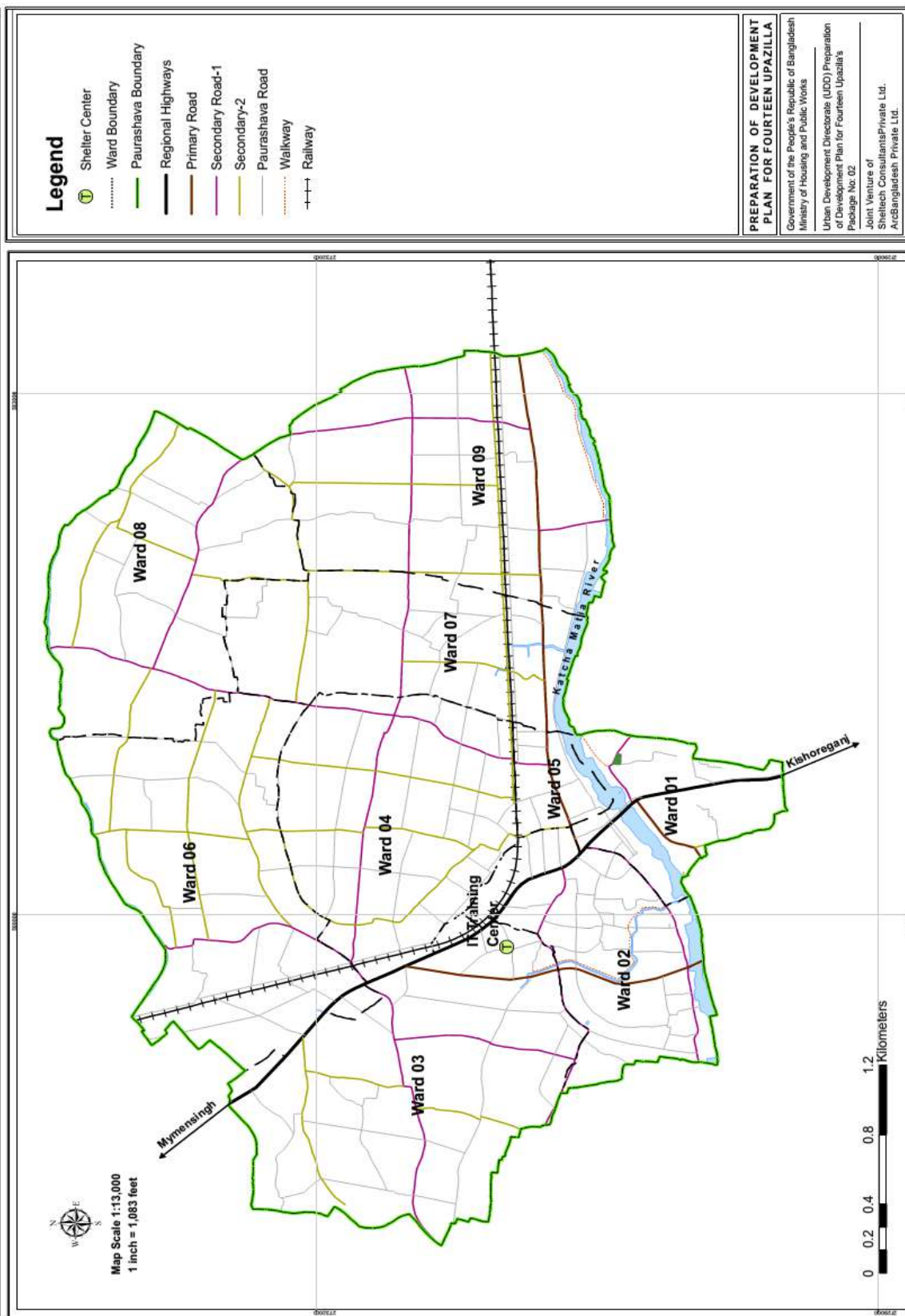
Table 7.8: Proposals for Education and Research

Proposals	Area(Acre)	Ward	Mauza JL Sheet	Plot No
IT Training Center	0.28	03	Dottopara 221 001	1356
Public Library	0.35	01	Chorhosainpur 187 002	214
Total	0.63			

Map 7.5: Proposed Community and Religious Facilities of Ishwarganj Paurashava



Map 7. 6: Proposed Education and Health Facilities of Ishwarganj Paurashava



Health Facilities

Health Facilities includes Upazila Health complex, Health center or Community clinic etc. Existing health facility would be fulfill future demand that's why new facility do not proposed.

Industrial

The plan needs to accommodate industries which have growth potentials related to the base of the economy of Paurashava. Due to the environmental and ecological conditions, the plan discourages growth of heavy industries in the planning area. About 5.13 acre has been proposed for industrial development.

Recreation and Open Space

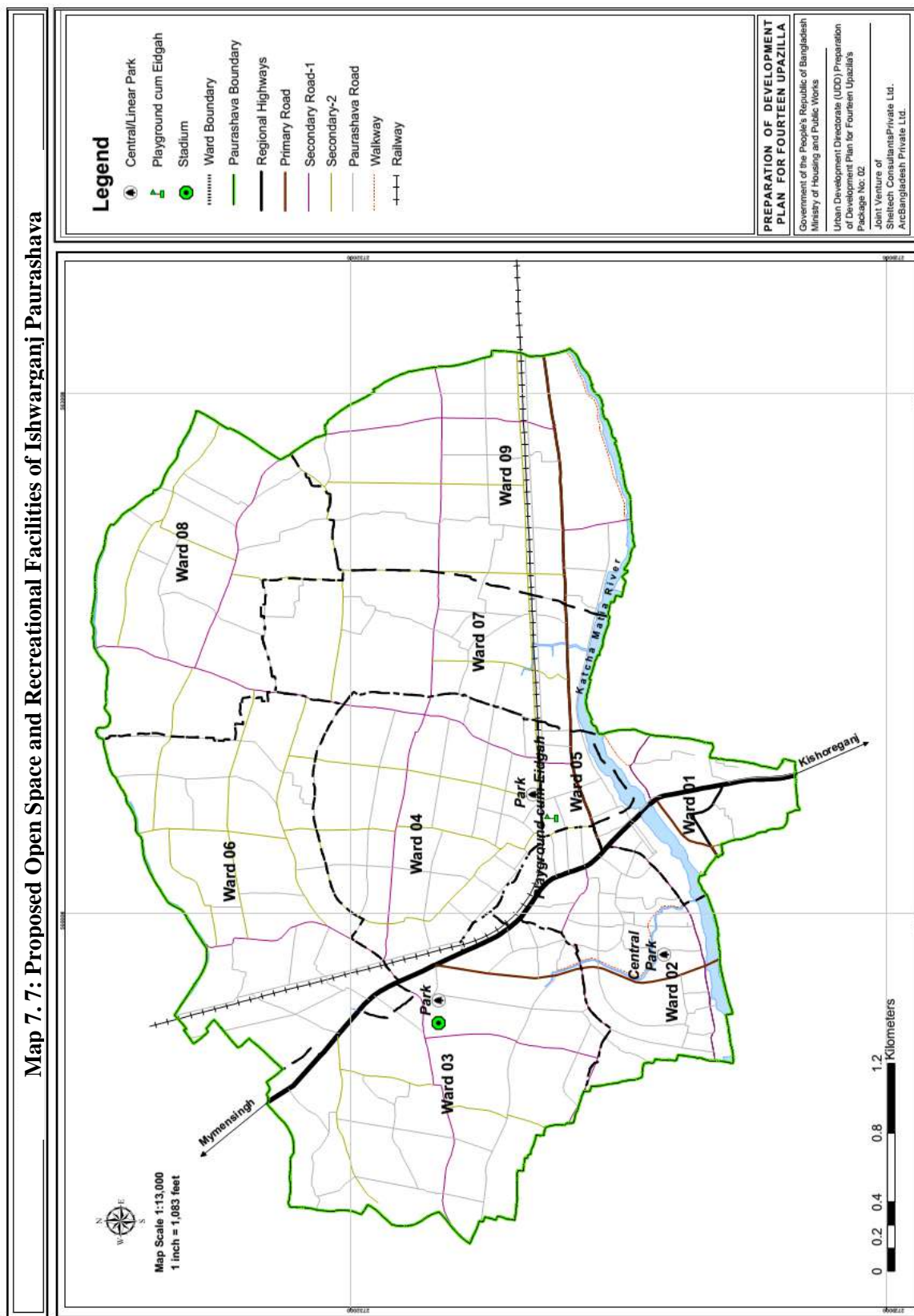
Recreational facilities includes playground, park, neighborhood park, Stadium, etc. No Recreational facilities exist in urban area. Considering future need about 17.74 acre of land has been proposed for recreational purposes. **Table 7.9** and **Maps 7.7** shows the proposed lands to meet up the demand of projected people.

Table 7. 9: Proposals for Open Space and Recreational Facilities

Proposals	Area (Acre)	Ward	Mauza JL Sheet	Plot No
Central Park	6.34	02	Dottopara 221 002	2421-2423,2602-2616,2820-2828
Stadium	4.01	03	Dottopara 221 001	1093,1094,1141,1143-1146,1151,1156,1161-1168,1175
Park	1.62	03	Dottopara 221 001	1151,1172,1173,1175,1176
		04	Chornikla 220 001	1606
Total	11.97			

Residential

Existing residential land of 793.37 acre has been found for residential purposes. A land of 795.38 acres in total has been proposed for future residential development at Paurashava



Transportat and Communication

Transporta facilities include Bus / Truck Terminals, Other Vehicle Parking Space, Gas/ Fuel Station, etc. Total 2.59 acres of land has been proposed including various facilities such as bus terminal, tempo stand and passenger shed etc.

Mixed Use and Others

Mixed use zones have been recommended to allow some flexibility in development. Total 6.89 acres of land has been proposed for mixed uses. This zone will allow residential structures together with commercial uses.

Utility and Waste Management

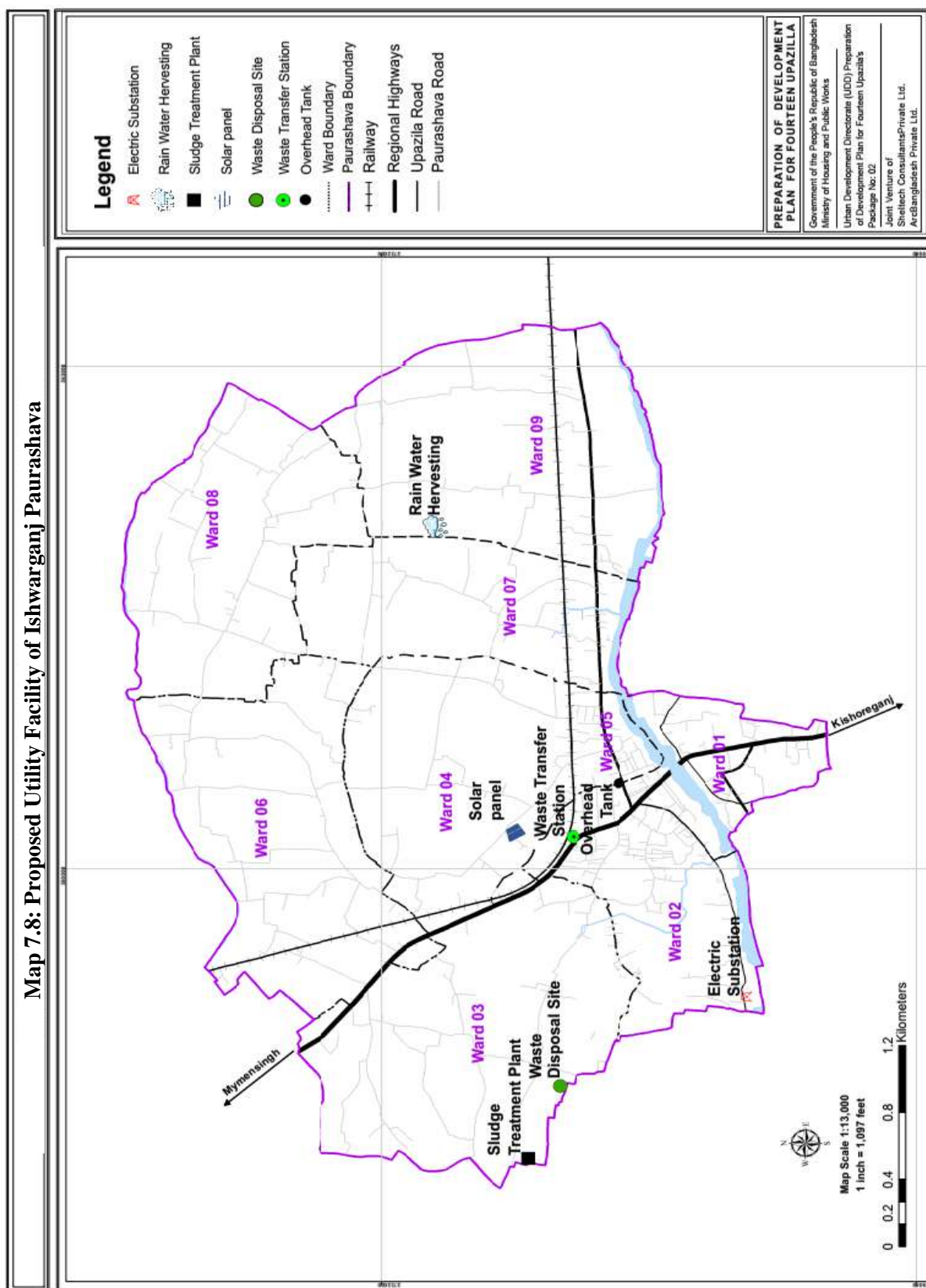
Utility and waste management includes Solid waste disposal site, waste transfer station, Water Treatment Plant and fire service etc. About 11.53 acres of land has been proposed in the Paurashava. **Table 7.10** and **Map 7.8** shows the proposal to meet up the demand of projected people.

Table 7.10: Proposals for Utility Facilities

Proposlas	Area (Acre)	Ward	Mauza JL Sheet	Plot No
Electric Substation	0.61	02	Dottopara 221 002	2531,2532,2533
Rain Water Hervesting	2.84	09	Kakonhati 216 001	450- 453,449
Sludge Treatment Plant	2.80	03	Dottopara 221 001	902-906,913-919
Solar panel	1.81	04	Chornikla 220 001	229,230,233,245-247
Waste Disposal Site	3.28	03	Dottopara 221 001	952,953,2007-2017
Waste Transfer Station	0.17	02	Dottopara 221 001	1384
Overhead Tank	0.02	05	Dottopara 221 001	4158
Total	11.53			

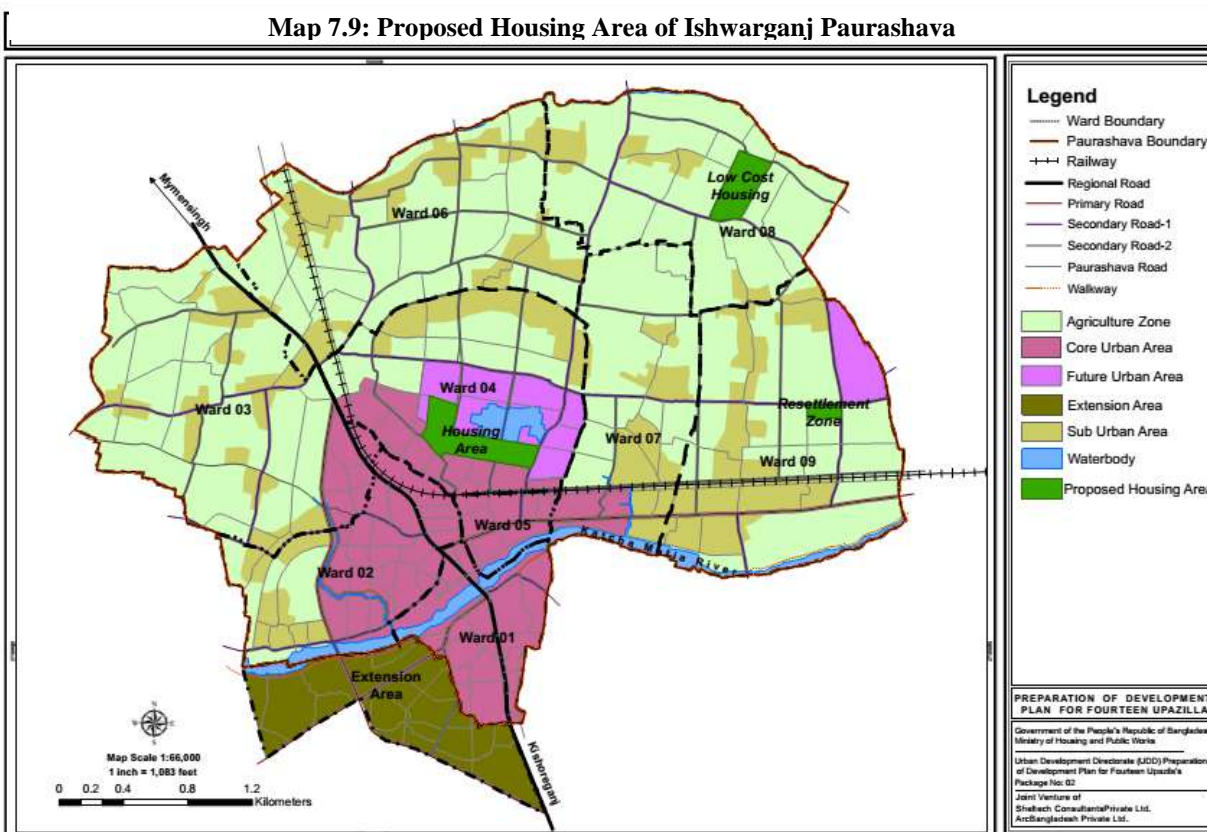
Water Body

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. In the proposal total 432.35 acres of water body has been proposed to preserve water.



7.5 Housing Development

The Paurashava covers an area of 12.75 sq.km with 9 wards. Average household size is 4.7. Existing household is 6092 and in 2033 it will be 8444 (Surplus household is 2353). Average plot size is 2833 sq.ft and to accommodate surplus household, it will be needed 306 acres of land which mention the gross residential area. On the other hand, according to ward area calculation, there are at present about 793.37 acres of land to accommodate future household. The proposed planning area has been estimated about 13.61 sq.km or 3364.66 acres. For this purpose there is no need for additional land for future population. The housing development in Paurashva area is haphazardly growth with lower quality. On the basis of above circumstance, the consultant has proposed about 57.21 acres of land for planned housing at ward 04, 08 and 09



7.6 Traffic and Transportation Plan

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 and establish appropriate traffic management system. The transportation system directs the development pattern of a particular area and largely influences the economy and social progress of the area. It provides mobility to people, goods and services to their destination. It has linkage with other sectors of development for a sustainable development. The circulation system has been provided in such a way that, to connect the outside Upazila and to provide a roundabout or circular pattern connectivity to all the major landuses.

7.6.1 Existing Conditions of Transport Facilities

Functional Classification

In Ishwarganj Paurashava, most of the roads are pucca. However, the overall road condition of Ishwarganj Paurashava is satisfactory and pavement condition is good. From the survey data, it has been observed that Paurashava area comprises of about 84.20 km roads. Among these about 54% roads are pucca which is followed by katcha (44%) and semi-pucca (2%) roads.

Roads of Ishwarganj 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 88.39 % are Paurashava roads followed by Upazila roads about 3.45 %. **Table 7.11** and **Map 7.10** shows existing road network of Ishwarganj Upazila.

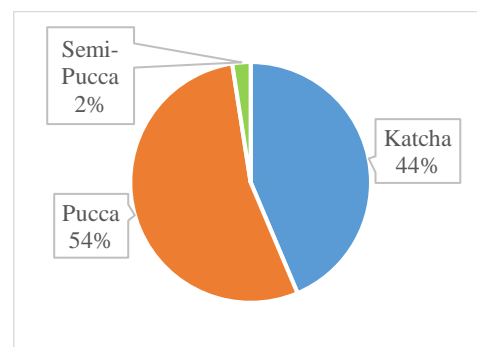
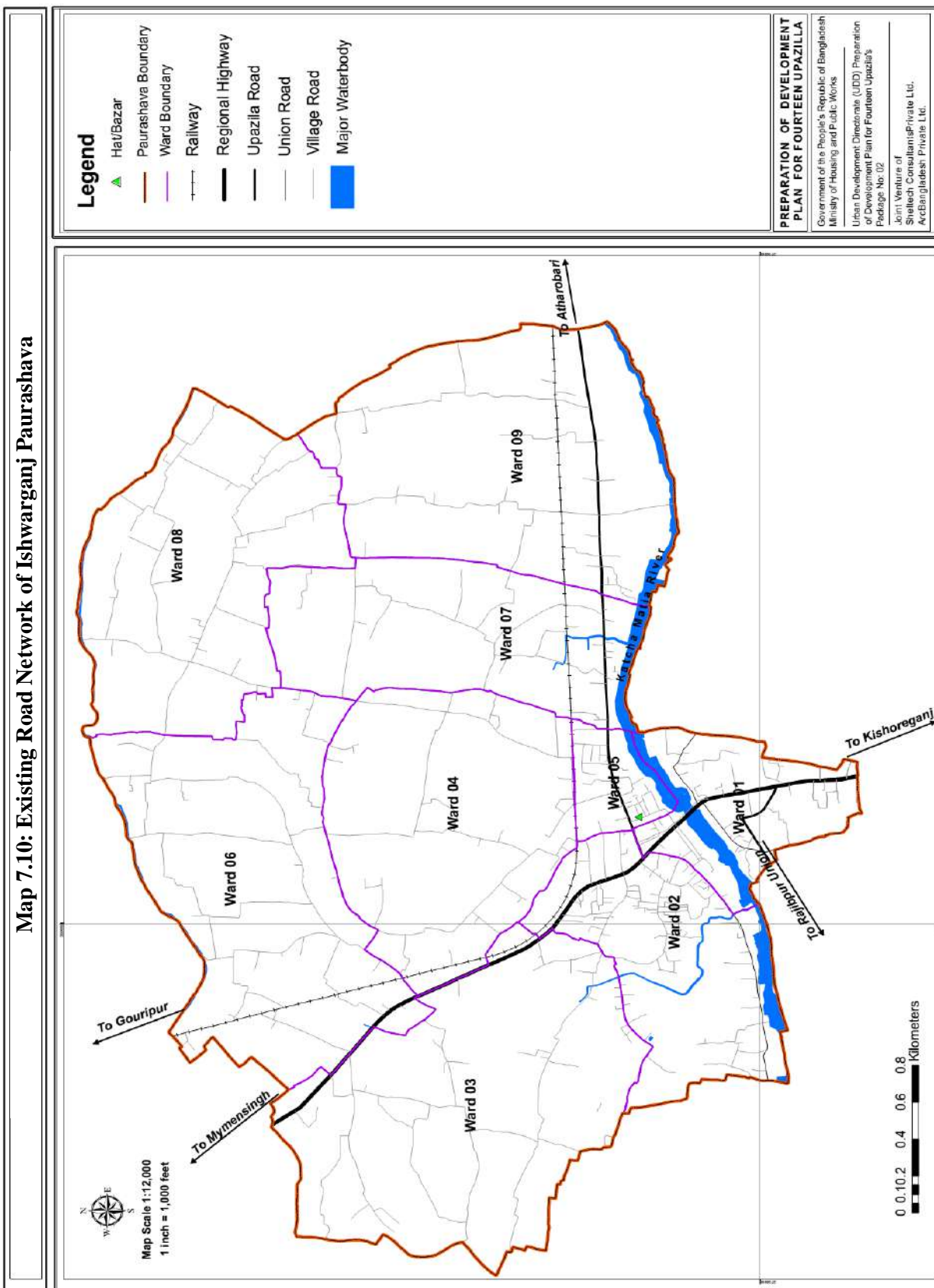


Fig 7. 1: Road Type

Table 7.11: Road Category.

Categories of Roads	Length (km)	%	Width (ft)
Regional Highways	3.62	4.30	20
Upazila Road	3.45	4.10	15
Paurashava Roads	74.34	88.39	10
Access Roads	2.69	3.20	08
Total	84.1	100	

Source: Field Survey, 2016



Mode of Transport

Transportation and Traffic Management Survey results shows that no 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 28%, Truck 13%, motorcycle 8%, car/pickup 5%, rickshaw 22% and auto rickshaw/tempo 24%. Along with this as there are very limited number of waterways are available in Ishwarganj. A small percentage of total households also use waterways.

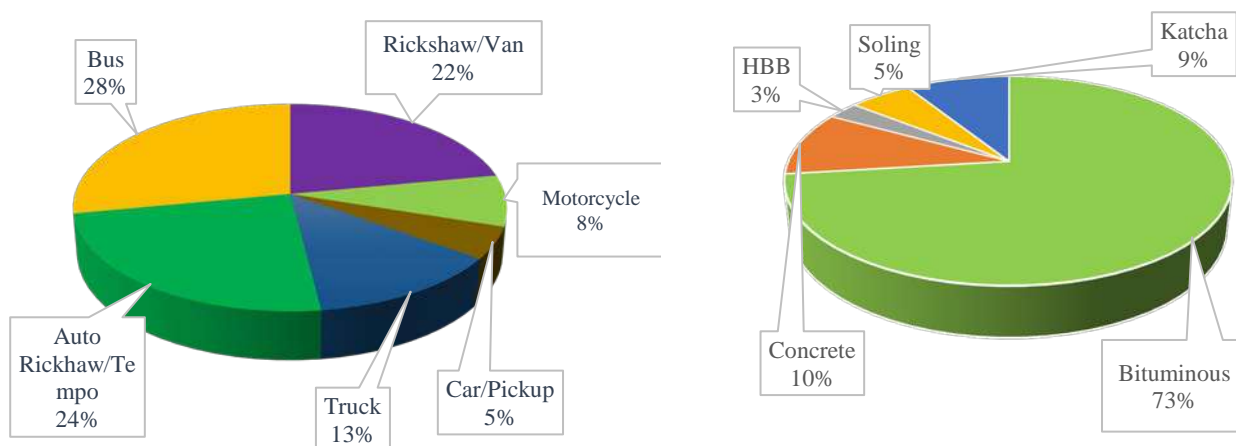


Fig 7. 2: Mode of Communication and Choice

About three fourth of total roads are bituminous 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.

7.6.2 Transportation Network Plan

The primary road of Ishwarganj 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.

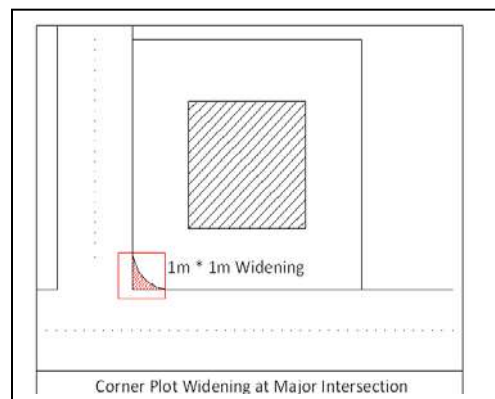


Fig 7. 3: Corner plot Widening at Intersections

B) Land use Proposals at the Major Intersections

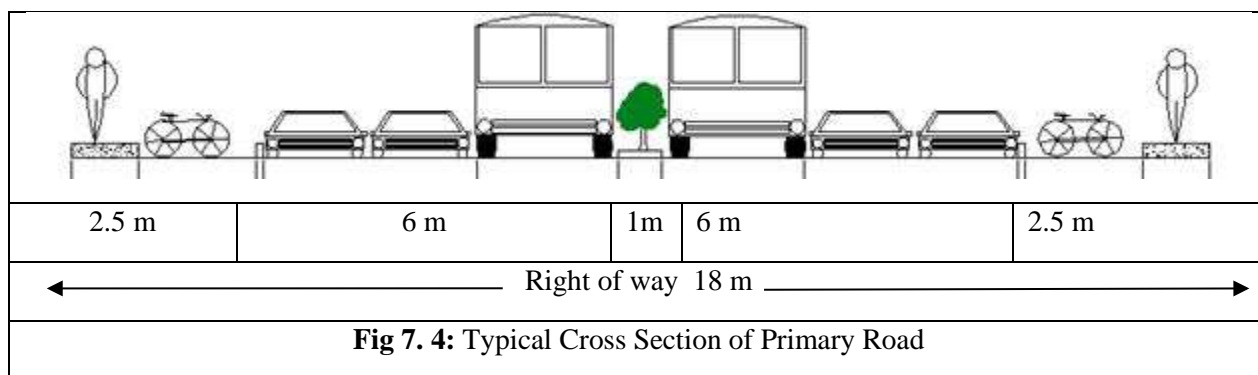
According to Building Construction Act, 1996, the construction permission of Shopping Complex, Cinema Hall or similar type of buildings are restricted within 50 m (164 ft) from major road intersections to avoid traffic congestion.

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 Non-motorized vehicles is prioritized. Therefore, effective road space allocation and utilization is also emphasized in national policy.

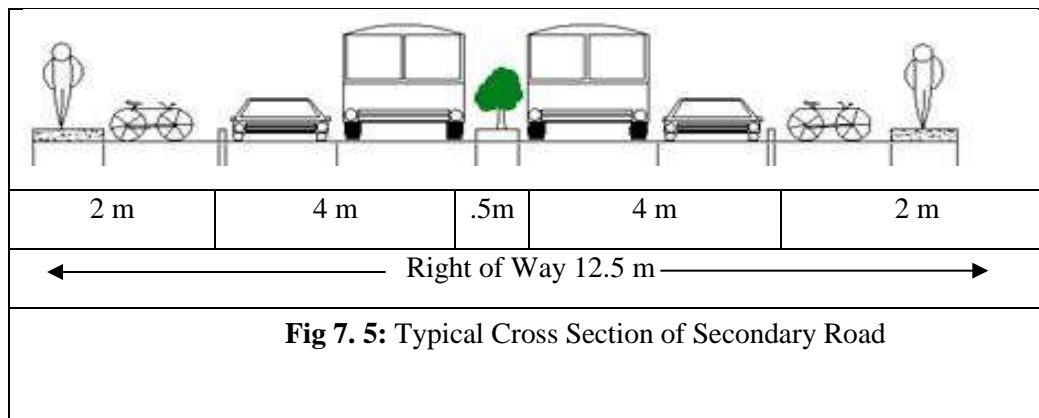
Primary Road

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).



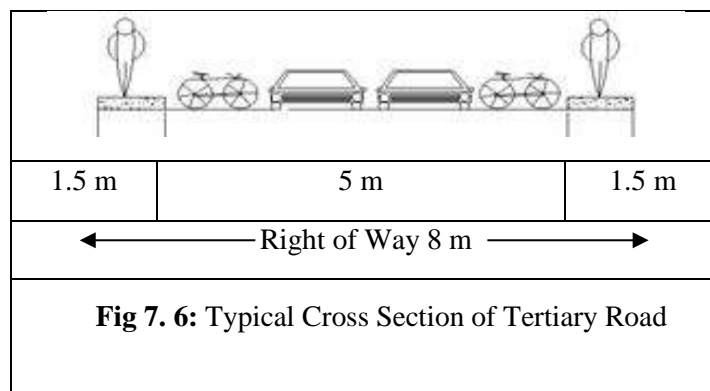
Secondary Road

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 non- 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 non- 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

Road Network Plan

The proposed best suitable road network plan for the planning 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 noise, accidents, and delays to pedestrians crossing roads-can be protected.

Table 7.12: Recommended Road Hierarchy.

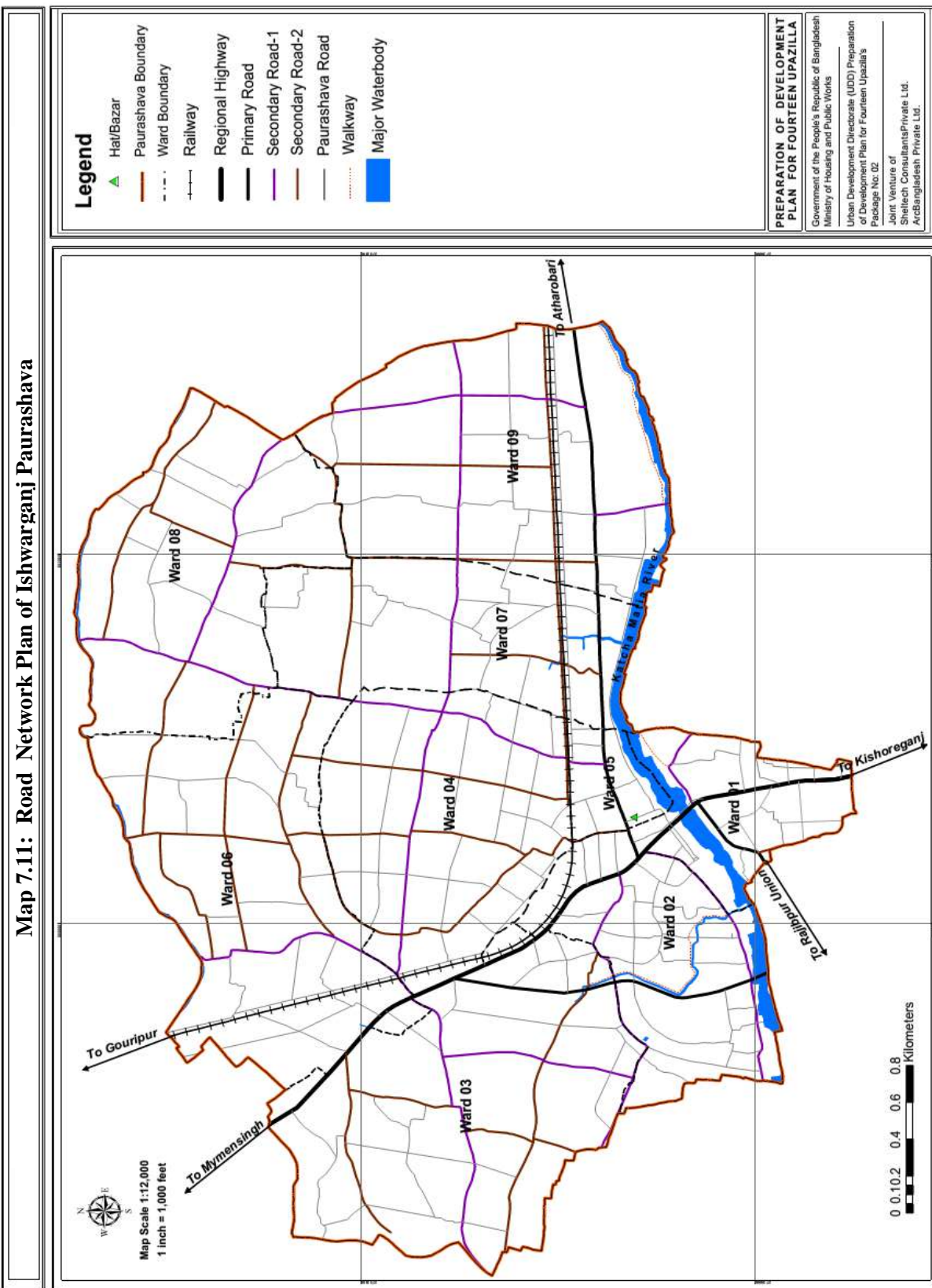
Hierarchy (Planning Commission,2004)	Hierarchy (LGED,2005)	Recommended Road Hierarchy Type	Width (ft)
National	National	National	80-200
Regional	Regional	Regional	60-100
Feeder A	Zila	Primary	40-60
Feeder A/B	Zilla/Upazilla	Primary	40-60
Feeder A/B	Zilla/Upazilla	Secondary-1	30-40
Feeder B	Upazilla	Secondary-1	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	10-15

Source: Planning Commission, 2004 and LGED, 2005.

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 36.89 km new roads have been proposed and about 76.25 km roads have been proposed for widening. The proposed road length has been shown in **Table 7.13 and Map 7.11.**

Table 7. 13: Proposed Road.

Ward	Existing Roads (km)	Proposed Roads(km)	
		New	Total
Ward 1	8.80	1.72	10.52
Ward 2	9.96	6.55	16.51
Ward 3	13.09	2.03	15.12
Ward 4	9.84	9.39	19.23
Ward 5	3.76	0.40	4.16
Ward 6	11.26	6.22	17.48
Ward 7	8.21	2.89	11.10
Ward 8	10.01	1.04	11.05
Ward 9	9.17	6.64	15.81
Total	84.1	36.89	120.98



7.6.3 Plan for Transportation Facilities

Terminal Facilities

- **Bus Terminal:** One bus terminal has been proposed at ward no 03. The proposed terminal will comprise about 2.28 acre areas.
- **Auto/ Rickshaw Stand:** One Auto/Rickshaw stand has been proposed at ward no 02. The proposed Auto/Rickshaw stand will comprise about 0.18 acre areas.

Table 7. 14: Proposals for Transport Facilities.

Proposals	Area (Acre)	Ward	Mauza JL Sheet	Plot No
Bus Terminal	2.28	03	Dottopara 221 001	1209-1219
CNG/Auto Stand	0.18	02	Dottopara 221 003	4137
Total	2.46			

Footpath

More than one third of the total trips are performed by pedestrians, which is a good indicator to ensure sustainability for transportation facilities. However there is absence of footpath in the Paurashava area. In such case footpath is proposed in some area. Standard Footpath width is 1.65 m. Footpath has been proposed beside primary and secondary roads at Paurashava area

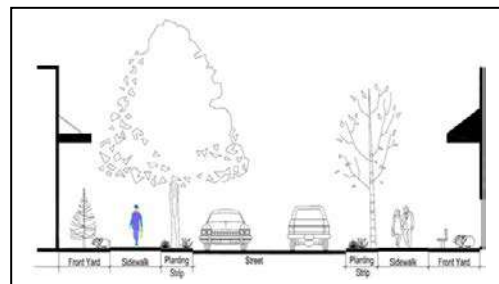


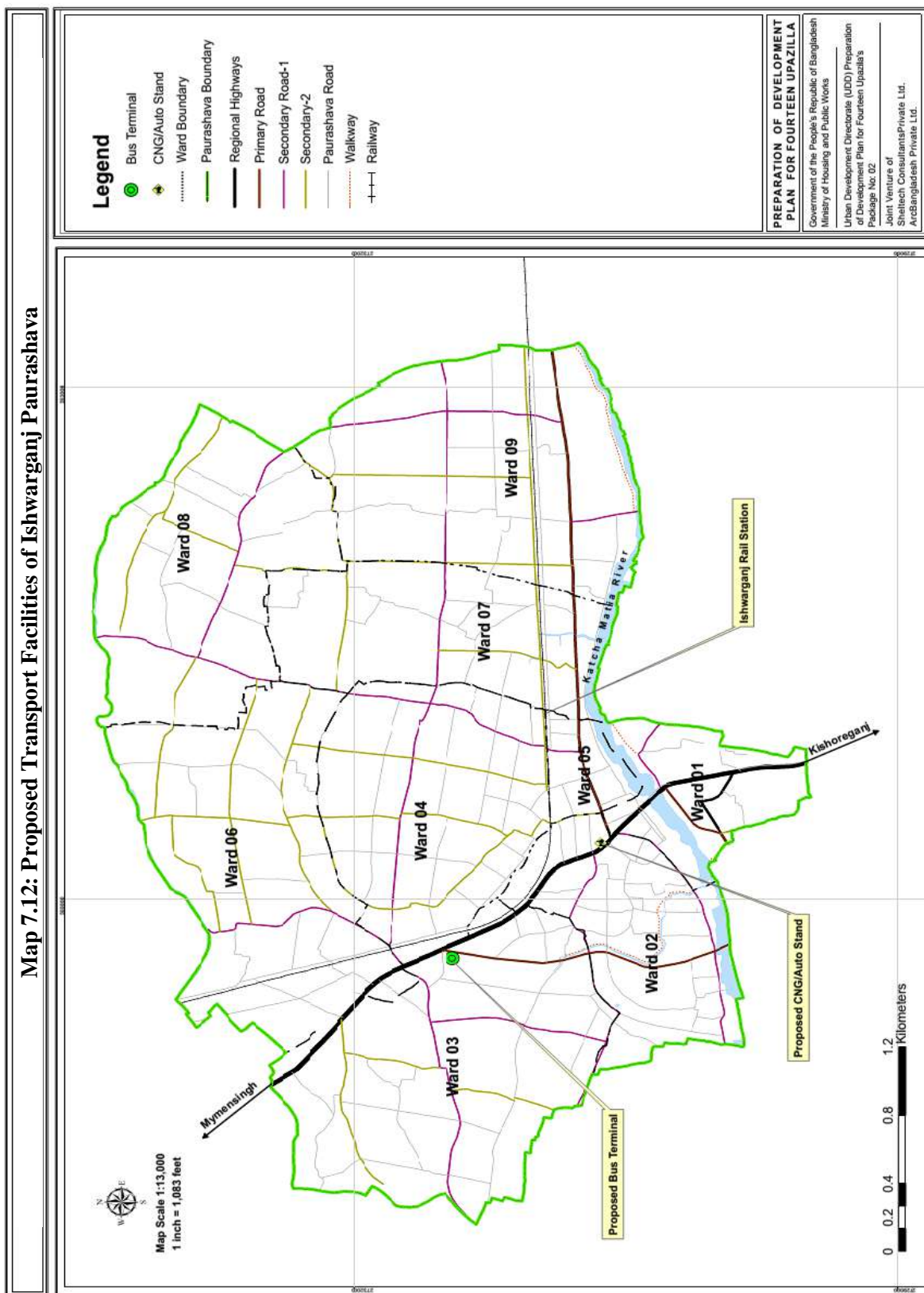
Fig 7. 7: Typical Cross Section of Footpath

By Pass

Traffic currently goes through the urban area using major urban linkages causes traffic congestion to the core area. Bypass on the outer part of the existing urban settlement about 3.38 kilometers has been proposed to reduce pressure of motorized vehicles from core urban area as it becomes a major link for its internal traffic

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 Sq.km of Paurashava which is 18.89% of total area. 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 and width of existing road, about 76.25 kilometers of roads has been proposed to be widen. In addition about 36.89 kilometers new roads have been proposed.



7.7 Drainage and Environment Management Plan

7.7.1 Existing Drainage System of Ishwarganj Upazila

Paurashava area is considered of a number of rivers and khals and some of there are water chennels are navigable throughout the year. Moreover main water is also accumulated in these water bodies. All these river, khals and channels create a natural drainage network.

At present these natural waterbodies are misused through encroachment and usually blocked by all wind of garbage dumping which creates water logging in some areas. On the other hand secondary and tertiary drains are not sufficient in order to findout the existing drainage pattern the consultants have conducted the following issues

- Contour and Topographic Conditions
- Digital Elevation Model (DEM)
- Major Flood Occurance
- Area, Location of Lowlaying Area
- Flood Direction

The existing drainage condition of Ishwarganj Paurashava was seen only in core area. However Bazaar area of Ishwarganj Paurashava shows most of the existing drainage system as survey, topographic survey and physical feature survey has reached the conclusion. The total drainage length is 10,824.22 meters, of which it was classified according to its assembly (**Table 7.15**).

Table 7.15: Existing Drainage (Paurashava Area)

Ward	Length(km)
Ward 01	3414.132
Ward 02	4846.558
Ward 05	1994.431
Ward 07	450.657
Ward 09	118.445
Total	10,824.22

Source: Field Survey, 2016

Digital Elevation Model (DEM)

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. Spot heights or land levels are extracted as DTM points at 10 m intervals for Paurashava Area.

Contour

The analysis has generated maps which represents elevation or height of features as well as surface of earth. Moreover, another method of depicting height information would be contour maps which contains height information in context of raster and vector data. Spot heights or land levels are extracted as DTM points at 0.25 m intervals for Paurashava area.

7.7.2 Proposed Drainage Plan

About 46,975.8 meter drain has been proposed covering the builtup area of Paurashava. Drain has been proposed center of the roads. List of proposed drain have been proposed in **Table 7.16** and Shown in **Map 7.13**

Table 7. 16: Proposed Drain in Ishwarganj Paurashava

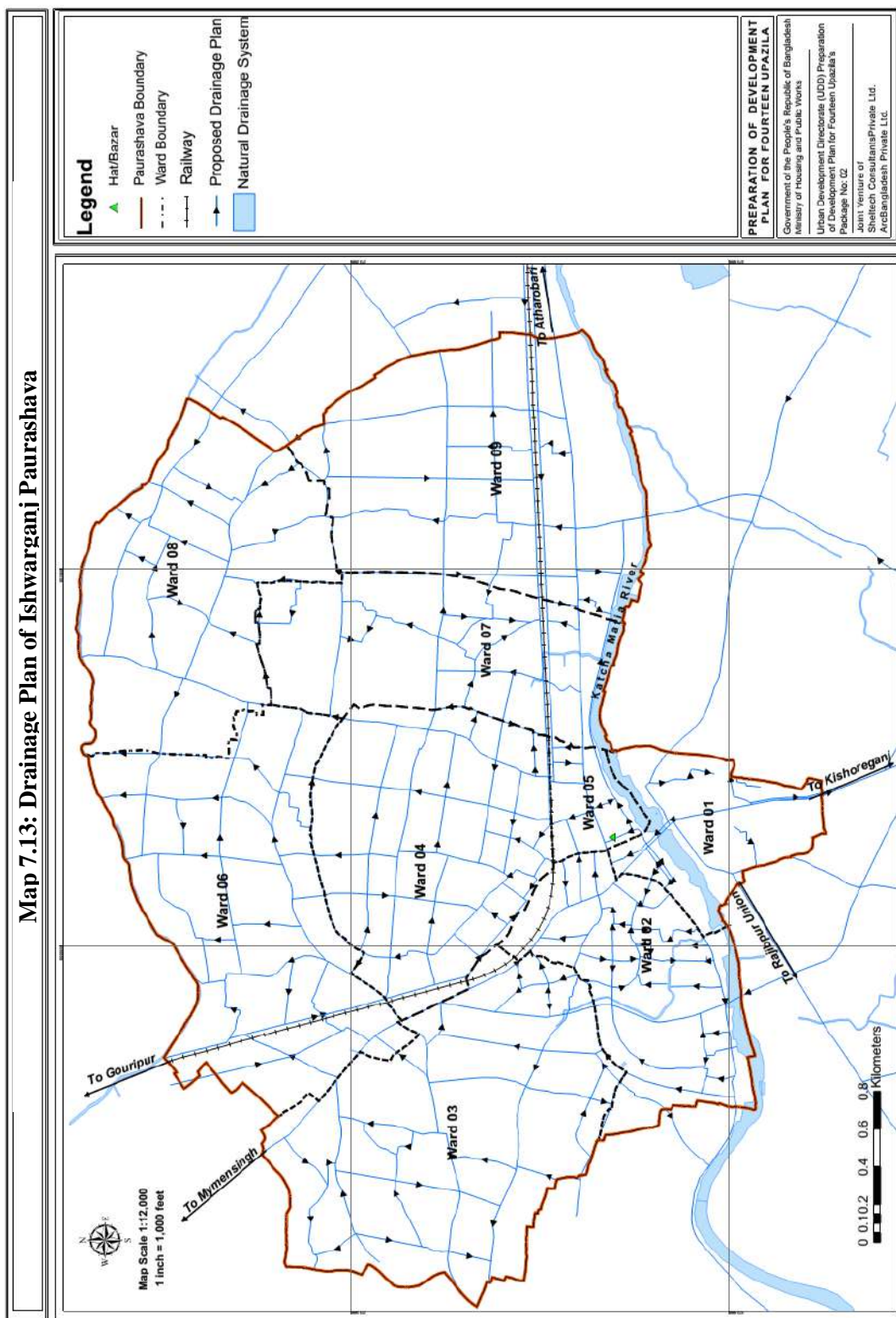
Ward	Length (m)	Ward Name	Length (m)
Ward No-01	2894.781	Ward No -07	3926.799
Ward No -02	4259.551	Ward No -08	6029.787
Ward No -03	6708.039	Ward No-09	7184.47
Ward No -04	6939.946	Total	46,975.8
Ward No-05	1150.923		
Ward No-06	7881.486		

Drains are proposed along the following road types:

- National highways (if any)
 - Regional highways
 - Primary roads
 - Secondary roads – 1
 - Secondary roads – 2
 - Paurasava roads
- 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 sided 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 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 0.25 acres proposed for preserving water as retention pond. **Table 7.16** Shows proposed drainage length of Ishwarganj Paurashava.

Some Pertinent Policy Options

- All existing khals/ channels are to be linked up with the each other to maintain a drainage network
- Encroachment should not be allowed
- Solid waste should not be deposited in the drainage network.



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 11 unions are considered as Rural Area which covers an area about 66490.92 acre and 269.07 in square kilometers.

8.2 Existing and Proposed Land use

In Rural Area, agriculture is dominating form of land use (about 70.60%) followed by rural settlement (about 21.88%). Water body mainly consist of river, pond, canal, ditch which covers about 4135.41 acres of land. The following **Table 8.1** illustrate the existing and proposed land use of the anticipated Rural Area for the year 2033. The Rural Area Plan has been divided into 5 landuse categories. **Map 8.1** and **Map 8.2** shows the existing and proposed landuse of IshwarganjUpazila.

Table 8. 1: Existing and Proposed Land use.

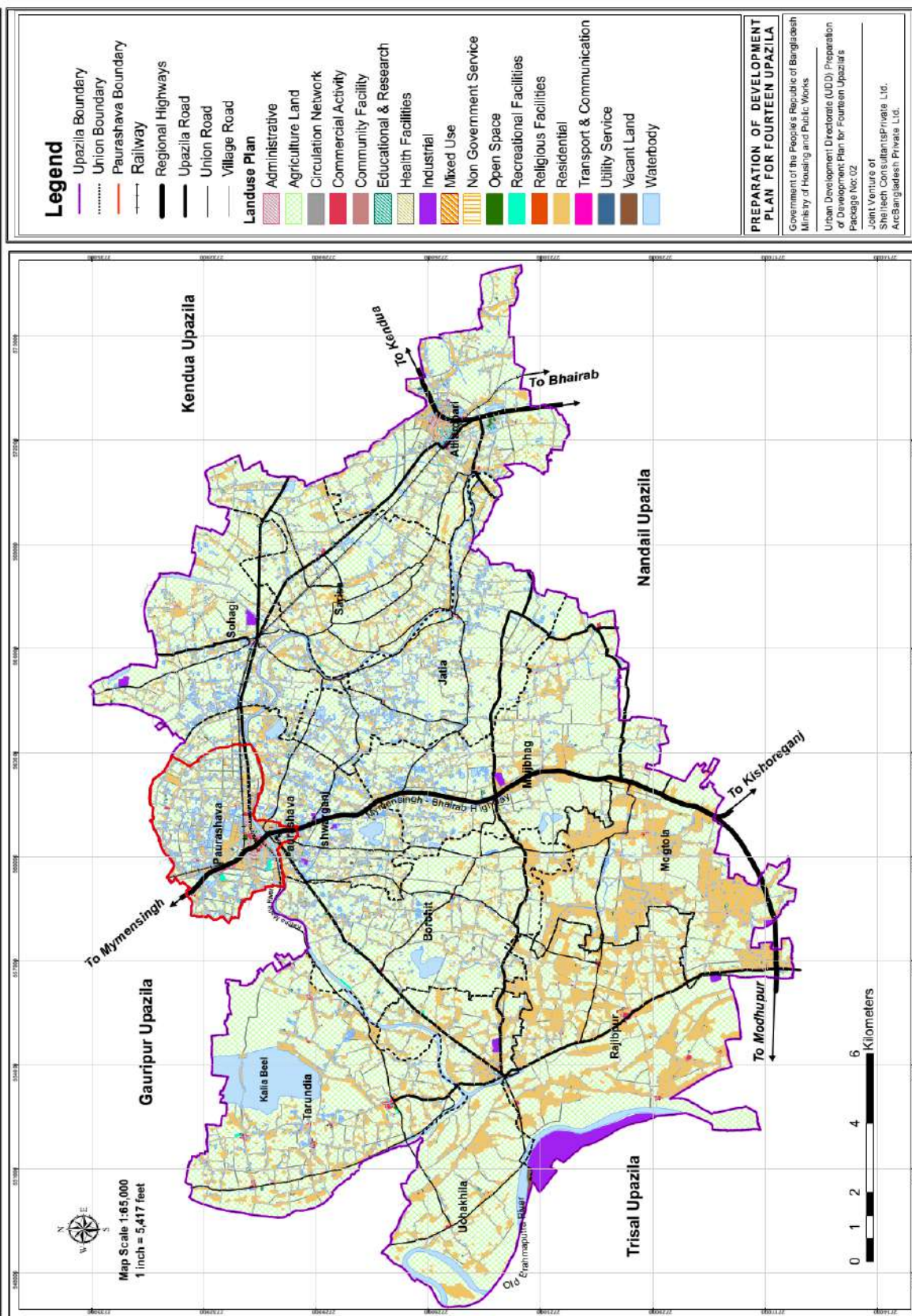
Land use	Existing Land use		Proposed Land use	
	Area (in acre)	%	Area (in acre)	%
Agriculture	46939.67	70.60	45165.28	67.93
Circulation Network	676.04	1.02	2297.90	3.46
Growth Center & Hat Bazars	189.00	0.28	779.02	1.17
Rural Settlement	14550.20	21.88	14128.26	21.25
Water Body	4135.41	6.22	4119.86	6.20
Total	66490.3	100	66490.3	100

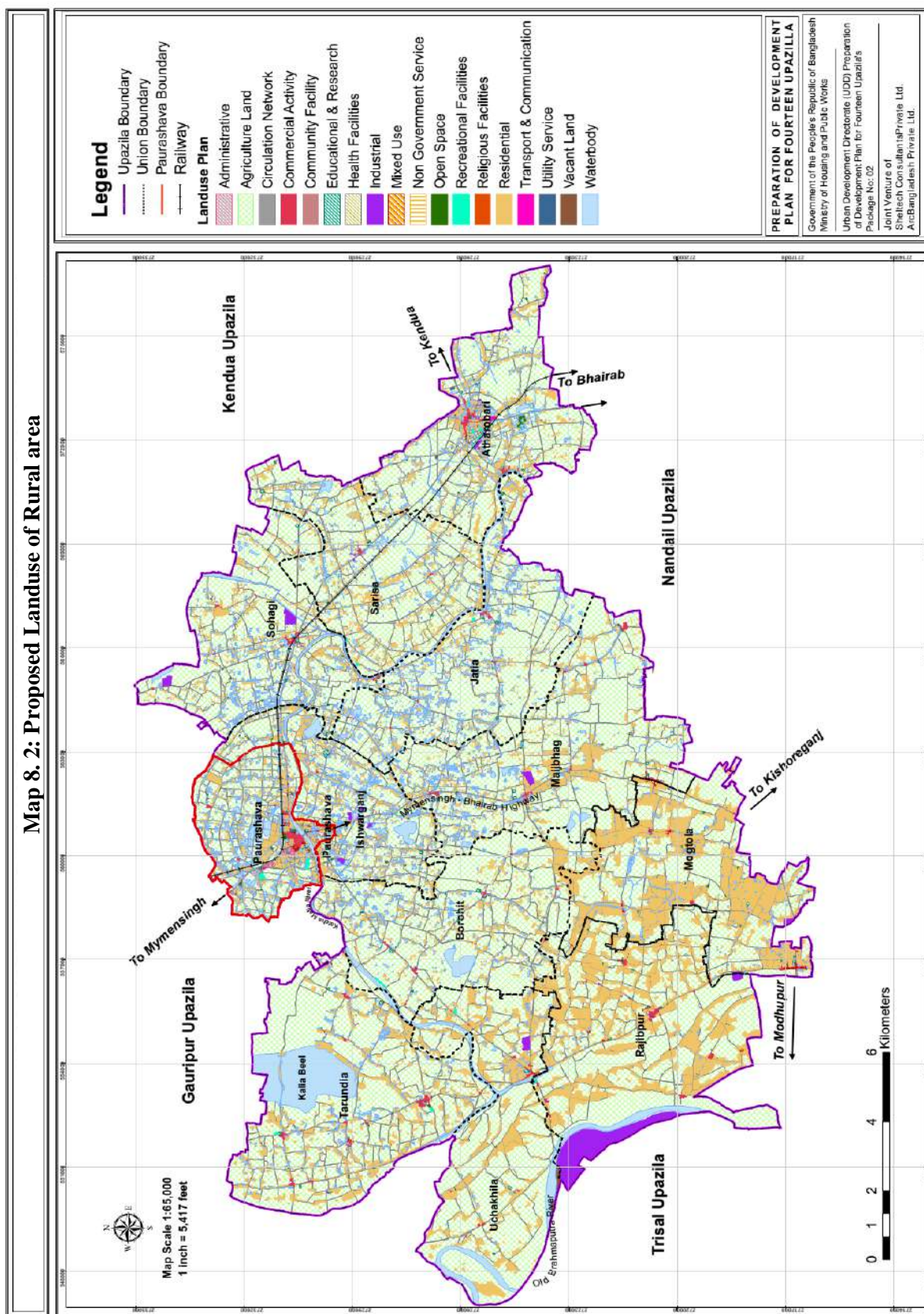
Source: Field Survey, 2016.

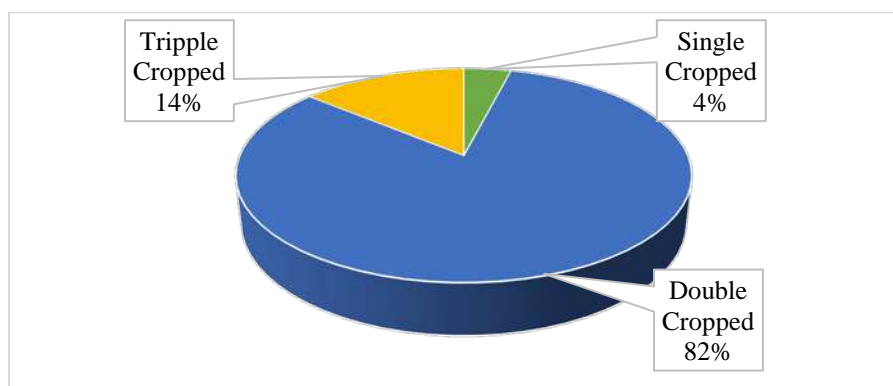
8.2.1 Agriculture

The land of Ishwarganj Upazila is intensively used for agriculture, housing & settlements, fisheries and other infrastructural development. Ishwarganj Upazila gets high potentials for its land and agricultural production. The Upazila has 46939.67 acres of agricultural land. Ishwarganj Upazila falls into 02 Agro Ecological Zones: Young Brahmaputra and Jamuna Floodplain (AEZ-8) and Old Brahmaputra Floodplain (AEZ-9). Most of the areas of this upazila are developed from transformed alluvial deposit by the Brahmaputra and Jamuna rivers. Most of the people of this Upazila are directly or indirectly dependent on agriculture. Major crops are: Paddy (Boro rice (HYV/Hybrid), T.Aus (HYV) and T. Aman (HYV/LIV), Jute, Wheat, Maize, Vegetables, Maize, Mustard, Groundnut, Felon and Pulses etc.

Map 8 . 1: Existing Landuse of Rural Area





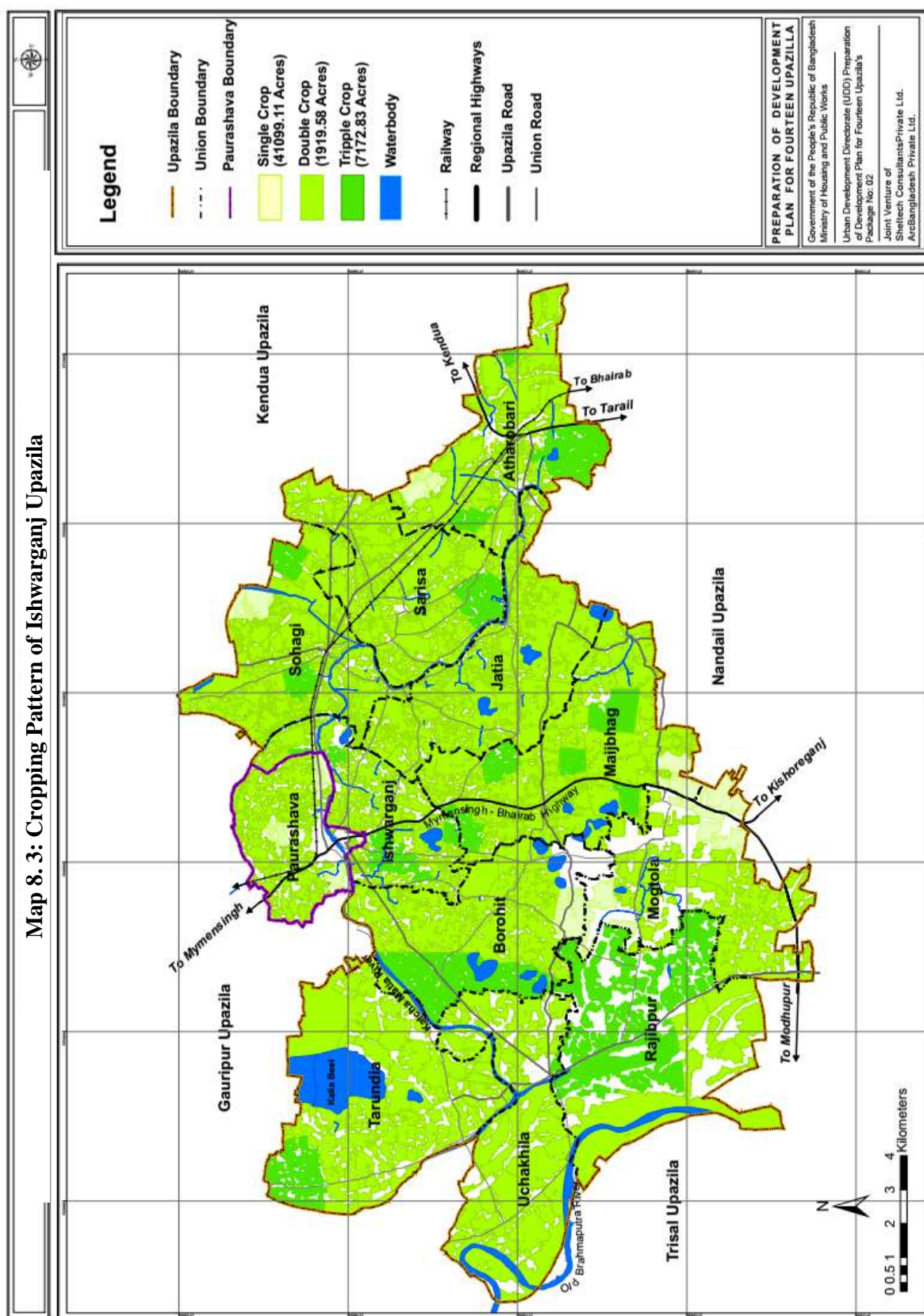
**Fig 8.1:** Cropping Pattern of Ishwarganj Upazila

Different cropping intensity are practiced in Ishwarganj Upazila. The average cropping intensity under Ishwarganj Upazila is of 213% (Krishi Diary 2016). In Ishwarganj Upazila total agriculture land is 46939.66 acres of which 82 % of double cropped area followed by tripple cropped area (14%) and single crop area (4%). **Map 8.3** and **Table 8.2** shows the cropping pattern of Ishwarganj Upazila.

Table 8.2: Cropping Pattern of Ishwarganj Upazila

Union/Paurashava	Cropping Pattern (Area in Acres)				
	Single Cropped	Double Cropped	Tripple Cropped	Total	%
Atharobari	189.15	3039.95	778.58	4007.68	8.54
Borohit	269.54	2552.32	1148.08	3969.94	8.46
Ishwarganj	0.00	1864.02	372.41	2236.43	4.76
Jatia	0.00	4468.35	0.17	4468.52	9.52
Maijbhag	259.99	4305.30	936.01	5501.30	11.72
Rajibpur	0.00	2386.82	2132.20	4519.02	9.63
Mogtola	777.63	2733.98	24.02	3535.63	7.53
Sarisa	0.00	3756.46	321.27	4077.73	8.69
Sohagi	213.09	3495.15	361.17	4069.42	8.67
Tarundia	0.00	5720.34	556.85	6277.19	13.37
Uchakhila	0.00	4211.81	65.01	4276.82	9.11
Total	1709.41	38534.50	6695.76	46939.66	100

Source: Agriculture Survey, 2016



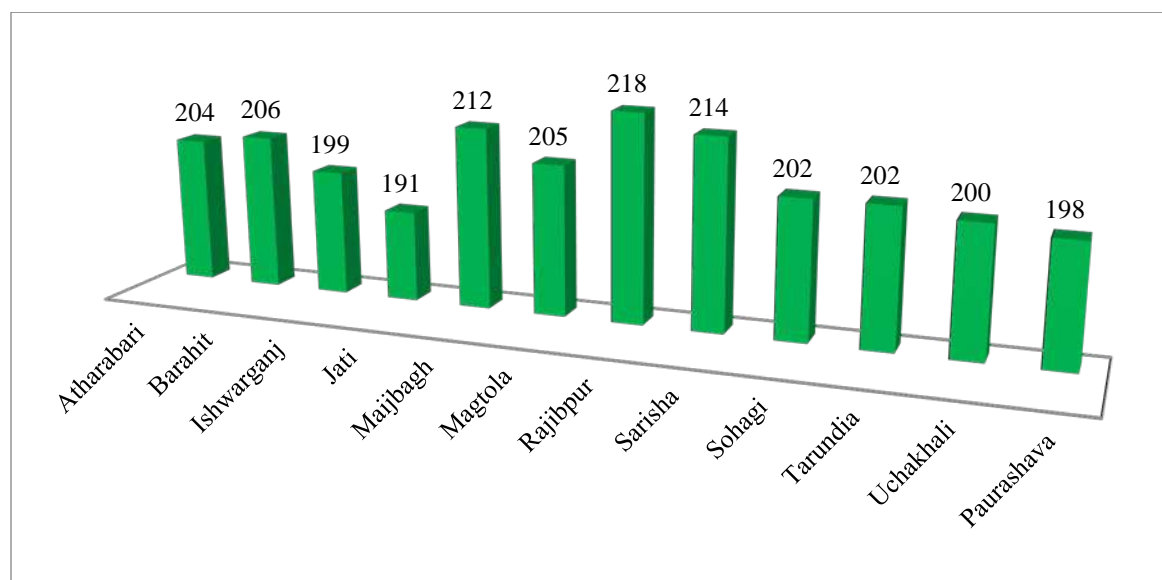


Fig 8.2: Cropping Intensity

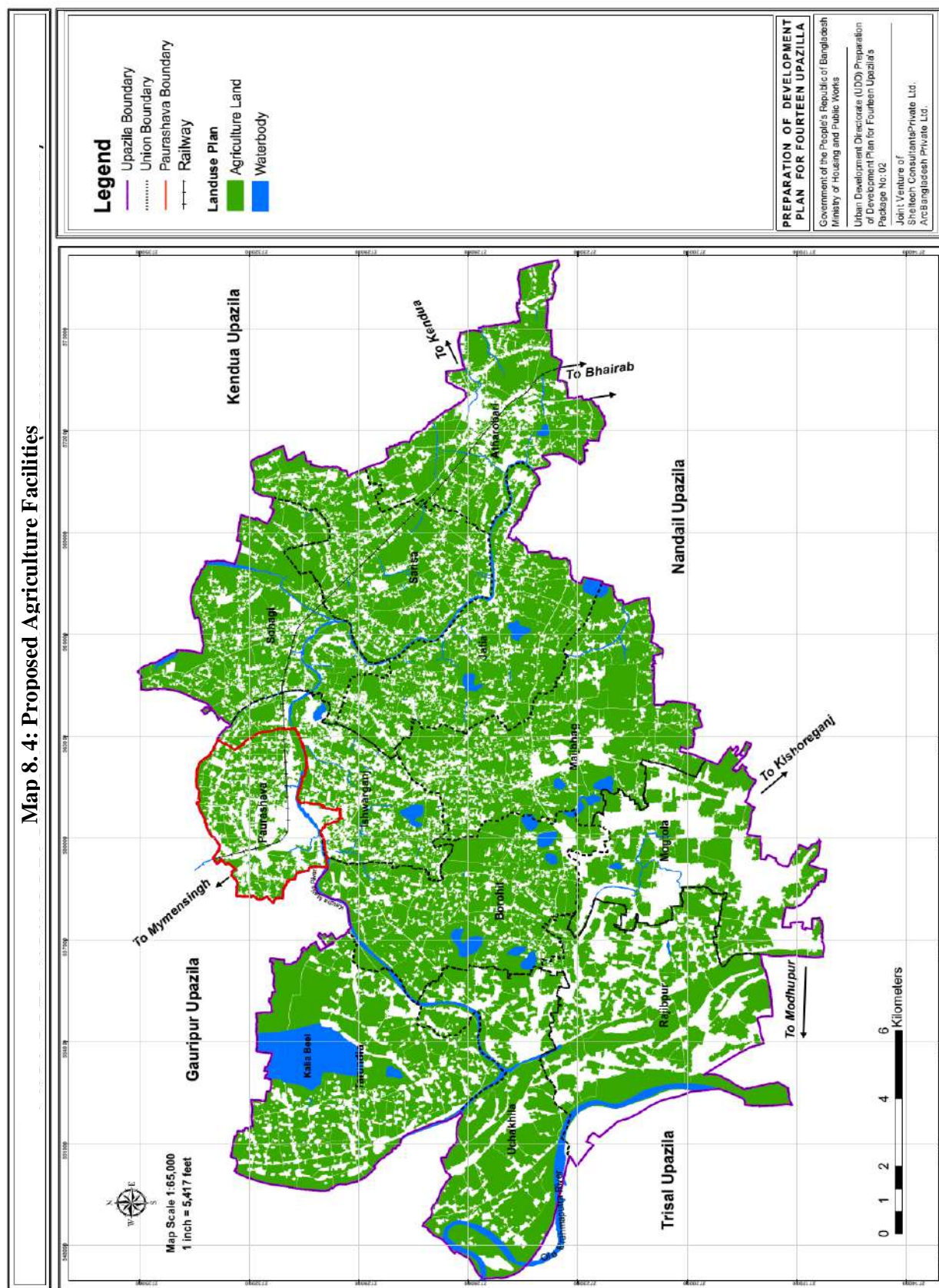
The major problems in cultivation are: Heavy rain, flood, drought, lack of quality seed, and decrease of agriculture land, river erosion, adverse weather condition, inadequate drainage facilities, Electricity power failure, increase insect and pest infestation and Change in rivers and canals morphology. 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. There is no wholesale market and infrastructure for agriculture product under 11 Unions. There is a need to develop vegetables wholesale market and improvement of communication system different Unions to Upazila. Farmers need modern crop production technological training which will be helpful for crop diversification and proper utilization land and increase crop production. For improvement of irrigation facilities katcha drain are to be made lined channel which will reduced irrigation water wastage and increase crop production. Fallow and grazing land has been converted into Banana, Papaya, orchard and vegetable cultivation. Electricity power supply should be ensured during Boro crop season. 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.

Agriculture Development Proposals

During the Consultation meeting, participants opinion that some agro-based industry, cold storage and agriculture training centres are needed. On the basis of their demand, consultants have been proposed four agro-based industry (73.59 acres) at Majibhag, Mogtola, Sohagi, Uchakhila Union, one cold storage (0.41 acres) at Rajibpur Union for increase storage capacity, Agriculture training center (2.03 acres) at Ishwarganj Union. **Map 8.4** Shows proposed agricultural facilities of rural area.

Table 8.3: List of Proposed Facility

Proposals	Union	Area (in acres)	Mauza JI Sheet	Plot No
Agriculture Training Center	Ishwarganj	2.03	Chorshehari 186 000	496-500,503
Agro-Based Industry	Maijbhag, Mogtola, Sohagi, Uchakhila	73.59	Gobindanagar 046 000 Ishwarganj 047 000 Magha 045 000 Maijbhag 169 001	1-3,8,10-15,19,21-28,31- 34,37-51 349-356,365,366 40,41,47-49,79- 84,92,94,97-110 467-469,523-526,539- 541,548-569,571,572- 585,637-640,642- 645,647,649,651-655
Cold Storage	Rajibpur	0.41	Majihati 123 001	234
Total		76.03		



8.2.2 Circulation Network

Transportation is a non-separable 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-3 has flown through Mymensingh District to Trisal Upazila by the Side of Ishwarganj Upazila. At present the national and regional highways are playing very important role in the communication network.

8.2.2.1 Existing Road Network

Connectivity

Ishwarganj and Mymensingh are very well connected with the old communication network of the country. National and Regional Highway to and from Ishwarganj to Mymensingh and Bhairab and Kishoreganj make Ishwarganj as a unique township for economic development. Ishwarganj Upazila has been connected with Mymensingh with main regional road originates from Mymensingh – Bhairab Highway. This regional road later run through the Ishwarganj Paurashava and later followed by Ishwarganj, Maijbhag and Mogtola union. Also there are few District and Upazila roads in most of the unions connecting major growth centers. One of the district roads is in Mogtola and another is in Atharabari union. Atharabari has been connected with the Paurashava through Upazila road. Besides, there are many Paurashava, Union and Village roads all over Ishwarganj Upazila. Some major roads of Ishwarganj Upazila has been shown in the **Table 8.4**.

Table 8.4: Major Roads of Ishwarganj Upazila

Road ID	Name of the Road	Length (km)
R360	Mymensingh (Raghurampur)-Kishoreganj (Battali)-Bhairab (Bazar) Road	116
Z3710	Netrokona-Bishiura-Ishwarganj Road	27
Z3614	Atharabari-Rasulpur Road	06
Z3608	Nandail-Atharabari-Kendua Road	21

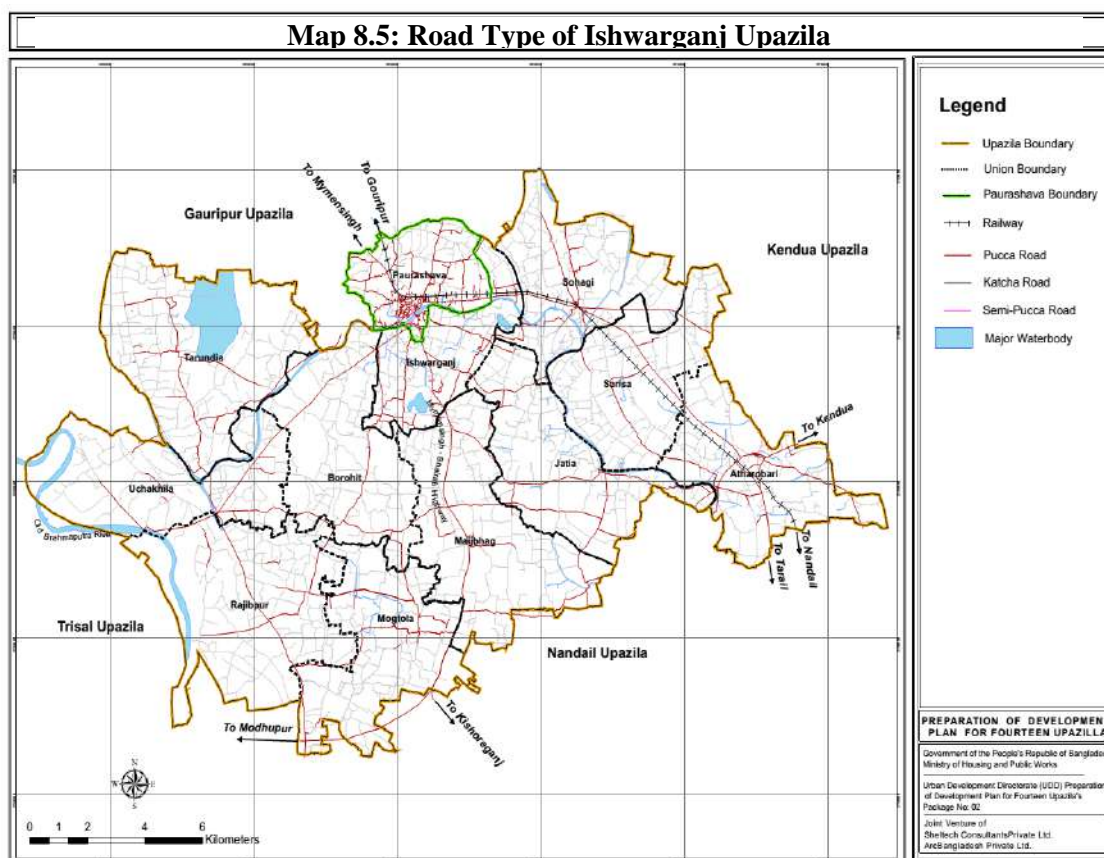
Source: RHD, 2016

Road Types

There are 3,208 roads in Ishwarganj Upazila (Rural Area) which are as long as 1006.22 kilometers. In terms of length pucca roads contributes 224.75 kilometers, semi-pucca contributes to 3.63 kilometers and katcha roads contributes 779.91 kilometers. There are more pucca roads at the western part of Ishwarganj Upazila rather than the eastern part. **Table 8.5** and **Map 8.5** Shows road types of Ishwarganj Upazila.

Table 8.5: Road Types of Ishwarganj Upazila

Union	Type of Roads (km)			Total (km)	%
	Katcha	Pucca	Semi-Pucca		
Atharobari	62.20	22.30	0.53	85.03	8.45
Borohit	69.84	15.34	0.00	85.18	8.47
Ishwarganj	45.47	28.05	0.32	73.84	7.34
Jatia	62.48	22.31	0.18	84.97	8.44
Maijbhag	76.00	24.71	0.14	100.84	10.02
Mogtola	70.40	24.35	0.00	94.75	9.42
Rajibpur	84.37	17.88	0.00	102.24	10.16
Sarisa	77.53	13.02	0.00	90.55	9.00
Sohagi	81.06	20.66	0.00	101.73	10.11
Tarundia	85.29	20.29	0.00	105.57	10.49
Uchakhila	65.27	15.86	0.39	81.52	8.10
Total	779.91	224.75	1.56	1006.22	100



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 local stakeholders, road hierarchy has been proposed within the Upazila. 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 non-motorized vehicles are kept.

Proposed Road

Total 1154.75 kilometers roads have been proposed in the plan consisting of 400.26 kilometers pucca road, 15.63 kilometers semi pucca road, 738.86 kilometers of katcha road.

Table 8.6: Rural Road Typology with Length

Types	Length (km)	Hierarchy	Length (km)
Pucca	400.26	Regional Highway	23.65
Semi Pucca	15.63	Primary Road	64.04
Katcha	738.38	Secondary Road I	169.57
		Secondary Road II	120.14
		Local Road	759.24
		Service Road	17.63
Total	1154.27	Total	1154.27

About 17.63 kilometers service road has been proposed besides national highway and Primary roads. In the master plan, about 812 kilometers roads have been proposed for widening. The proposed road has been shown in the table below with their respective Length.

Map 8.6 Shows Road network plan of rural area. To accommodate the traffic volumes about 148.71 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.

Map 8.6: Road Network Plan of Rural Area.

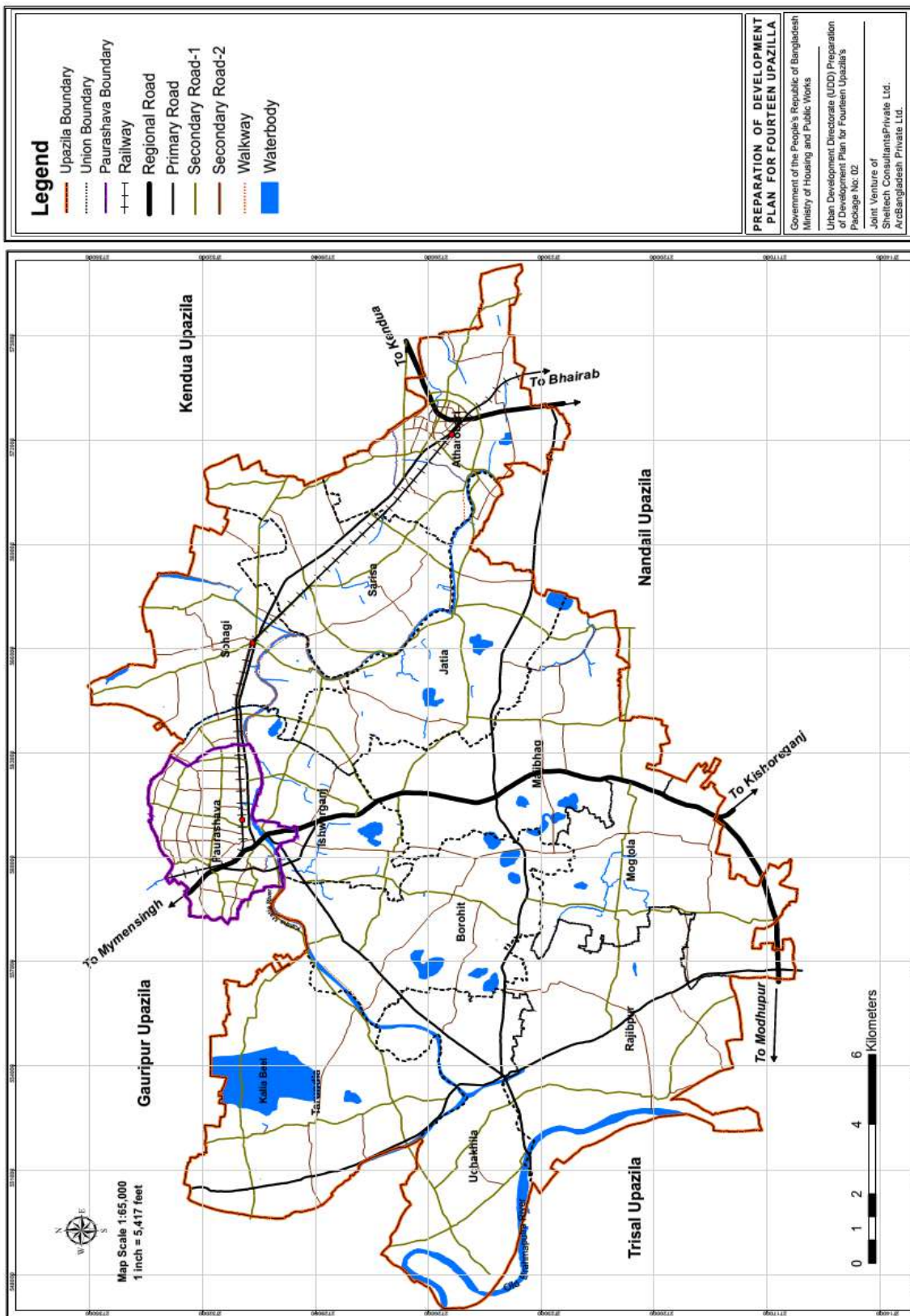


Table 8.7: Union-wise Existing and Proposed Roads.

Union	Existing Road (km)	Proposed Road (km)	
		New Roads	Total
Atharobari	85.03	36.26	121.29
Borohit	85.18	8.01	93.19
Ishwarganj	73.83	18.41	92.24
Jatia	84.97	4.67	89.64
Maijbhag	100.84	15.19	116.03
Mogtola	94.58	5.44	100.02
Rajibpur	102.24	12.00	114.24
Sarisa	90.55	13.56	104.11
Sohagi	101.73	17.43	119.16
Tarundia	105.58	13.10	118.68
Uchakhila	81.52	4.640	86.16
Total	1006.05	148.71	1154.75

Road Intersection Considerations

On the other hand, the major intersection of Ishwarganj 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. In the Paurashava core area a major bypass has been proposed to reduce the traffic flow in the intersection. An embankment road has also been proposed along the Katcha Matia River to reduce erosion along the river bank. Besides about 8 service roads have been proposed along the main regional road and Paurashava – Atharobari Upazila Road.

Effected Structures Due to Road Widening

All of the roads of Ishwarganj Upazila has been widened as per the standard delineated before. Hence the major problem is it conflicts with many structures. About 8109 structures are to be affected due to road widening and new road proposal. Among them 358 structures are pucca, 3030 structures are semi-pucca, 4681 structures are katcha and 40 are in under construction. To achieve sustainable transportation facilities to maintain the traffic flow without disturbance these structures needed to be relocated. Following table shows the no of conflicted structures with their respective landuse.

Table 8.8: Effected Structures with their respective use

Landuse	No
Administrative	5
Agriculture	45
Commercial Activities	2359
Community Facilities	15
Educational & Research	166
Government Office	17
Health Facilities	11
Industrial	76
Miscellaneous	30
Mixed Use	162
Non-government Office	41
Recreational Facilities	7
Religious Facilities	154
Residential & Homestead	5012
Transport & Communication	9
Total	8109

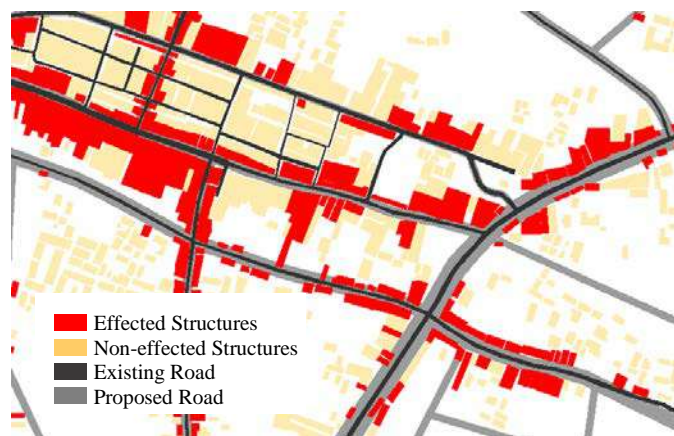


Fig 8.3: Effected Structures due to Road Widening (Atharabari Area)

Transport Facilities

Considering future travel demand in next 20 years; Bus Terminal, Tempo Stand, Mini Bus/CNG Terminal and Passenger Shed has been proposed at Maijbagh, Ishwarganj, Rajibpur and Atharobari Union.

Table 8.9: List of proposed Transportation facilities.

Proposals	Union	Area (in acre)	Mauza JI Sheet	Plot No
Auto/Car Stand	Atharobari	1.09	Bongaon 281 00	232,234,235,236,,294
Bus Terminal	Atharobari	3.73	Chorhosainpur 187 004	294,570,573-575,582- 586,600,601
Auto/CNG Stand	Maijbhag	0.73	Chorhosainpur 187 004 Chorhosainpur 187 004	4567,4570 4567,4570
Tempo/CNG Stand	Ishwarganj	0.72	Mollikpur 180 000 Chorhosainpur 187 004	102, 4567,4570
Truck Terminal	Rajibpur, Atharobari	2.57	Bongaon 281 00 Char Naopara 038 001	294,577,578,579,580,581 293
Total		9.93		

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 Ishwarganj Upazila there are three main growth center, which is located at Maijbhag, Sohagi and Uchakhila Union.

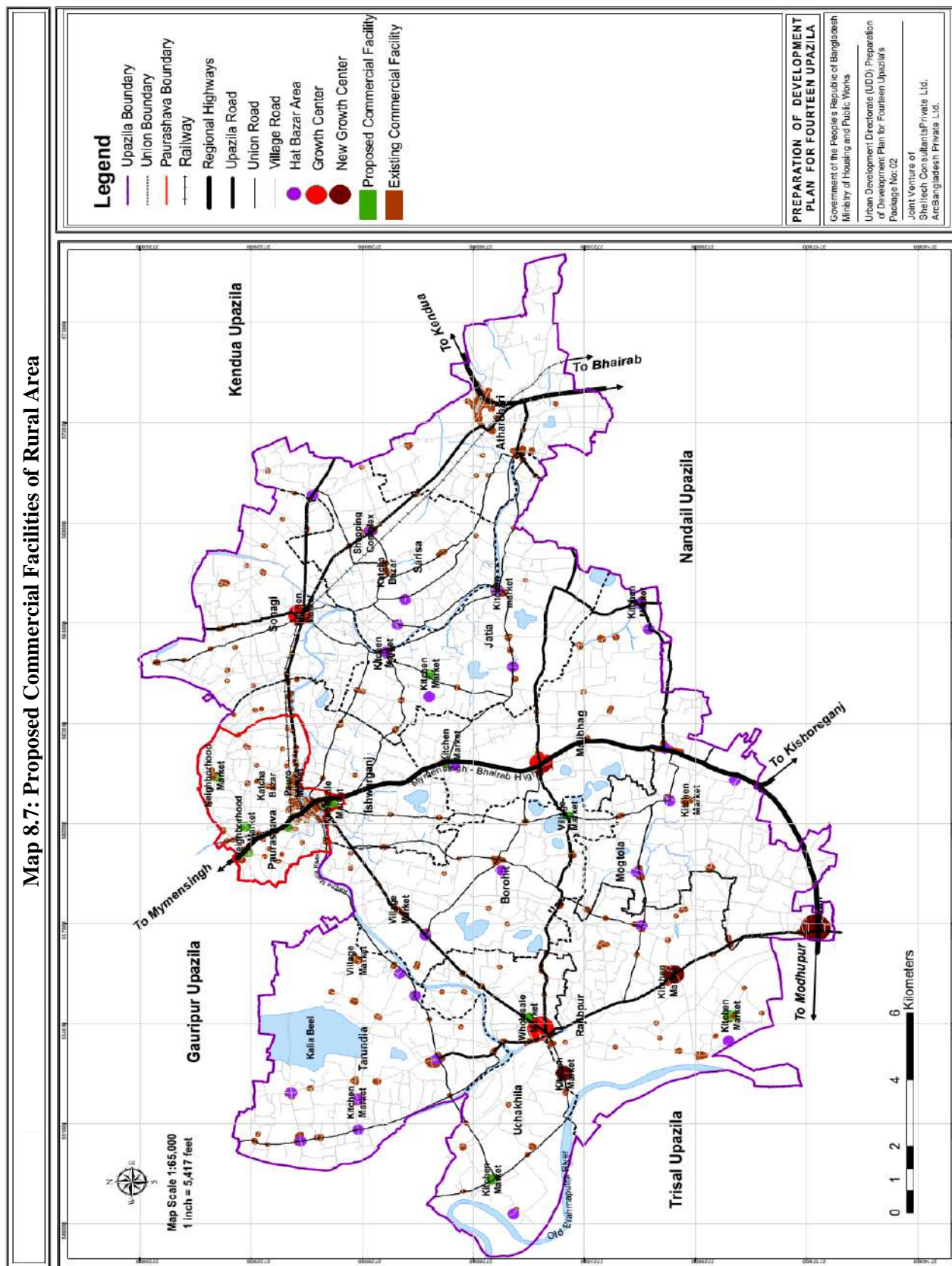
To sustain economic activity and economic development of rural area new growth center should be proposed at suitable location. New three growth center have been proposed respectively at Mogtola, Rajibpur and Uchakhila union. Proposed Growth centers are well connected within the union as well as whole 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 3 growth center and 44 hat bazar develop in the Upazila. Luxmigonj Bazar, Atharabari Bazar, Uchakhila Bazar, Muktijoddha Bazar and Lakshiganj Bazar etc. are most important bazars in the Upzaila. List of existing and proposed growth center and hat bazars is shown in **Table 8.10** and **Map 8.7**

Table 8.10: Existing and Proposed Growth Center and Hat Bazar.

Union	Existing		Proposed	
	No of Growth Center	No of Hat Bazar	No of Growth Center	No of Rural Sells and Service Center (RSSC)
Atharobari	-	2	-	4
Borohit	-	4	-	2
Ishwarganj	-	1	-	3
Jatia	-	4	-	4
Maijbhag	1	7	-	3
Mogtola	-	6	1	1
Rajibpur	-	3	1	4
Sarisa	-	4	-	5
Sohagi	1	4	-	4
Tarundia	-	7	-	5
Uchakhila	1	2	1	7
Total	3	44	3	42



Rural Sells & Service Center is a place that provides certain functions and services to fulfill the basic demands of the local area. Rural Sells & Service Center has been proposed at every union and on average 2 to 5 total of 42 Rural Service Center (RSSC) have been proposed at different union. Shopping Complex has been proposed at Sarisa union which contains area of 0.64 acres. Fourteen kitchen market (16.40 acres) have been proposed at Jatia (2), Maijbhag (2), Mogtola, Rajibpur (3), Sarisa, Sohagi (2), Tarundia, Uchakhila (2) Unions. Village market and Wholesale market also proposed at Borohit, Tarundia, and Uchakhila Union.

Table 8.11: Proposed Market.

Proposals	Union	Area (in acre)	Mauza JI Sheet	Plot No
Katcha Bazar	Sarisa	0.29	Barajora 182 001	1716
Kitchen Market	Jatia (2), Maijbhag (2), Mogtola, Rajibpur (3), Sarisa, Sohagi (2), Tarundia, Uchakhila (2)	16.4	Moheshpur 237 002 Barajora 182 001 Bogaputa 229 000 Char Naopara 038 001 Majihati 123 001 Satiya 260 000	3310-3312 691-697,517,677, 682-685, 258,259, 13517,13545-13547,13624 40-42,28-30,42-45,53
Shopping Complex	Sarisa	0.64	Bogaputa 229 000	517,677,682,684,685
Village Market	Borohit (2), Tarundia	1.23	Breepachashi 071 000 Chorgithor 059 000 Kadukhali 136 000	1831 265,266 387
Wholesale Market	Uchakhila	1.6	Alinagar 043 000	589-591,598- 602,
Total		20.16		

8.2.4 Rural Homestead

To prevent the random settlement of people in rural area, new rural housing planning (17.66) has been proposed at Atharobari and Sorisa union. Low cost housing (3.22 acre) has been proposed for industrial worker at Rajibpur union. Waste disposal condition of the industries of this Upazila is unhealthy and unplanned. Waste disposal (1.78 acres) site and waste transfer station has been proposed. Community clinic (about 8.56 acres) has been proposed at every union. Park, Playground, Neighborhood Park, Village Park, Police Box, Police Furry, Vocational Training institute, Mosjid Complex and Recreation Zone etc. have been proposed according to present need and PRA demand. The details proposals list are presented in **Table 8.12**.

Table 8.12: List of proposed facilities in Rural Area.

Proposed facility	Area (in acre)	Union	Mauza JI Sheet	Plot No
Graveyard	9.16	Atharobari, Borohit, Jati (2), Maijbhag (2), Rajibpur, Sarisa, Sohagi, Tarundia, Uchakhila	Bishnopur 274 001	186,189
			Khairat Bhulsoma_082_000	259,260,261
			Bausoti 262 000	736,737,738,739,747, 860,861,862,864
			Bhasa Gokulnagar_166_000	288
			Maijbhagh 169 002	2504,2505,2506,2507
			Char Naopara 038 004	9259
			Sohagi 231 001	797,799
			Sorisha 273 001	363
			Sakhua 002 002	4553
			Marichar Char 034 005	7034,7035,7036
Community Center	0.28	Uchakhila	Char Naopara 038 001	1108, 1109
Pump House	0.35	Uchakhila	Alinagar 043 000	3
		Tarundia	Tarundia 055 001	544
Vocational Training Institute	1.79	Maijbhag	Maijbhag 169 001	33,35,37,38,40,41,42
College	6.15	Borohit, Ishwarganj, Maijbhag, Tarundia, Uchakhila	Postori 073 002	1896- 1909
			Chorshehari 186 000	371,372,376,377
			Sakhua 002 002	2960,3603
			Marichar Char 034 005	8672
High School	3.30	Ishwarganj, Jatia	Maijbhag 169 005	9607,9608
			Ashrobpur 191 000	143-148
			Bausoti 262 000	866
			Satiya 260 000	99 -104

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

Proposed facility	Area (in acre)	Union	Mauza JI Sheet	Plot No
Primary School	1.45	Atharobari, Uchakhila	Madhupur 278 000 Moheshchatol 287 000 Patharia 284 000 Char Algi 039 002	527,528 511 95 2020, 2021
Community Clinic	8.56	Atharobari (3), Borohit, Ishwarganj, Jatia (4), Mogtola, Rajibpur (2), Sarisa (2), Sohagi, Tarundia, Uchakhila (3)	Fotenogor 276 000 Moheshchatol 287 000 Tourail 282 000 Paradanguri 074 000 Majiakandi 192 000 Fanur 250 000 Jotia 174 001 Maliati_244_000 Satiya 260 000 Dhitpur_161_000 Char Naopara 038 001 Majihati 123 001 Moheshpur 237 001 Bogaputa 229 000 Chapilakanda 236 000 Sortaj Boyra 019 000 Amudpur 053 000 Magha 045 000 Marichar Char 034 005	1148,1149 930 229 21,22,23 13,14 268 4 697 132,133 71,102,103 201 208 413,414,415 175,176,206 87,88 515,516,524 267 141 8067,8068
Hospital	1.21	Maijbhag	Char Shankar 167 000 Mujatiya 181 000	263,265 85
Industrial Zone	449.27	Rajibpur, Sohagi	Chorrammohon 036 001 Chorrammohon 036 002 Chorrammohon 036 003 Chorrammohon 036 004 Marichar Char 034 006	1-35 36- 49 514-582, 584-676, 801-807,809-821,824-829, 832-839,842,844-878, 897-957,1201,1202
Small scale industry	5.07	Atharobari	Bongaon 281 00 Tourail 282 000	111,112 187,383,384,385

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

Proposed facility	Area (in acre)	Union	Mauza JI Sheet	Plot No
Brick Field Zon	32.39	Rajibpur	Char Naopara 038 006	17783-17804,17808-17824,17827-17831,17955-17961
		Sohagi	Dari Bara Bhag 223 000	1373-1571,1717-1719,1723,1724-1736,1748-1750
		Mogtola	Nowpara 150 000	934,935,941
Neighborhood Park	2.18	Atharobari (2)	Golkunda 279 001 Tourail 282 000	359-361,365,366 121,122,126-128
Linear Park	3.22	Borohit	Breepachashi 071 000	516,524,530,531,1581,15951 5961599,1600,1603,1607,1608,1609,1613,1617
Park	4.25	Atharobari, Maijbhag, Sarisa (2), Sohagi, tarundia	Srifaltala 283 000 Kumrashason 193 000 Chapilakanda 236 000 Bhalukaber 233 002 Kholilnogor 252 000 Tarundia 055 001	310,311,313,316 556 233 3673,3685 2,3,4 160,163,165,166,848
Park and vegetation	4.19	Atharobari	Bongaon 281 00 Tourail 282 000	108,205,230,232 185
Playground	3.72	Jatia, Rajibpur, Sarisa, Tarundia	Maliati_244_000 Bri-Debstan 127 000 Sorisha 273 001 Tarundia 055 001	877,878 608 365 167,197,198,199,203
Village Park	9.89	Ishwarganj, Maijbhag, Jatia, Rajibpur, Sarisa, Tarundia, Uchakhila	Shorshi 190 000 Makorjap 261 000 Maijbhagh 169 002 Char Naopara 038 001 Bairate 239 000 Polashkandi 007 000 Hariakhali 217 000	25,41-45 293,294 2043-2046 1101-1104 224,225,226 5-8,13,15,18,19,23 566-568,584,589-594,603
Eidgah Field	1.86	Jatia, Maijbhag	Jotia 174 001 Maijbhagh 169 002	124 3129,3136,3137,3138,3143
Mosque	0.22	Uchakhila	Narayanpur 3 Part 052 000	45
Housing Area	10.04	Atharobari	Golkunda 279 001	167-175,177,217-223-226,228-234,243

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

Proposed facility	Area (in acre)	Union	Mauza JI Sheet	Plot No
Low cost housing zone	3.22	Rajibpur, Sohagi	Char Algi 039 002 Char Naopara 038 001 Marichar Char 034 006	2004-2012 2514 91,92,93
Rural Core Housing	17.66	Atharobari, Sarisa	Chapilakanda 236 000	1076-1078,1114- 1137,1283-1323,1333-1335
Waste Disposal Site	1.78	Atharobari	Gaborkailan 280 000	140,180,181
Waste Transfer Station	0.95	Borohit, Maijbhag (2), Mogtola, Uchakhila	Breepachashi 071 000 Maijbhag 169 005 Mollikpur 180 000 Bogaputa 229 000	1968 9151 88 167
Water Supply System	0.10	Jatia	Maliati 244 000	899
Water Treatment Plant	0.66	Tarundia	Gaborboali 060 000	664
Electric Substation	2.05	Rajibpur	Char Naopara 038 001	657
		Atharobari	Madhupur 278 000	27,28,29
Godown	0.73	Magtala	Tajpur 152 000	145,146
Total	585.7			

8.2.5 Drainage and Environment Management Plan

8.2.5.1 Existing Drainage Condition

Natural River and Canal

The Old Brahmaputra River and The Kachamatia are the main drainage channels in the vicinity. The whole system of rivers in and around the Upazila are essentially connected to the Mighty Meghna River on the south-east. The area does not face heavy flooding during the monsoon but does face a drainage congestion during monsoon and post-monsoon. Kachamatia River, Old Brahmaputra River, Kalia Beel and Dottopara Beel are the main waterbody of Ishwarganj Upazila. Old Brahmaputra River passes through Uchakhila and Rajibpur Union. Kacha Matia River passes through Paurashava area and Tarundia, Sarisa, Jatia and Atharobari Union. Total waterbody area is 4135.41 acres (**Table 8.13**). There are two large beel, Kalia Beel and Dottopara Beel. Kalia Beel is situated at Tarundia Union and its area is about 312 acres.

Table 8.13: Existing Waterbody

Type	Area(acres)	%
Beel	1103.16	26.68
Canal	47.9	1.16
Ditch	101.08	2.44
Khal	91.43	2.21
Pond	1772.01	42.85
River	1019.83	24.66
Total	4135.41	100

Source: Field Survey, 2016

Digital Elevation Model (DEM)

In this study of Ishwarganj Upazila, encountering the proposed facilities as discussed in prior chapters, drainage is one of the crucial facts for planning as deemed as other aspects of the study. Through the topographic survey followed by photogrammetric analysis by which, the information has come to light for making proper planning measures can be found in the DEM Map. These results will assist and reference the drainage proposals in long hands during the project to join other segments as well. For spot heights acquisition, firstly the DTM points have been generated automatically from stereo pair images by the software. Spot heights or land levels are extracted as DTM points at 20 m intervals for rural areas as described in the TOR. These automatically generated points have been then checked and edited by comparing them with stereo model in photogrammetric workstations. The analysis gave value ranging from 0 to 26 meters in **Map 8.8** Shown Digital Elevation Model (DEM) of Ishwarganj Upazila.

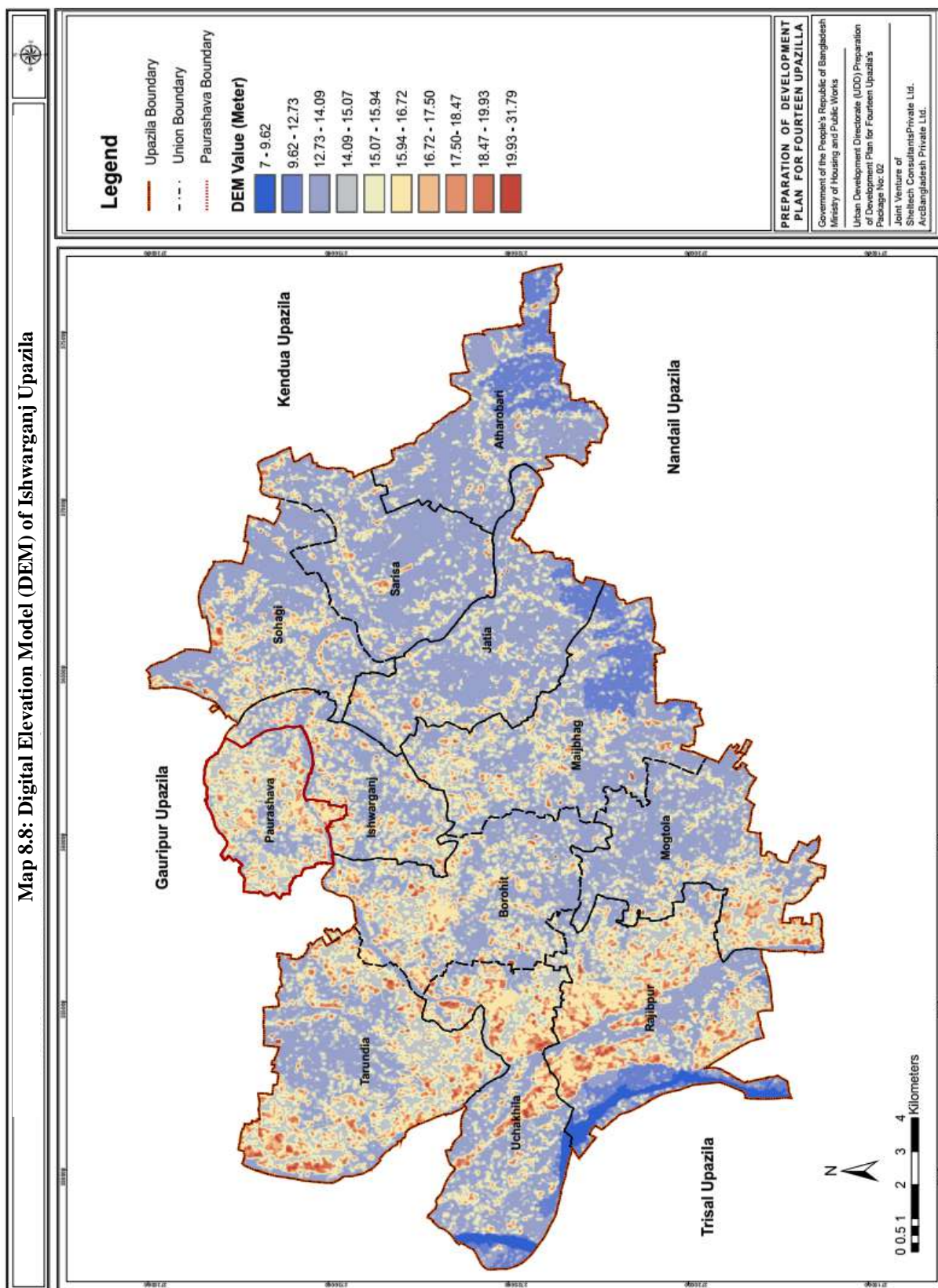
Contour

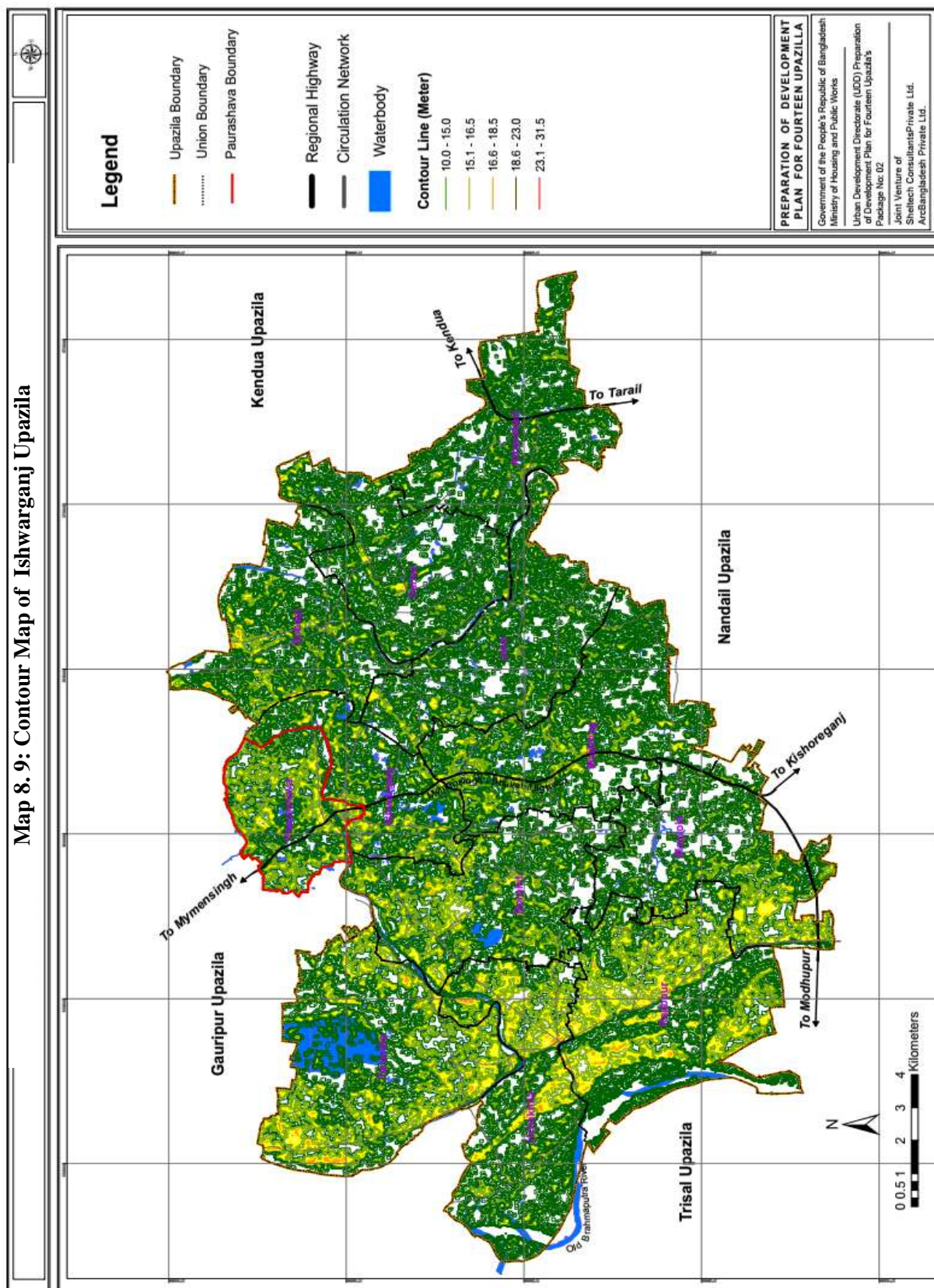
These analysis has generated maps which represents elevation or height of features as well as surface of earth. Moreover, another way of depicting height information would be contour maps which contains height information in context of raster and vector data. As the name suggests the contour map containing 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 Ishwarganj Upazila, contour lines will show the height distribution and projection of surface area of. This will give the image for the proper adjustments that will be needed to call in proposed system as drainage management. Spot heights or land levels are extracted as DTM points at 0.50 m intervals for rural areas as described in the TOR. The map has shown to have values ranging from

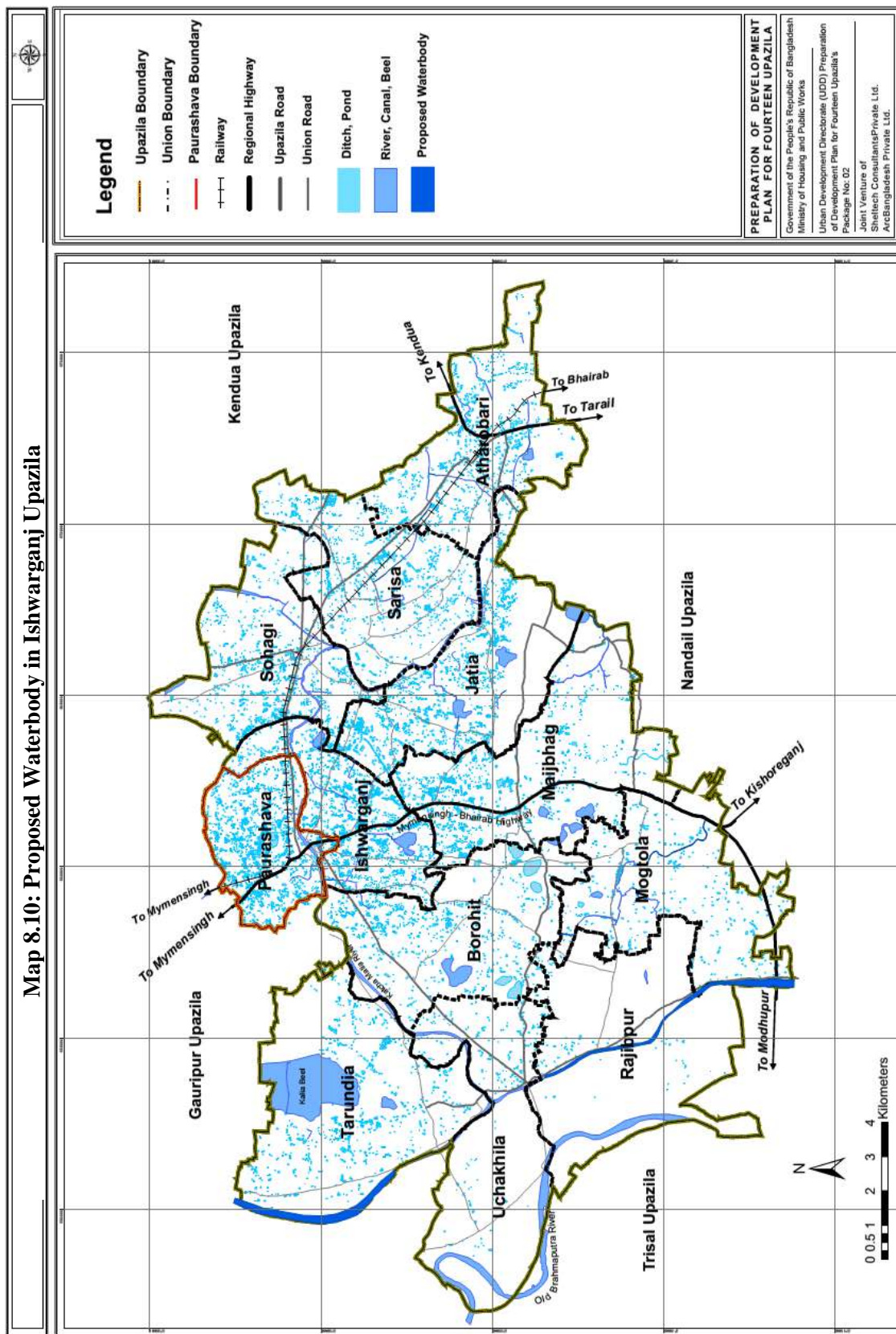
11 meters to 26 meters of which the average height came to be 6.72 meters. The topography is illustrated in the **Map 8.9** for better apprehension.

8.2.5.2 Plans for Drainage Management

There are many small and big canal and khal and rivers passes through the Upazila. Those river and Khal is the main drainage channel of the Upazila. At some places canal or khal are not connect with main water channel. New canal has been proposed there. A new canal about 0.82 km has been proposed at Jatia union to link with the existing canal with Kacha Matia River. About 5.32 km canal has been proposed at Tarundia Union to link with Kacha Matia Rievr. New canal about 2.02 km has been proposed in Sarisha union to link existing waterbody with Mahespur Khal. About 0.67 km at Atharobarir union, about 0.32 km at Ishwarganj Union, About 8.20 km (Dead Canal) ar Rajibpur Union and About 2.65 km at Mogtola Union canal has been proposed. Water body area bigger than 0.25 acre has been proposed as water retention pond. Main inundated zone identified at Mogtola, Maijbag, Ishwarganj, Atharobari, Jatia and Uchakhila Union. **Maps 8.10** shown proposed waterbody in Ishwarganj Upazila.







8.3 Union wise Existing and Proposed Land Uses

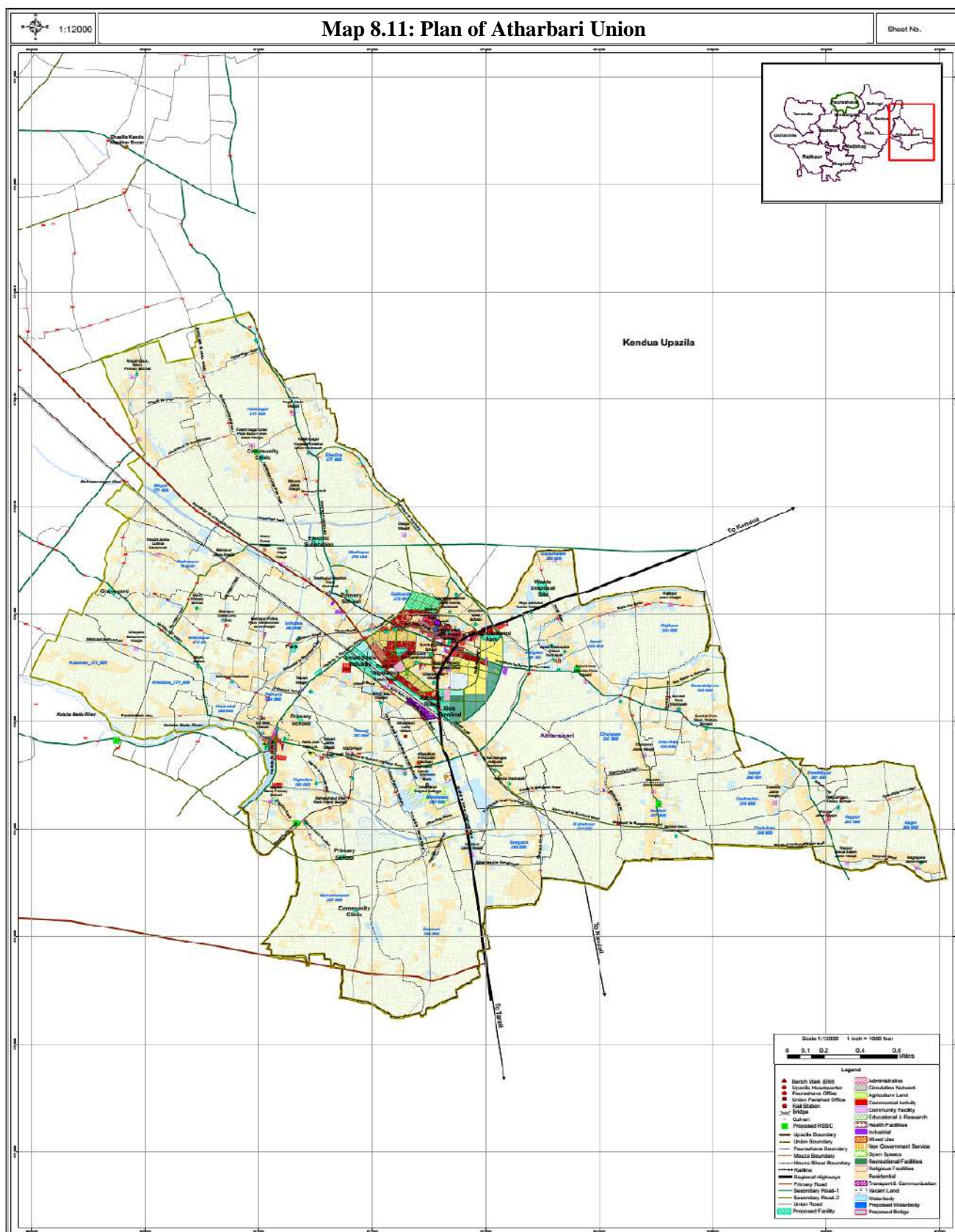
Atharobari Union

Out of total 5384.48 acres of land of Atharobari union, more than 3985.73 acres of land i.e. 74.02 % is used as agriculture purpose. The residential use with 1019.63 acres, occupies 18.94% of total land, water bodies 4.38 %, commercial use 0.78%, and circulation 1.12 %. There is no land for utility and waste management. **Table 8.14** shows the existing and proposed landuse of Atharobari Union. **Map 8.11** shows proposed land use of Atharobari union.

Table 8.14: Existing and Proposed Land Uses of Atharobari Union.

Land use	Existing Landuse		Proposed Landuse	
	Area	%	Area	%
	(in acres)		(in acres)	
Administrative	1.38	0.03	1.38	0.03
Agriculture	3985.73	74.02	3830.47	71.14
Circulation Network	60.23	1.12	247.57	4.60
Commercial	42.06	0.78	44.02	0.82
Community and Religious Facilities	8.33	0.15	8.33	0.15
Education & Health	18.66	0.35	19.39	0.36
Industrial	3.27	0.06	7.51	0.14
Recreational and Open Space	8.39	0.16	13.77	0.26
Residential	1019.63	18.94	967.81	17.97
Transport and Communication	0.86	0.02	5.11	0.09
Utility Services	0.00	0.00	3.18	0.06
Water Body	235.94	4.38	235.94	4.38
Total	5384.48	100	5384.48	100

In proposed landuse, more than 967.81 acres of land has been earmarked for residential use which will occupy 17.97 % of the total land. One new housing area has been proposed in Galakunda area. Small scale industry has been proposed at Teluyari and one waste disposal site is proposed at Gabor Kaliyan. To improve the efficiency of transport network of the union, more roads are proposed which will consume almost 5.11 acres of land and 0.09% of the total area. Auto/car stand, bus terminal and truck terminal has been proposed at near Uttor Bongao area. Total 1.28 acre land has been allocated for administrative purpose. Total 19.39 acres land has been proposed for education and health purpose of total land has been allocated for education. Total 13.77 acre land has been allocated for recreational purpose. A park and vegetation area has been proposed at Teloyari and another neighborhood park at Golo Gonda.



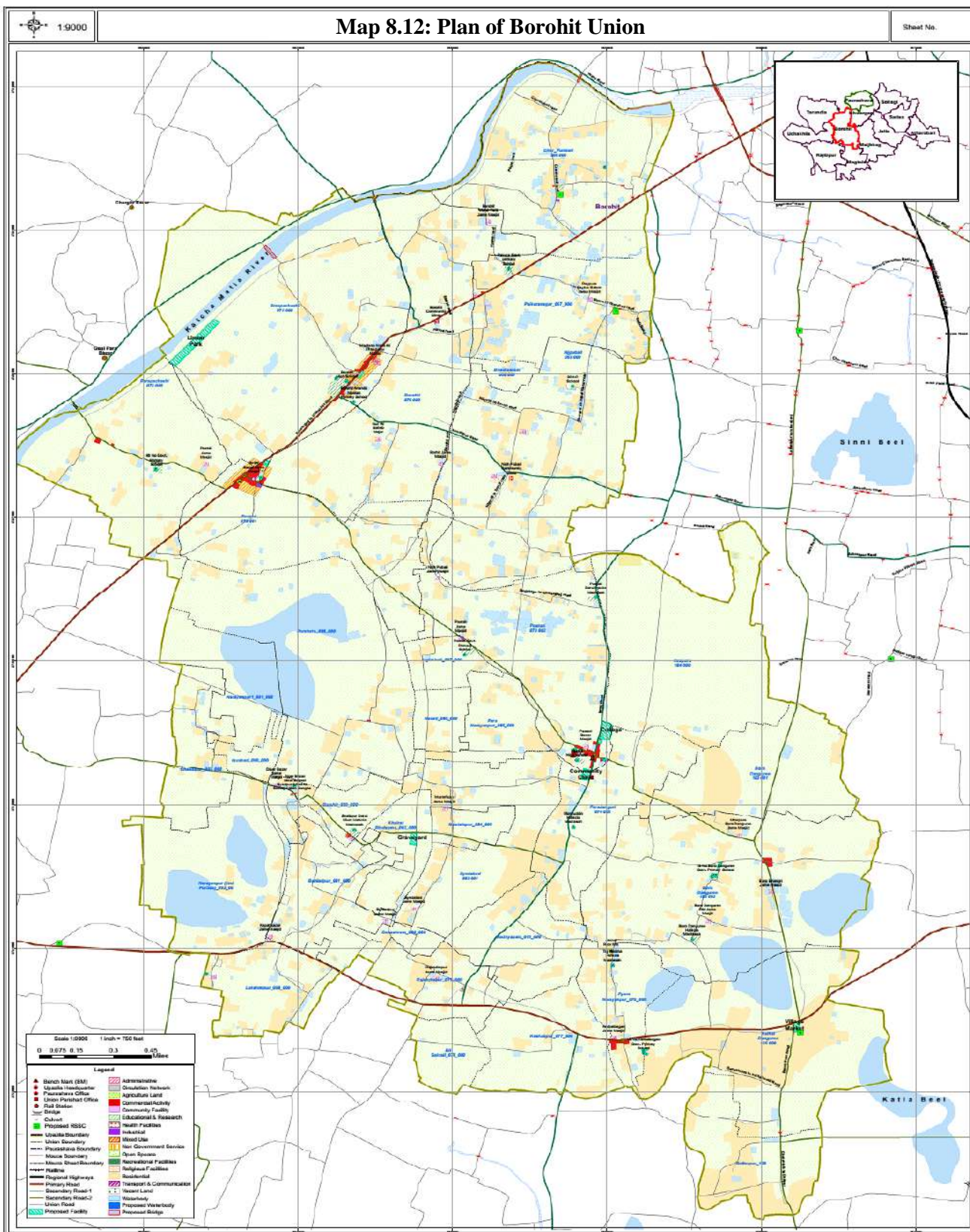
Borohit

Out of total 6136.04 acres of land of Borohit union, more than 4868.20 acres of land i.e. 79.34% is used as agriculture purpose. The residential use with 878.09 acres, occupies 14.31% of total land, water bodies 5 %, commercial use 0.17%, and circulation 0.93% and no land used for utility and waste management. **Table 8.15** shows the land existing and proposed uses in Borohit Union. **Map 8.12** shows proposed land use of Borohit Union.

Table 8.15: Existing and Proposed Land Uses of Borohit Union.

Land use	Existing Landuse		Proposed Landuse	
	Area (in acres)	%	Area (in acres)	%
Administrative	0.54	0.01	0.54	0.01
Agriculture	4868.20	79.34	4755.69	77.50
Circulation Network	56.96	0.93	190.48	3.10
Commercial	10.20	0.17	10.2	0.17
Community and Religious Facilities	4.02	0.07	4.65	0.08
Education & Health	11.11	0.18	13.13	0.21
Industrial	0.52	0.01	0.52	0.01
Recreational and Open Space	0.005	0.00	4.32	0.07
Residential	878.09	14.31	849.93	13.85
Utility Services	0.00	0.00	0.19	0.00
Water Body	306.39	4.99	306.39	4.99
Total	6136.04	100	6136.04	100

In proposed landuse, more than 849.93 acre of land has been earmarked for residential use which will occupy 13.85 % of the total land. For improved commercial development, two village market has been proposed at Borohit Union. Total 0.54 acre land has been allocated for administrative purpose. Total 13.13 acres land has been proposed for education and health purpose. College and Madrasa has been proposed in this union for educational development. A total 4.32 acre land has been allocated for Recreation and Open Space. One linear park has been proposed near Breepachashi area. The plan suggests for preserving most of the water bodies for two purposes, first, to serve as source of water, second to serve as water retention area during monsoon. The ponds will be preserved as the water retention ponds. The proposed retention area covers 306.39 acres of land which covers almost 4.99% of the total ward area. Total 0.19 acre land is proposed for Utility and waste management. One waste transfer station has been proposed at Borohit ward area.



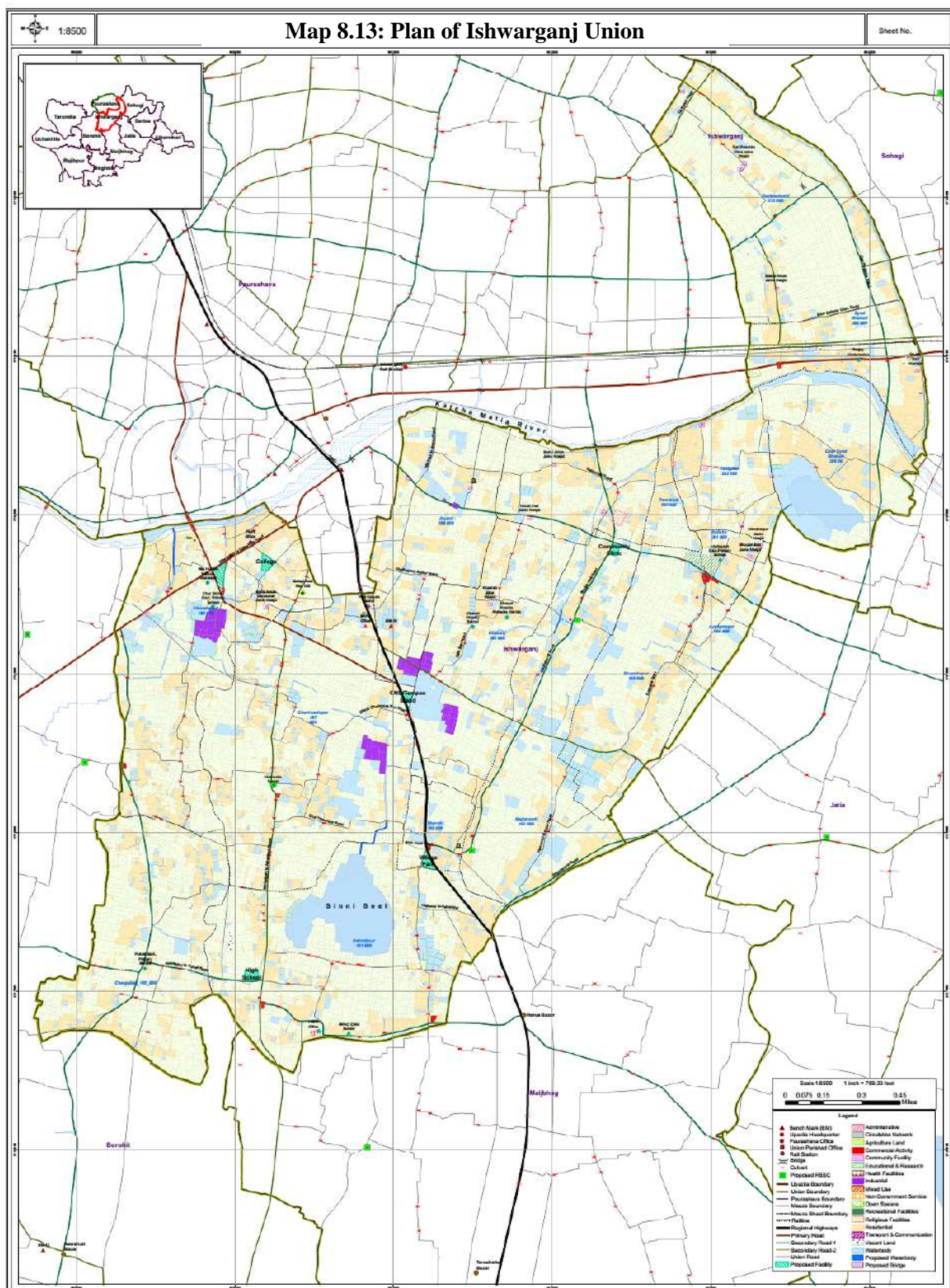
Ishwarganj

Out of total 3633.652 acres of land of Ishwarganj union, more than 2167.22 acres of land i.e. 59.64 % is used as agriculture purpose. The residential use with 929.64 acres, occupies 25.58 % of total land, water bodies 11.81 %, commercial use 0.08 %, and circulation 1.39 %. No land is used for utility and waste management. **Table 8.16** shows the f land existing and proposed uses in Ishwarganj Union. **Map 8.13** shows proposed land use of Ishwarganj Union.

Table 8.16: Existing and Proposed Land Uses of Ishwarganj Union.

Land use	Existing Landuse		Proposed Landuse	
	Area (in acres)	%	Area (in acres)	%
Administrative	0.59	0.02	0.59	0.02
Agriculture	2167.22	59.64	2083.28	57.33
Circulation Network	50.63	1.39	177.53	4.89
Commercial	0.03	0.08	3.20	0.09
Community and Religious Facilities	2.99	0.08	3.10	0.09
Education & Health	7.88	0.22	12.07	0.33
Industrial	21.58	0.59	21.58	0.59
Recreational and Open Space	20.91	0.58	21.20	0.58
Residential	929.64	25.58	881.34	24.26
Transport and Communication	0.00	0.00	0.53	0.01
Mixed Use	0.00	0.00	0.00	0.00
Water Body	429.21	11.81	429.21	11.81
Total	3633.65	100	3633.63	100

In proposed landuse, more than 881.34 acre of land has been earmarked for residential use which will occupy 24.26 % of the total land. To improve the efficiency of transport network of the union, more roads are proposed which will consume almost 0.53 acres of land and more than 0.01% of the total area. Almost total 12.07 acres land has been proposed for education and health purpose. A total 16.72 acre land has been allocated for Recreational and Open Space purpose. The plan suggests for preserving most of the water bodies for two purposes, first, to serve as source of water, second to serve as water retention area during monsoon. The ponds will be preserved as the water retention ponds. The proposed retention area covers 429.21 acres of land which covers almost 11.81 % of the total ward area. Different facilities such as an Agricultural training centre at Char Sihari, a college Char Sihari, a school at ashraabpur , a village park near ashraabpur, a community clinic Majhia Kandi, a Cng/tempoo stand at Char Hosenpur has been proposed at Ishwarganj Union.



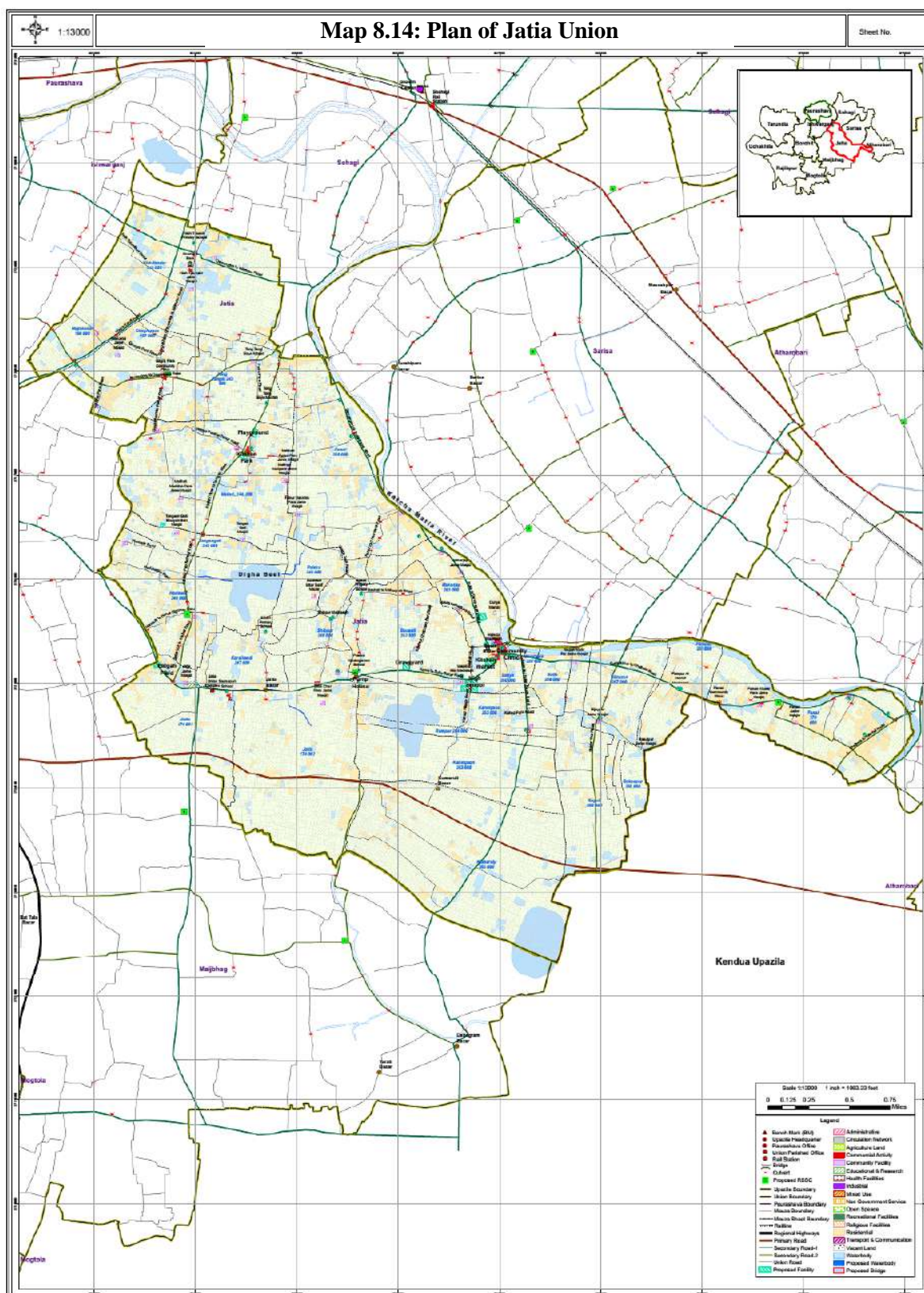
Jatia Union

Out of total 5686.3 acres of land of Jatia Union, more than 4435.58 acres of land i.e. 78% is used as agriculture purpose. The residential use with 747.41 acres, occupies 13.14 % of total land, water bodies 7.63 %, commercial use 0.14 %, and circulation 0.93 %. There is no land for utility and waste management. **Table 8.17** shows the existing and proposed uses in Jatia Union. **Map 8.14** shows proposed land use of Jatia Union.

Table 8.17: Existing and Proposed Land Uses of Jatia Union.

Land use	Existing Landuse		Proposed Landuse	
	Area (in acres)	%	Area (in acres)	%
Administrative	0.08	0.00	0.08	0.00
Agriculture	4435.58	78.00	4334.64	76.23
Circulation Network	52.91	0.93	152.20	2.68
Commercial	7.70	0.14	7.73	0.14
Community and Religious Facilities	1.47	0.03	1.52	0.03
Education & Health	7.26	0.13	7.26	0.13
Industrial	0.00	0.00	0.00	0.00
Recreational and Open Space	0.02	0.00	1.20	0.02
Residential	747.41	13.14	747.46	13.14
Transport and Communication	0.00	0.00	0.00	0.00
Mixed Use	0.00	0.00	0.00	0.00
Utility Services	0.00	0.00	0.00	0.00
Water Body	434.21	7.63	434.21	7.64
Total	5686.3	100	5686.3	100

In proposed landuse, more than 747.46 acre of land has been earmarked for residential use which will occupy 13.14% of the total land. Total 7.26 acres land has been proposed for education and health. Different facilities such as Village Park, kitchen market, community clinic, water supply system, playground has been proposed in this union. The plan suggests for preserving most of the water bodies for two purposes, first, to serve as source of water, second to serve as water retention area during monsoon. The ponds will be preserved as the water retention ponds. The proposed retention area covers 434.21 acres of land which covers almost 7.64 % of the total ward area.



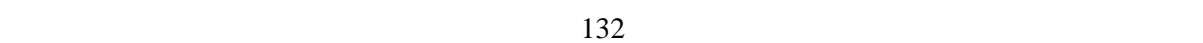
Maijbhag Union

Out of total 7174.03 acres of land of Maijbhag union, more than 5608.27 acres of land i.e. 78.17% is used as agriculture purpose. The residential use with 1139.98 acres, occupies 15.89 % of total land, water bodies 4.28 %, commercial use 0.36%, and circulation 1.03 %. There is no land for utility and waste management. **Table 8.18** shows the land existing and proposed uses in Maijbhag union. **Map 8.15** shows proposed land use of Maijbhag union.

Table 8.18: Existing and Proposed Land Uses of Maijbhag Union.

Land use	Existing Landuse		Proposed Landuse	
	Area (in acres)	%	Area (in acres)	%
Administrative	2.60	0.04	2.60	0.04
Agriculture	5608.27	78.17	5608.68	78.18
Circulation Network	73.91	1.03	74.00	1.03
Commercial	25.53	0.36	25.53	0.36
Community and Religious Facilities	3.68	0.05	3.70	0.05
Education & Health	11.40	0.16	11.40	0.16
Industrial	1.10	0.02	1.11	0.02
Recreational and Open Space	0.29	0.00	0.29	0.00
Residential	1139.98	15.89	1139.29	15.88
Mixed Use	0.18	0.00	0.18	0.00
Water Body	307.09	4.28	307.27	4.28
Total	7174.03	100.00	7174.03	100.00

For Agriculture Development Agro-Based Industry has been proposed in Maijbhag Industrial area. In proposed land use, more than 1139.29 acre of land has been earmarked for residential use which will occupy 15.88% of the total land. To improve the efficiency of transport network of the union, more roads are proposed which will consume almost 74 acres of land and more than 1.03% of the total area. Total 2.60 acre land has been allocated for administrative purpose. A kitchen market has been proposed in Harua area. Total 11.40 acres land has been proposed and a vocational training center has also been proposed in Maijbhag for education and health purpose. Hospital has been proposed at Char Shankar locality. Total 0.29 acre land has been allocated recreation purpose. Playground and has been proposed for increasing recreational facility. There are a college is also in this plan. The plan suggests for preserving most of the water bodies for two purposes, first, to serve as source of water, second to serve as water retention area during monsoon. The ponds will be preserved as the water retention ponds. The proposed retention area covers 307.27 acres of land which covers almost 4.28 % of the total ward area. Two waste transfer station has also been proposed in this union.



Mogtola Union

Out of total 5929.69 acres of land of Mogtola union, more than 3005.74 acres of land i.e. 50.69 % is used as agriculture purpose. The residential use with 2672.77 acres, occupies 45.07 % of total land, water bodies 2.01 %, commercial use 0.33%, and circulation 1.11 %. **Table 8.19** shows the amount of land existing and proposed uses in Mogtola union. **Map 8.16** shows proposed land use of Mogtola union.

Table 8.19: Existing and Proposed Land Uses of Mogtola Union.

Land use	Existing Landuse		Proposed Landuse	
	Area (in acres)	%	Area (in acres)	%
Administrative	1.14	0.02	1.14	0.02
Agriculture	3005.74	50.69	2994.21	50.5
Circulation Network	66.04	1.11	82.2	1.39
Commercial	19.34	0.33	20.01	0.34
Community and Religious Facilities	5.11	0.09	6.10	0.10
Education & Health	18.57	0.31	18.57	0.31
Industrial	0.79	0.01	0.79	0.01
Residential	2672.77	45.07	2666.30	44.97
Mixed Use	21.05	0.35	21.05	0.36
Water Body	119.13	2.01	119.13	2.01
Total	5929.69	100.00	5929.69	100

For agricultural development, one agro-based industry has been proposed at Nauri in Mogtola Union. In proposed landuse, more than 2666.3 acre of land has been earmarked for residential use which will occupy 44.9 % of the total land. To improve the efficiency of transport network of the union, more roads has been proposed which will consume almost 66.04 acres of land and more than 1.39% of the total area. Total 1.14 acre land has been allocated for administrative purpose. Total 18.57 acres land has been proposed for education and health purpose. The plan suggests for preserving most of the water bodies for two purposes, first, to serve as source of water, second to serve as water retention area during monsoon. The ponds will be preserved as the water retention ponds. The proposed retention area covers 119.14 acres of land which covers almost 2.01 % of the total ward area. .



Rajibpur Union

Out of total 7918.44 acres of land of Rajibpur union, more than 5016.19 acres of land i.e. 63.35 % is used as agriculture purpose. The residential use with 2584.73 acres, occupies 32.64% of total land, water bodies 2.41%, commercial use 0.35%, and circulation 0.91 %. **Table 8.20** shows the land existing and proposed uses in Rajibpur union. **Map 8.17** shows proposed land use of Rajibpur union.

Table 8.20: Existing and Proposed Land Uses of Rajibpur Union.

Land use	Existing Landuse		Proposed Landuse	
	Area (in acres)	%	Area (in acres)	%
Administrative	2.30	0.03	2.30	0.03
Agriculture	5016.19	63.35	5002.20	63.17
Circulation Network	71.97	0.91	95.20	1.20
Commercial	27.98	0.35	28.04	0.35
Community and Religious Facilities	6.40	0.08	6.90	0.09
Education & Health	10.16	0.13	10.16	0.13
Industrial	2.38	0.03	2.38	0.03
Residential	2584.73	32.64	2574.20	32.51
Mixed Use	5.47	0.07	6.20	0.08
Water Body	190.56	2.41	190.56	24.07
Total	7918.14	100.00	7918.14	100

Rajibpur is the main industrial zone for Ishwarganj Upazila. In proposed landuse, more than 2574.20 acre of land has been earmarked for residential use which will occupy 32.51% of the total land. Low cost housing area has been proposed near Chornopara area. To improve the efficiency of transport network of the union, more roads are proposed which will consume almost 95.2 acres of land and more than 1.20% of the total area. About 2.30 acre land has been allocated for administrative purpose. Total 10.16 acres land has been proposed for education and health purpose. The plan suggests for preserving most of the water bodies for two purposes, first, to serve as source of water, second to serve as water retention area during monsoon. The ponds will be preserved as the water retention ponds. The proposed retention area covers 190.56 acres of land which covers almost 24.07% of the total ward area.



Sarisa Union

Out of total 5304.88 acres of land of Sarisa Union, more than 4052.42 acres of land i.e. 76.39 % is used as agriculture purpose. The residential use with 923.38 acres, occupies 17.41% of total land, water bodies 4.59 %, commercial use 0.16%, and circulation 1.11 %. **Table 8.21** shows the land existing and proposed uses in Sarisa union. **Map 8.18** shows proposed land use of Sarisa union.

Table 8.21: Existing and Proposed Land Uses of Sarisa Union.

Land use	Existing Landuse		Proposed Landuse	
	Area (in acres)	%	Area (in acres)	%
Administrative	1.67	0.03	1.67	0.03
Agriculture	4052.42	76.39	4048.20	76.31
Circulation Network	58.89	1.11	68.20	1.29
Commercial	8.45	0.16	9.20	0.17
Community and Religious Facilities	3.58	0.07	3.5725	0.07
Education & Health	11.70	0.22	11.70	0.22
Industrial	1.10	0.02	1.1028	0.02
Residential	923.38	17.41	916.40	17.27
Water Body	243.69	4.59	243.69	4.59
Total	5304.88	100	5304.879	100

In proposed landuse, more than 916.40 acre of land has been earmarked for residential use which will occupy 17.27 % of the total land. Rural core housing area has been proposed in this union near Chapilakanda area. To improve the efficiency of transport network of the union, more roads are proposed which will consume almost 68.20 acres of land and more than 1.29% of the total area. A Shopping Complex area and a kitchen market has been allocated for commercial purpose. The plan suggests for preserving most of the water bodies for two purposes, first, to serve as source of water, second to serve as water retention area during monsoon. The ponds will be preserved as the water retention ponds. The proposed retention area covers 243.69 acres of land which covers almost 4.59% of the total ward area.

Sohagi

Out of total 5282.72 acres of land of Sohagi union, more than 4057.41 acres of land i.e. 76.81 % is used as agriculture purpose. The residential use with 759.36 acres, occupies 14.37 % of total land, water bodies 6.91 %, commercial use 0.29%, and circulation 1.13 %. **Table 8.22** shows the amount of land existing and proposed uses in Sohagi union. **Map 8.19** shows proposed land use of Sohagi union.

Table 8.22: Existing and Proposed Land Uses of Sohagi Union

Land use	Existing Landuse		Proposed Landuse	
	Area (in acres)	%	Area (in acres)	%
Administrative	0.78	0.01	0.78	0.01
Agriculture	4057.41	76.81	3903.91	73.9
Circulation Network	59.52	1.13	199.91	3.78
Commercial	15.57	0.29	13.22	0.25
Community and Religious Facilities	10.54	0.20	10.54	0.20
Education & Health	13.56	0.26	13.56	0.26
Industrial	0.00	0.00	39.79	0.75
Recreational and Open Space	0.37	0.01	0.61	0.01
Residential	759.36	14.37	734.77	13.91
Transport and Communication	0.47	0.01	0.27	0.01
Utility Services	0.00	0.00	0.21	0.00
Water Body	365.14	6.91	365.14	6.91
Total	5282.72	100.00	5282.73	100

Sohagi is another important industrial zone of Ishwarganj Upazila. The largest agro based industry area has been proposed at Bagaputa locality in this union. A brick field zone has also been allocated at Doribari in this union. In proposed landuse, more than 759.36 acre of land has been earmarked for residential use which will occupy 14.37 % of the total land. To improve the efficiency of transport network of the union, more roads are proposed which will consume almost 199.31 acres of land and more than 3.78% of the total area. Total 0.74 acre land has been allocated for administrative purpose. Total 13.53 acres land has been proposed for education and health purpose. Community Clinic has been proposed at middle Sohagi Union. The plan suggests for preserving most of the water bodies for two purposes, first, to serve as source of water, second to serve as water retention area during monsoon. The ponds will be preserved as the water retention ponds. The proposed retention area covers 365.14 acres of land which covers almost 6.91 % of the total area. Total 0.21 acre land proposed for Utility and waste management.

Tarundia Union

Out of total 8042.45 acres of land of Tarundia union, more than 5389.17 acres of land i.e. 66.01 % is used as agriculture purpose. The residential use with 1365.75 acres, occupies 16.98 % of total land, water bodies 14.30 %, commercial use 0.55%, and circulation 0.86 %. **Table 8.23** shows the land existing and proposed uses in Tarundia union. **Map 8.20** shows proposed land use of Tarundia union.

Table 8.23: Existing and Proposed Land Uses of Tarundia Union.

Land use	Existing Landuse		Proposed Landuse	
	Area (in acres)	%	Area (in acres)	%
Administrative	0.43	0.01	0.43	0.01
Agriculture	5389.17	67.01	5268.34	65.51
Circulation Network	68.94	0.86	242.26	3.01
Commercial	44.04	0.55	46.20	0.57
Community and Religious Facilities	5.54	0.07	5.74	0.07
Education & Health	17.50	0.22	18.35	0.23
Industrial	0.90	0.01	0.90	0.01
Recreational and Open Space	0.00	0.00	4.78	0.06
Residential	1365.75	16.98	1305.27	16.23
Water Body	1150.18	14.30	1150.18	14.30
Total	8042.45	100	8042.45	100

Different facilities such as Village Park at Polash Kanda, College near Sakhuwa Bazar, Playground and park at Tarundia, Community clinic at Sakhuwa and Sartaz Bayera etc. has been proposed in this Union. In proposed landuse, more than 1305.27 acre of land has been earmarked for residential use which will occupy 16.23 % of the total land. To improve the efficiency of transport network of the union, more roads are proposed which will consume almost 242.26 acres of land and more than 3.01% of the total area. Total .43 acre land has been allocated for administrative purpose. Total 18.35 acres land has been proposed for education and health purpose. The plan suggests for preserving most of the water bodies for two purposes, first, to serve as source of water, second to serve as water retention area during monsoon. The ponds will be preserved as the water retention ponds. The proposed retention area covers 1150.18 acre of land which covers almost 14.30 % of the total area. Total 4.78 acre land proposed for recreational and open space.



Uchakhila Union

Out of total 6155.234 acres of land of Uchakhila union, more than 4327.24` acres of land i.e. 70.30% is used as agriculture purpose. The residential use with 1335.004 acres, occupies 21.69 % of total land, water bodies 6.17 %, commercial use 0.22%, and circulation 0.87%. **Table 8.24** shows the land existing and proposed uses in Uchakhila union. **Map 8.21** shows proposed land use of Uchakhila union.

Table 8.24: Existing and Proposed Land Uses of Uchakhila Union.

Land use	Existing Landuse		Proposed Landuse	
	Area (in acres)	%	Area (in acres)	%
Administrative	0.47	0.01	0.47	0.01
Agriculture	4327.24	70.30	4231.69	68.75
Circulation Network	53.6	0.87	179.36	2.91
Commercial	13.8	0.22	14.10	0.21
Community and Religious Facilities	4.45	0.07	5.60	0.09
Education & Health	9.46	0.15	11.10	0.18
Industrial	0.55	0.01	20.47	0.33
Recreational and Open Space	30.50	0.50	30.50	0.49
Residential	1335	21.69	1281.76	20.82
Mixed Use	0.26	0.00	0.26	0.00
Water Body	379.90	6.17	379.90	6.20
Total	6155.23	100.00	6155.23	100

One agro-based industry has been proposed near Ishwarpur in this union. In proposed landuse, more than 1281.82 acre of land has been earmarked for residential use which will occupy 20.82% of the total land. To improve the efficiency of transport network of the union, more roads are proposed which will consume almost 179.36 acres of land and more than 2.91 % of the total area. Total 0.31 acre land has been allocated for administrative purpose. Total 11.10 acres land has been proposed for education and health purpose. Community Clinic has been proposed at south Uchakhila Union. A wholesale market and a kitchen market has also been proposed in this union. The plan suggests for preserving most of the water bodies for two purposes, first, to serve as source of water, second to serve as water retention area during monsoon. The ponds will be preserved as the water retention ponds. The proposed retention area covers 381.49 acres of land which covers almost 6.20 % of the total area. Total 0.49 acre land proposed for recreational and open space.

Chapter 9: Action Area Plan

9.1 Introduction

Action Area Plan is the last component of the Development Plan. This plan will be enrolled at 5 years interval. In this chapter, the consultants highlight the development projects in more details including conceptual design. 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 developments 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 organized development of the project area. It describes land use in specific locations, prepare architectural layout plans and building control mechanisms. Action Area plan embodies components of the plan, geographical coverage, time frame for implementation, responsibility of plan implementation, coordination among components and implementation agencies. Development projects are presented in **Annex-A**.

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 List of Priority Projects

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 Ishwarganj Upazila.

Phase	Activity
First Phase 2013-2018	Development of Cultural Center at ward no 03.
	Development of Central Park at Ward 07.
	Development of Waste Transfer Station at Maijbhag Union.
	Development of IT Training Center at ward 03.
Second Phase 2018-2023	Development New urban area at Atharobari Union
	Development of Resettlement Zone at ward 9
	Development Central Park at Ward 02.
	Development of Public Library at Ward no 03.
	Development of Future Government Office at Ward No 03.
Third Phase 2023-2028	Development of Agro-Based Industry at Mogtola Union.
	Development of Community Clinic at Different Union.
	Development of Small Scale Industry at Atharobari Union.
	Development of Graveyard at Different Union
	Development of Electric Sub-Station at Ward 02.
Fourth Phase 2028-2033	Development of Bus Terminal at ward 03.
	Development of Slaughter House at ward 01.
	Development of Kitchen Market at Different Union.
	Development of Rural Housing Area at Sarisa Union.

9.5 Action Area Plan

9.5.1 Development New Urban Area at Atharobari Union of Ishwarganj Upazila.

Name of the Project: Development of New Urban Area at Atharobari Union of Ishwarganj Upazila.

Location: Atharobari, Ishwarganj.

Area: 243 acres

Priority Phase: Second Phase (2018-2023).

Project Description: This area is proposed to developed within the plan period (2033). This area accommodates the required area for proposed public facilities like administrative services , utilities, recreational, major religious and educational facilities etc. This New Urban area will be developed at Atharobari union. The main objective of this new urban area is to reduce pressure from Paurashava area and developed a new commercial zone. Layout Plan of New urban area at Atharobari Union of Ishwarganj Upazila shown in **Fig 9.1**.

Impact Assessment

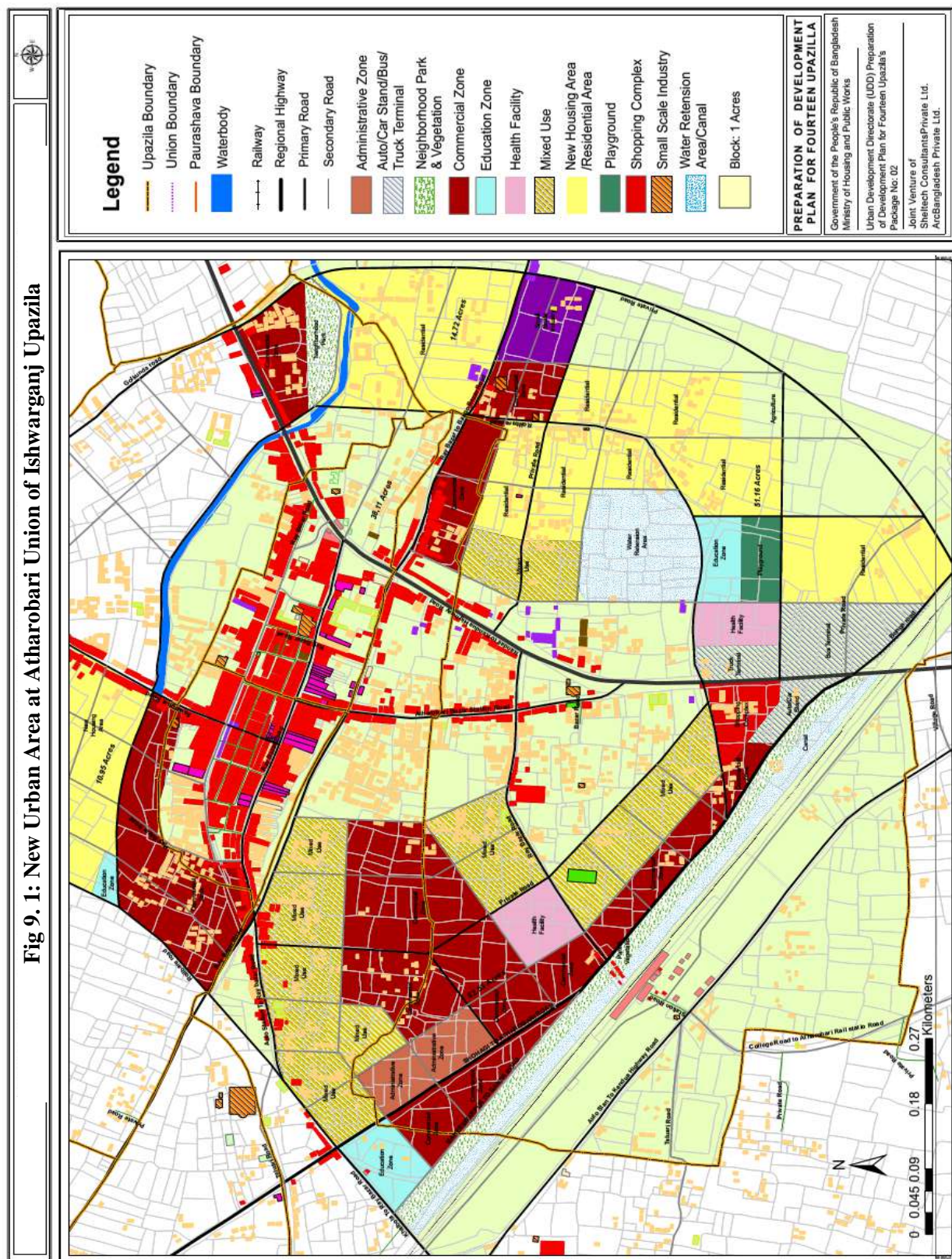
- Creation of Job
- Increase the quality of life style
- Expand local business
- Enhanced property values

Implementing Authority: DC office/UNO/Paurashava

Source of Fund: GOB

Cost Breakup:

Description of Item	Unit	Rate	Quantity	Total cost
Land Acquisition	Katha	50,000	14681.25	73,40,62,500
Land Development	sq.ft	50	1,05,70,500	52,85,25,000
Total				126,25,87,500



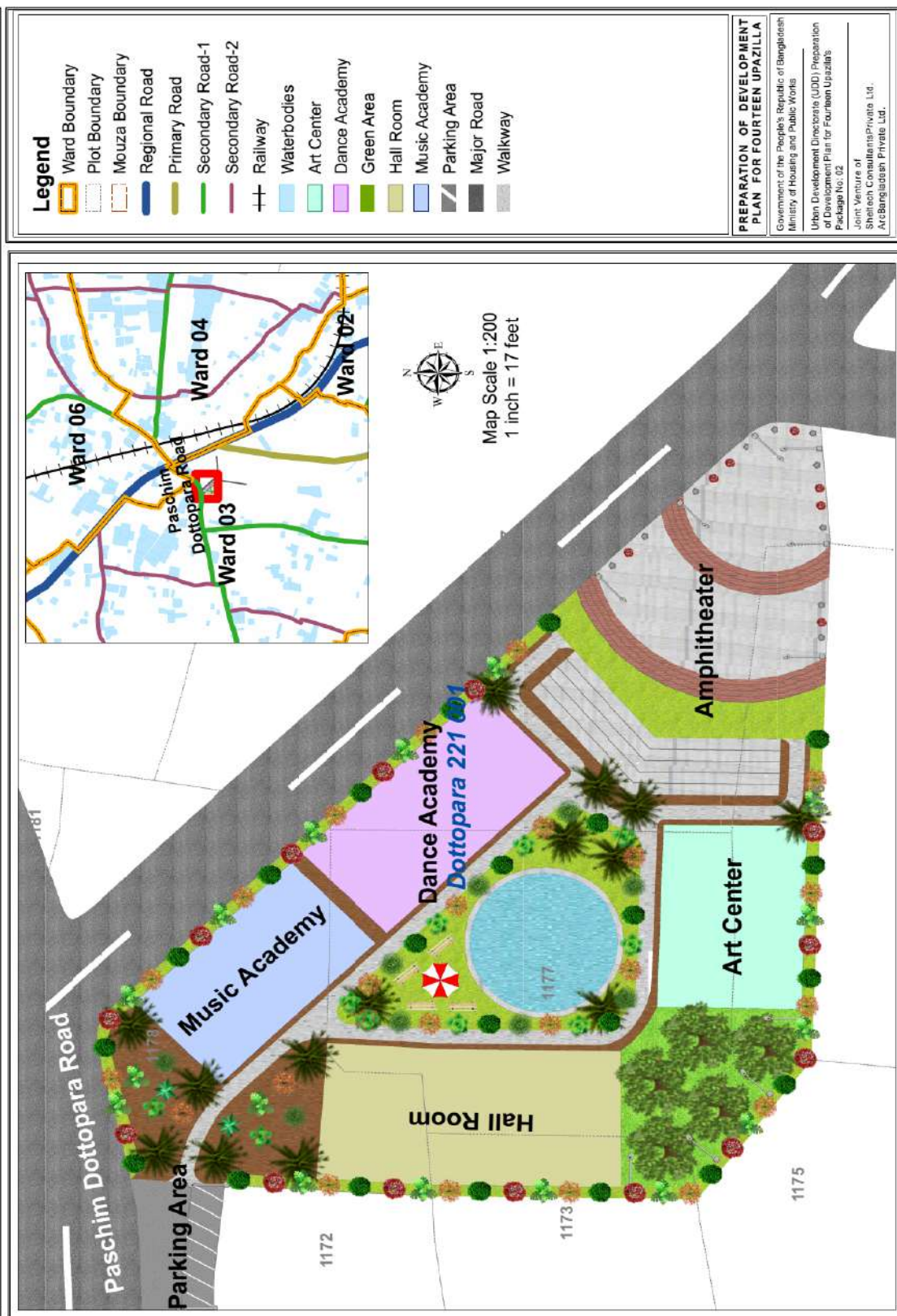
9.5.2 Development of Cultural Center.**Name of the Project:** Development of Cultural Center at ward no 03.**Location:** Ward no 03.**Area:** 0.66 acres**Implementation Period:** First Phase (2013-2018).

Project Description: The project is located at ward-03 with an area of 0.66 acres. A culture is a way of life of a group of people. The culture of Bangladesh refers to the way of life of the people of Bangladesh. This cultural center consist of Art center, Music academy, dance academy and amphitheater etc. An extensive landscape is proposed considering the visitors convenience. Layout plan of the project area shown in **Fig 9.2.**

Implementing Authority: PPP/Paurashava**Source of Fund:** GOB**Cost Breakup:**

Description of Item	Unit	Rate	Quantity	Total cost
Land Acquisition	Katha	60,000	39.9	23,95,800
Land Development	sq.ft	400	28749.6	1,14,99,840
Total				1,38,95,640

Fig 9. 2: Action plan for Cultural Center



9.5.3 Development of Resettlement Zone

Name of the Project: Development of Resettlement Zone at ward 9 in Iswharganj Paurashava.

Location: Ward no -09

Area: 4.69 acre.

Priority Phase: Second Phase (2018-2023)

Project Description: The project is located at ward no 09 with an area of 4.69 acres of land, which is suitable for developed resettlement zone. In layout plan 3 types plot with different facilities has been proposed for resettled peoples. Layout plan of the project area shown in Fig 9.3.

Environmental Concern: There will be not much impact on the environment.

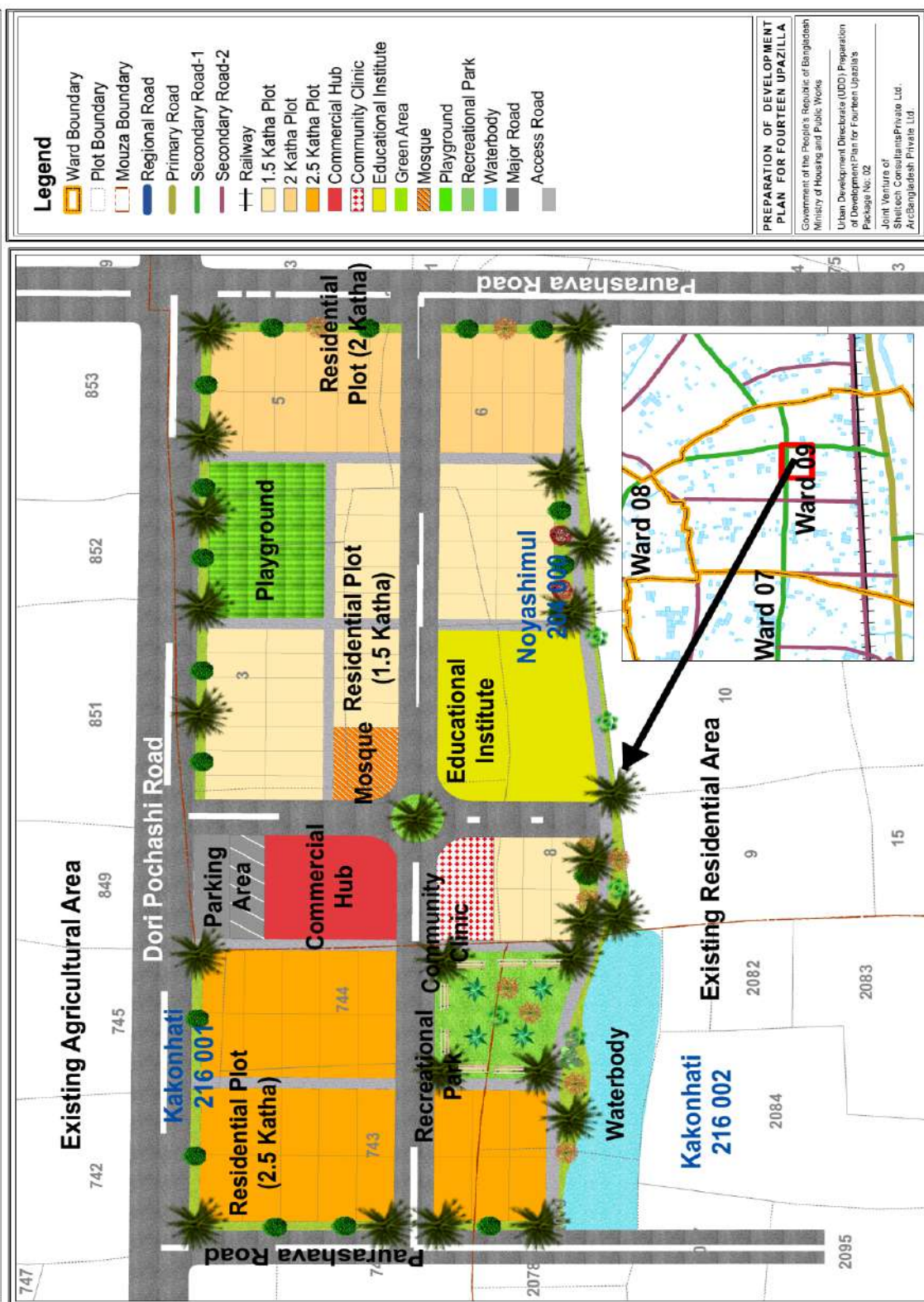
Implementing Authority: Government of Bangladesh

Source of Fund: GOB

Cost Breakup:

Description of Item	Unit	Rate	Quantity	Total cost
Land Acquisition	Katha	50,000	283.74	1,41,87,250
Land Development	sq.ft	300	204296.4	6,12,88,920
Total				7,54,76,170

Fig 9. 3: Action Plan Resettlement Zone



Chapter 10: Plan Implementation

10.1 Introduction

Plan Implementation is the most crucial task for the stakeholders. This chapter highlights the various measures needed to be taken in order to execute the plan proposals. Effective implementation is most critical 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. Ishwarganj Upazila will be the main custodian of the total plan package. It will also be responsible for executing the monitoring and implementation phase of the development projects by other development as well as UNO.

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 4th year of the plan period and will come into execution from 5th year of the time period. 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 which is 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 non-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 Ishwarganj Upazila for implementation. Ishwarganj Upazila is only the custodian of the plan, it will also directly implement much of the development projects. Besides, it will also be responsible for monitoring and implementing 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 directly involved with Upazila development plan and UDD is currently doing the Upazila 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 / Ordinance where the elements of good governance area is clearly visible. The consultant has identified relevant acts, where some elements of good governance can be traced. The implementation of the plan 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 Ishwarganj Upazila revenue income is too low and that's why it is capable to pay the salary of all the officials. This are the main reasons for under staffing of the Upazila. There are none 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 align execution. After expiry of any plan, evaluation is made about the errors and omissions. Such

evaluation helps take corrective measures in the next plan. But Ishwarganj Upazila is not equipped with qualified manpower to make such evaluation. However, plan evaluation can be accomplished by means of out sourcing as and when it is required. Land Schedule has been prepared and shown in Annex.

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 Ishwarganj 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. Ishwarganj 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.

Annexures

Annex -A: Development Project of Ishwarganj Upazila

Categories	Name of the Project	Implementing Agency
Administrative Sector	Development of Future Government Office at Ward No 03.	Paurashava
Agriculture Sector	Development of Agro-Based Industry at Mogtola Union.	BEZA
	Development of Cold Storage at Rajibpur Union.	Private
Community Sector	Development of Cultural Center at ward no 03.	DC Office
	Development of Graveyard at Different Union	PPP
	Development of Graveyard Facility at Union Level.	PPP
	Development of Central Graveyard at Ward no 08.	Paurashava
	Development of Auditorium at Ward 02.	DC Office
	Development of Community Center at Rajibpur Union.	Private
Commercial Sector	Development of Kitchen Market at Different Union.	Paurashava
	Development of Neighborhood Market at Ward No 08.	Paurashava
	Development of Shopping Complex at Sarisa Union.	Private
	Development of Village Market.	Paurashava
Education Sector	Development of IT Training Center at ward 03.	DC Office
	Development of Public Library at Ward no 03.	Paurashava
Health Sector	Development of Community Clinic at Different Union.	DHPE
Industrial Sector	Development of Small Scale Industry at Atharobari Union.	BEZA
	Development of Brick Field Zone at Sohagi Union.	PPP
	Development of Industrial Zone at Rajibpur Union.	BEZA
Recreational Sector	Development Central Park at Ward 02.	Paurashava
	Development of Village Park at Union Level.	Private
Transport and Communication	Development of Bus Terminal at ward 03.	RHD
	Development of CNG/Auto Stand at Maijbagh Union.	RHD
Residential	Development New urban area at Atharobari Union	BPC
	Development of Rural Housing Area at Sarisa Union.	BPC
Utility	Development of Waste Transfer Station at Maijbhag Union.	Paurashava
	Development of Drainage Facility Surrounding Paurashava Area.	Paurashava
	Development of Slaughter House at ward 01.	PPP
	Development of Resettlement Zone at ward 9	BPC
	Development of Electric Sub-Station at Ward 02.	DC Office

Annex-B: Comments on Final Plan in the Public Hearing

Participants	Comments and suggestions	Recommendation by Consultants
UNO, Ishwarganj, Mymensingh	On behalf of Ministry of Housing and Public works, Urban Development Directorate has prepared the development plan of Ishwarganj 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 Ishwarganj will be continuous in present and future for the success of this development plan.	Comments and Suggestion has been incorporated.
Md. Azizul Islam Service Holder	Riverpath should be done straight in order to prevent the river erosion in Morichachor Village rather than constructing riverbank and this will also reduce the budget of govt.	It's not possible in this project.
Siddikur Rahman Entrepreneur	There should be a industry in Polashkanda Bharati bazar of Tarundia Upazila. That will minimize the unemployed population of the area by creating working opportunities	Small scale industry has been proposed in Tarundia Union.
Md. Azadul Alam Professor	Katcha roads in this Upazila should be converted to pucca roads for the connectivity to all places easily in this Upazila.	New pucca roads has been proposed in every union. Road widening has been proposed.
Johurul Islam Jony Service Holder	There is road which has gone through through Lakhkhiganj to Nawshati and it is a very important road network for the people for two unions and it shoulg be conctructed from katcha road to pucca road.	Has been proposed.
Mrs. Ripa Akhter Housewife	There shoud be a school and good electricity supply in Maijbag Union. Roads should be constructed more to make connectivity more accessible.	New school and new roads has been proposed for develop better connectivity.

Annex-C: Permitted Landuse

Land use Category	Sub-Land use Category	Sub-Land use Category
Residential	Residential Area	Planned Residential Area
		Govt. Quarters
		Private Housing
		Rest/Guest/Circuit House
		Banglow
		Mess
		Orphanage/Old Home
	Unplanned Residential Area	Rural Homestead
Commercial	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

Land use Category	Sub-Land use Category	Sub-Land use Category
		Iron & Steel Shops
		Shopping Center/Mall
		Super Market
		Rubber Stamps
		Phone-Fax-Photocopy
		Cycle Store
		Studio/Colour Lab
		Drug/Pharmacy
		Pottery shop
	Show Room	Electronics
		Sports and Athletics
	Market/Bazaar	Kitchen Market
		Katcha Bazar
	Cold Storage	
	Others Godown	
Mixed Use		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

Land use Category	Sub-Land use Category	Sub-Land use Category
		Dyeing Industry
		Knitting Industry
		Hosiery Products
		Readymade Garments
	Chemical industry	Compressed Natural Gas
		Fertilizers
		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

Land use Category	Sub-Land use Category	Sub-Land use Category
		Sports & Athletics
Educational	Kindergarten and Nursery	
	Primary School	
	Primary & High School	
	High School	
	High School & College	
	College	
	Medical College	Public Medical College
		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
Health	Medical Facilities	Govt. Hospital / Pvt Hospital /Maternity/ Children Hospital / Clinic/ Diagnostic Center
Administrative	Government Office	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
	Non-Government Office	Private Bank/ Insurance Company
		Mercantile & Cooperatives
		Private company/Different types of NGO/CBO/Club
		Commercial Group Office
		Trading Corporation Office

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

Annex-D: Planning Standard for Development.

Types of Landuse	Recommended Standard
Residential	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.
Roads	10% of total proposed land
Primary/Major road	150-100 feet
Secondary road	100-60 feet
Tertiary road	30-40 feet
Local road	20-25 feet
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, Madrasha)	5 acres / 20,000 pop.
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.
Administrative	12 acres/ Upazila
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
Playground	3.00 acres/20,000 pop.
Central Park	5acres/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.
Religious	0.5 acre /20,000
Mosque/Church/Temple	0.5 acre /20,000
Masjid Complex	1 unit/ Upazila
Eidgah	0.5 acre/20,000 pop.
Graveyard	0.6 acre /20,000 pop
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

Commerce	1.5 acres/ 1000
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
Industry	1.5 acres/ 1000
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 ⁿ
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 ⁿ
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 ⁿ
Fuel Station	0.50 acre/Pump
Garbage	1 acre/20,000 pop ⁿ

Goals	Description	Proposed features name and its nos of Ishwarganj Upazila	Mouza Name of Proposed features	Proposed feature's area in acre
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	Small scale industry	Atharobari	5.07
		Brick Field Zone	Rajibpur	12.17
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 help limit extreme food price volatility Target 2.3: 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,	Cold Storage	Rajibpur	0.36
		Kitchen Market	Sorisha, Maijbagh, Shohagi, Rajibpur, Mogtola, Maijbagh, Rajibpur, Jatia, Shohagi, Tarundia, Uchakhila	15.16
		Katcha Bazar	Sorisha	0.29
		Godown	Magtala	0.62
		Agriculture Training Center	Ishwarganj	1.96

[illegible]

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	increasing recycling and safe reuse globally			
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	Chornikla	1.81
SDG-8: Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all	Target: 8.10 Strengthen the capacity of domestic financial institutions to encourage and expand access to banking, insurance and financial services for all	Shopping Complex	Dottopara	0.27
		CattleHat/Cow Hathery	Dottopara	0.49
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	Industrial Zone	Rajibpur, Sohagi	449.27
		Small scale industry	Atharobari	5.07
		Brick Field Zone	Rajibpur	12.17

SDG-10: Reduce income inequality within and among countries.				
SDG-11: Make cities and human settlements inclusive, safe, resilient and sustainable	<p>Target 11.1- Ensure access for all to adequate housing and basic services and upgrade slums</p> <p>Target 11.7: Provide universal access to safe inclusive and accessible green and public spaces in particular for women and children, older persons and persons with disabilities</p> <p>Target 11.a: Support positive economic , social and environment links between urban, peri-urban and rural areas by strengthening national and regional development planning</p>	Housing Area	Atharobari	10.04
		Rural Core Housing	Atharobari, Sarisa	16.14
		Resettlement Zone	Kakonhati	4.48
		Central Park	Dottopara	6.34
		Park	Dottopara	1.62
		Village Park	Ishwarganj, Maijbag, Jatia, Rajibpur, Sarisa, Tarundia, Uchakhila	9.89
		Bus Terminal	Atharobar	3.51

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		CNG/Auto Stand	Maijbhag, Ishwarganj	1.28
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	Target 13.b: Promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries and small island developing States, including focusing on women, youth and local and marginalized communities	Rain Water Harvesting	Kakonhati	2.84
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	Future Government Offices	Dottopara	3.86
SDG-17: Strengthen the means of implementation and revitalize the global partnership for sustainable development				

Annex-E: Sustainable Development Goals and Proposed Plan of Ishwarganj Upazila

Annex- F: Vulnerability Risk Analysis Survey

ID	Mobile Tower	Overhanging	Soft Story	Pounding	Short Column	Ground Set	Tilting	Set Back	Building Condition
296	N	N	N	N	Y	N	N	Y	G
295	N	N	N	N	N	N	N	Y	G
293	N	Y	N	N	N	N	N	Y	G
294	N	N	Y	N	N	N	N	Y	G
286	N	Y	N	N	N	N	N	Y	G
280	N	Y	N	N	N	N	N	Y	G
263	N	Y	N	N	N	N	N	Y	G
289	N	Y	N	N	N	N	N	N	A
290	N	Y	N	N	N	N	N	N	A
291	Y	Y	N	N	N	N	N	Y	G
TN1	N	Y	N	Y	N	N	N	N	A
TN2	N	Y	N	N	N	N	N	N	A
TN3	Y	Y	N	N	N	N	N	N	G
TN4	N	N	N	N	Y	N	N	N	G
TN5	N	Y	N	N	N	N	N	N	G
TN6	N	Y	N	N	N	N	N	N	G
TN7	Y	Y	N	N	N	N	N	N	G
TN8	N	N	N	N	N	N	N	Y	G
61	N	Y	N	Y	N	N	N	N	A
66	N	Y	N	Y	N	N	N	N	A
68	N	Y	N	N	N	N	N	N	A
72	N	N	Y	N	N	N	N	Y	G
58	N	N	N	N	N	N	N	N	A
55	N	Y	N	N	N	N	N	N	A
54	N	N	N	N	Y	N	N	Y	G
52	N	N	Y	N	N	N	N	Y	G
57	Y	Y	N	Y	N	N	N	N	G
64	N	Y	N	Y	N	N	N	N	A

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ID	Mobile Tower	Overhanging	Soft Story	Pounding	Short Column	Ground Set	Tilting	Set Back	Building Condition
63	N	Y	N	Y	N	N	N	N	A
62	N	Y	N	Y	N	N	N	N	G
65	N	Y	N	N	N	N	N	N	G
53	N	Y	N	N	N	N	N	N	G
76	N	Y	N	N	N	N	N	Y	G
78	N	N	N	N	N	N	N	Y	G
79	N	Y	N	N	N	N	N	N	G
74	N	Y	N	N	N	N	N	N	G
77	N	N	N	N	N	N	N	N	P
49	N	Y	Y	N	N	N	N	Y	G
51	N	Y	Y	N	N	N	N	N	G
45	N	Y	N	N	N	N	N	Y	G
46	N	Y	N	N	N	N	N	Y	G
42	N	Y	N	N	N	N	N	N	G
33	N	N	N	N	N	N	N	N	G
38	N	N	N	N	N	N	N	Y	G
40	N	Y	N	N	N	N	N	N	G
39	N	Y	N	N	N	N	N	Y	G
32	N	Y	N	N	N	N	N	N	G
37	N	N	N	N	N	N	N	Y	P
47	N	Y	N	N	N	N	N	N	A
50	N	Y	N	N	N	N	N	N	A
48	N	Y	N	N	N	N	N	Y	G
MI-1	N	N	Y	N	N	Y	N	N	P
MI-2	N	N	N	N	N	N	N	N	G
MI-3	N	Y	N	N	N	N	N	N	G
MI-4	N	Y	N	N	N	N	N	N	G
MI-5	N	N	Y	N	N	N	N	N	G
MI-6	N	Y	N	N	N	N	N	N	G
283	N	Y	N	N	N	N	N	Y	G
275	N	Y	N	N	Y	N	N	Y	A
266	N	N	N	N	Y	N	N	Y	A
267	N	N	N	N	Y	N	N	Y	A
269	N	N	N	N	Y	N	N	Y	A
272	N	N	N	N	N	N	N	Y	G
260	N	N	N	N	Y	N	N	Y	G
261	N	N	N	N	Y	N	N	Y	G

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ID	Mobile Tower	Overhanging	Soft Story	Pounding	Short Column	Ground Set	Tilting	Set Back	Building Condition
247	N	N	N	Y	Y	N	N	Y	G
285	N	Y	N	N	N	N	N	Y	G
MN 1	N	N	N	N	Y	N	N	Y	G
MN 2	N	N	N	N	Y	N	N	Y	A
MN 3	N	N	N	N	N	N	N	Y	A
281	N	Y	N	N	N	N	N	Y	G
284	N	Y	N	N	Y	N	N	Y	G
283	N	Y	N	N	N	N	N	N	G
288	N	Y	N	N	N	N	N	Y	G
279	N	Y	N	N	N	N	N	Y	G
262	N	Y	N	N	N	N	N	N	A
258	N	Y	N	N	N	N	N	Y	G
256	N	N	N	N	Y	N	N	N	G
252	N	Y	N	N	Y	N	N	Y	G
240	N	Y	N	N	N	N	N	N	G
234	N	N	N	N	N	N	N	Y	G
238	N	Y	N	N	N	N	N	Y	G
243	N	Y	N	N	N	N	N	N	G
248	N	N	N	N	N	N	N	N	A
222	N	Y	N	N	N	N	N	Y	G
216	N	Y	N	N	N	N	N	N	G
212	N	Y	N	N	N	N	N	N	G
210	N	Y	N	N	N	N	N	N	G
194	N	Y	N	N	N	N	N	Y	G
197	N	N	N	N	Y	N	N	Y	G
207	N	Y	N	N	N	N	N	y	G
206	N	Y	N	Y	N	N	N	N	G
208	Y	Y	N	N	N	N	N	N	G
214	N	Y	N	N	Y	N	N	N	A
218	N	N	N	N	Y	N	N	N	A
215	N	Y	N	N	N	N	N	N	G
202	N	Y	N	N	N	N	N	N	G
195	N	N	N	Y	Y	N	N	N	G
193	N	Y	N	Y	Y	N	N	N	G
228	N	Y	N	N	N	N	N	N	G
213	N	Y	N	N	N	N	N	N	G
198	N	Y	N	N	N	N	N	N	G
241	N	N	N	N	Y	N	N	N	A

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ID	Mobile Tower	Overhanging	Soft Story	Pounding	Short Column	Ground Set	Tilting	Set Back	Building Condition
244	N	N	N	N	Y	N	N	Y	G
265	N	Y	N	N	N	N	N	N	G
292	N	N	N	N	N	N	N	N	G
231	N	N	N	N	Y	N	N	N	G
225	N	N	N	N	Y	N	N	N	G
229	N	N	N	N	Y	N	N	N	G
287	N	N	N	N	N	N	N	N	G
257	N	Y	N	N	N	N	N	Y	G
273	N	Y	Y	N	N	N	N	N	G
277	N	Y	Y	N	N	N	N	N	G
264	N	Y	N	N	N	N	N	N	G
254	N	N	N	N	Y	N	N	Y	G
235	N	N	N	N	N	N	N	Y	G
236	N	Y	N	N	N	N	N	Y	G
219	N	Y	N	N	N	N	N	Y	P
237	N	N	N	N	N	N	N	Y	G
227	N	N	N	N	N	N	N	Y	G
220	N	N	N	N	N	N	N	Y	G
MN 4	N	Y	N	N	N	N	N	N	G
MN 5	N	Y	N	N	N	N	N	N	G
MN 6	N	Y	N	N	N	N	N	N	G
MN 7	N	N	N	N	Y	N	N	N	G
MN 8	N	Y	N	N	N	N	N	Y	G
MN 9	N	Y	N	N	N	N	N	N	G
MN 10	N	Y	N	N	N	N	N	N	G
MN 11	N	N	N	N	Y	N	N	Y	G
MN 12	N	Y	N	N	N	N	N	N	G
192	N	Y	Y	N	N	N	N	Y	G
209	N	N	Y	N	N	N	N	Y	G
203	N	N	Y	N	N	N	N	Y	G
223	N	N	Y	N	N	N	N	Y	G
233	N	N	Y	N	N	N	N	Y	G
225	N	N	N	N	N	N	N	Y	G
236	N	Y	N	N	N	N	N	N	G
278	N	Y	N	N	N	N	N	N	G

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ID	Mobile Tower	Overhanging	Soft Story	Pounding	Short Column	Ground Set	Tilting	Set Back	Building Condition
253	Y	Y	N	N	N	N	N	N	G
80	N	N	Y	N	N	N	N	Y	G
81	N	Y	Y	N	N	N	N	Y	G
82	N	Y	N	N	N	N	N	Y	G
84	N	Y	N	N	N	N	N	N	G
86	N	Y	N	N	N	N	N	Y	G
90	N	N	Y	N	N	N	N	N	G
91	N	Y	N	N	N	N	N	N	G
89	N	Y	N	N	N	N	N	N	G
93	N	Y	N	N	N	N	N	N	G
96	N	Y	N	N	N	N	N	N	G
121	N	Y	N	N	N	N	N	N	G
128	N	Y	N	N	N	N	N	N	G
140	N	Y	N	N	N	N	N	Y	G
163	N	Y	N	N	N	N	N	Y	G
170	N	Y	N	N	N	N	N	N	G
184	N	Y	Y	N	N	N	N	Y	G
169	N	Y	N	N	Y	N	N	Y	G
MI1	N	N	Y	N	N	N	N	Y	G
MI2	N	Y	N	N	N	N	N	N	G
MI3	N	Y	N	N	N	N	N	N	G
MI4	N	Y	N	N	N	N	N	N	G
MI5	N	Y	N	N	N	N	N	Y	G
MI6	N	Y	N	N	N	N	N	Y	G
MI7	N	N	N	N	N	N	N	Y	G
25	Y	N	N	N	Y	N	N	Y	G
27	Y	N	N	N	Y	N	N	Y	G
28	N	N	N	N	Y	N	N	Y	G
22	N	N	N	N	Y	N	N	Y	G
18	N	Y	N	N	Y	N	N	N	G
17	N	N	N	N	N	N	N	N	A
19	N	N	N	N	Y	N	N	N	A
20	N	N	N	N	Y	N	N	Y	G
21	N	Y	N	N	N	N	N	N	G
24	N	Y	N	N	N	N	N	N	G
26	N	Y	N	N	N	N	N	Y	G
29	N	N	N	N	N	N	N	Y	G
31	N	N	N	N	Y	N	N	Y	G
30	N	Y	N	N	N	N	N	Y	G
10	N	N	N	N	Y	N	N	Y	G

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ID	Mobile Tower	Overhanging	Soft Story	Pounding	Short Column	Ground Set	Tilting	Set Back	Building Condition
13	Y	N	N	N	Y	N	N	N	G
5	N	Y	N	N	N	N	N	N	G
6	N	Y	N	N	N	N	N	N	G
9	N	Y	N	N	N	N	N	Y	G
3	N	Y	N	N	N	N	N	Y	G
8	Y	Y	Y	N	N	N	N	Y	G
TN9	N	N	N	N	Y	N	N	Y	G
TN10	N	Y	N	N	Y	N	N	N	G
TN11	N	Y	N	N	N	N	N	N	A
TN12	N	Y	N	Y	N	N	N	N	A
TN13	N	Y	N	N	N	N	N	N	G
TN14	N	Y	N	N	Y	N	N	N	G
7	N	Y	N	N	N	N	N	Y	G
11	N	Y	N	Y	N	N	N	N	G
12	N	Y	N	Y	N	N	N	N	A
14	N	Y	N	N	N	N	N	N	A
15	N	N	N	N	Y	N	N	N	G
16	N	N	N	N	N	N	N	Y	G
4	N	N	N	N	N	N	N	N	A
1	Y	N	Y	Y	N	N	N	Y	G
2	N	Y	N	N	Y	N	N	Y	G
100	N	Y	N	N	N	N	N	N	G
110	N	Y	N	N	Y	N	N	N	G
152	N	N	N	N	Y	N	N	N	G
161	N	N	N	N	Y	N	N	Y	G
151	N	N	N	N	Y	N	N	Y	G
144	N	N	N	N	Y	N	N	Y	G
139	N	N	N	N	Y	N	N	Y	G
189	N	Y	N	Y	Y	N	N	N	G
188	Y	Y	N	N	N	N	N	N	G
183	N	Y	N	N	N	N	N	N	G
136	N	Y	N	N	N	N	N	Y	G
129	N	N	N	N	Y	N	N	N	A
115	N	Y	N	N	N	N	N	N	G
113	N	Y	N	N	N	N	N	N	G
MN13	N	Y	N	N	N	N	N	N	A

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ID	Mobile Tower	Overhanging	Soft Story	Pounding	Short Column	Ground Set	Tilting	Set Back	Building Condition
MN 14	N	Y	N	N	N	N	N	N	G
MN 15	N	N	N	N	N	N	N	Y	G
MN 16	Y	Y	N	N	N	N	N	N	G
MN 17	N	Y	Y	N	N	N	N	Y	G
MN 18	N	Y	N	N	N	N	N	Y	G
104	N	Y	N	N	N	N	N	Y	G
109	N	N	N	N	N	N	N	Y	G
119	N	N	N	N	N	N	N	Y	G
131	N	Y	N	N	N	N	N	Y	G
118	N	Y	N	N	N	N	N	Y	G
127	N	N	N	N	Y	N	N	Y	G
150	N	Y	N	N	N	N	N	Y	G
143	N	Y	N	N	N	N	N	N	G
134	N	Y	N	N	N	N	N	N	G
126	N	N	N	N	Y	N	N	Y	G
142	N	N	N	N	Y	N	N	Y	G
124	N	N	N	N	Y	N	N	Y	G
172	N	Y	N	N	N	N	N	Y	G
176	N	Y	N	N	N	N	N	N	G
181	N	Y	N	Y	N	N	N	N	G
177	N	Y	Y	N	N	N	N	N	G
165	N	N	N	N	N	N	N	N	G
166	N	Y	N	N	N	N	N	N	G
175	N	Y	N	N	N	N	N	N	G
132	N	Y	N	N	N	N	N	N	G
141	N	N	N	Y	N	N	N	N	G
153	N	Y	N	N	N	N	N	N	G
149	N	Y	N	N	N	N	N	N	G
147	N	Y	N	N	N	N	N	N	G
162	N	Y	N	N	N	N	N	N	G
160	N	Y	N	N	N	N	N	N	G
171	N	N	N	N	N	N	N	N	G
173	N	Y	N	N	N	N	N	N	G
174	N	N	N	N	N	N	N	N	G
180	N	Y	N	N	N	N	N	N	G
182	N	Y	N	N	N	N	N	N	A
186	N	Y	N	N	N	N	N	N	G

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ID	Mobile Tower	Overhanging	Soft Story	Pounding	Short Column	Ground Set	Tilting	Set Back	Building Condition
188	N	Y	N	N	N	N	N	N	G
103	N	Y	N	N	N	N	N	N	G
107	N	N	N	N	N	N	N	N	G
106	N	Y	N	N	N	N	N	N	G
102	N	Y	N	N	N	N	N	Y	G
99	N	Y	N	N	N	N	N	N	G
97	N	Y	N	N	N	N	N	N	G
TN15	N	Y	N	N	Y	N	N	N	G
TN16	N	Y	N	Y	N	N	N	N	G
TN17	N	Y	Y	N	N	N	N	N	G
TN18	N	Y	N	N	N	N	N	Y	G
TN19	N	Y	N	Y	N	N	N	N	G
TN20	N	Y	N	N	N	N	N	N	A
TN21	N	Y	N	N	N	N	N	Y	G
192	N	Y	N	N	N	N	N	N	G
209	N	Y	N	N	N	N	N	N	G
203	N	Y	N	N	N	N	N	N	G
223	N	Y	N	N	N	N	N	N	G
233	N	Y	N	N	N	N	N	N	G
225	N	Y	N	N	N	N	N	N	G

Annex-G: Geological Test Location of Ishwarganj Upazila

Location of BH of Ishwarganj Upazila				
SN	BH_ID	Vs	Lat	Long
1	BH-1	192.6732	24.69023	90.59504
2	BH-2	265.2175	24.68966	90.61076
3	BH-3	187.3435	24.68912	90.60028
4	BH-4	263.8063	24.69026	90.61594
5	BH-5	177.1533	24.69425	90.59133
6	BH-6	192.4877	24.70238	90.58529
7	BH-7	192.5351	24.7025	90.58913
8	BH-8	195.939	24.701461	90.592946
9	BH-9	194.5008	24.7083	90.59176
10	BH-10	184.4391	24.68456	90.59272
11	BH-11	184.4391	24.68572	90.59483
12	BH-12	174.6376	24.68579	90.59995
13	BH-13	211.2543	24.69751	90.60976
14	BH-14	215.5029	24.71036	90.60949
15	BH-15	186.5001	24.67683	90.60263
16	BH-16	216.7437	24.63748	90.63402
17	BH-17	196.0182	24.66814	90.66786
18	BH-18	208.1825	24.64457	90.72002
19	BH-19	191.1695	24.64429	90.71795
20	BH-20	187.5194	24.63043	90.61066
21	BH-21	197.813	24.62919	90.59586
22	BH-22	199.4747	24.70517	90.65584
23	BH-23	209.6826	24.57794	90.59456
24	BH-24	199.2688	24.64136	90.5717
25	BH-25	224.6671	24.63572	90.56344
26	BH-26	205.9994	24.63072	90.52928
27	PS-1	198.2073	24.708617	90.506458
28	PS-2	203.5606	24.669931	90.480714

29	MASW-1	210.7821	24.5987	90.61471
30	MASW-2	210.5749	24.63384	90.60931
31	MASW-3	208.7977	24.64428	90.71794
32	MASW-4	211.894	24.6859	90.60021
33	MASW-5	206.2925	24.63065	90.531345

Annex –H: RTK Survey of Ishwarganj Upazila

Variation between RTK Survey and Existing Feature of Ishwarganj Upazila								
RTK Survey					Existing Feature		Analysis	
S N	Description	Latitude	Longitude	Elevation	Longitude	Latitude	Distance (Meter)	%
1	Circle	24° 41' 18.581" N	90° 35' 47.928" E	10.901 5	90° 34' 58.032" E	24° 42' 17.967" N	11.98	6.36
2	BADC	24° 41' 25.461" N	90° 35' 42.569" E	13.120 5	90° 35' 6.159" E	24° 42' 10.043" N	7.57	4.02
3	Court	24° 41' 28.006" N	90° 35' 40.997" E	10.406 5	90° 35' 6.159" E	24° 42' 10.043" N	7.07	3.75
4	Akti Bari Akti Khamar Office	24° 41' 26.684" N	90° 35' 40.841" E	11.906 5	90° 35' 7.088" E	24° 42' 7.768" N	3.79	2.01
5	Pouroshava Office	24° 41' 39.205" N	90° 35' 28.361" E	16.808 5	90° 35' 15.261" E	24° 42' 3.560" N	5.37	2.85
6	Auditorium	24° 41' 50.997" N	90° 35' 21.129" E	9.2455	90° 35' 22.347" E	24° 41' 54.183" N	5.55	2.95
7	Culvert	24° 41' 54.316" N	90° 35' 22.279" E	10.812 5	90° 35' 21.153" E	24° 41' 51.176" N	4.52	2.40
8	Culvert	24° 42' 3.452" N	90° 35' 15.294" E	11.209 5	90° 35' 28.384" E	24° 41' 39.378" N	3.44	1.83
9	Primary School	24° 42' 7.593" N	90° 35' 7.128" E	11.246 5	90° 35' 31.015" E	24° 41' 39.251" N	5.48	2.91
10	Culvert	24° 42' 9.908" N	90° 35' 6.144" E	11.667 5	90° 35' 41.183" E	24° 41' 28.161" N	4.17	2.22
11	Road Center	24° 42' 17.942" N	90° 34' 57.986" E	11.514 5	90° 35' 40.820" E	24° 41' 26.805" N	1.50	0.80
12	Rail Center	24° 41' 39.233" N	90° 35' 30.979" E	10.363 5	90° 35' 54.397" E	24° 41' 29.579" N	1.15	0.61
13	Eidgah	24° 41' 29.448" N	90° 35' 54.380" E	10.573 5	90° 36' 6.564" E	24° 41' 24.814" N	4.05	2.15
14	Station Shed	24° 41' 30.161" N	90° 36' 13.426" E	11.119 5	90° 36' 9.104" E	24° 41' 24.624" N	3.54	1.88
15	Culvert	24° 41' 31.756" N	90° 36' 54.394" E	10.586 5	90° 36' 10.888" E	24° 41' 25.829" N	5.82	3.09
16	Gest House	24° 41' 20.415" N	90° 35' 47.950" E	10.370 5	90° 36' 13.498" E	24° 41' 30.256" N	7.71	4.10
17	High School	24° 41' 22.111" N	90° 36' 2.851" E	12.298 5	90° 36' 2.799" E	24° 41' 22.195" N	2.97	1.58
18	UP Resource Center	24° 41' 22.244" N	90° 36' 1.120" E	10.591 5	90° 36' 0.540" E	24° 41' 22.154" N	4.89	2.60

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

Variation between RTK Survey and Existing Feature of Ishwarganj Upazila								
RTK Survey					Existing Feature		Analysis	
S N	Description	Latitude	Longitude	Elevat ion	Longitude	Latitude	Distance (Meter)	%
19	Primary School	24° 41' 22.047" N	90° 36' 0.605" E	10.655 5	90° 36' 1.033" E	24° 41' 22.381" N	3.77	2.00
20	Food Godown	24° 41' 24.497" N	90° 36' 9.021" E	10.944 5	90° 36' 29.953" E	24° 41' 25.129" N	4.54	2.41
21	Food Godown	24° 41' 24.571" N	90° 36' 6.601" E	10.675 5	90° 36' 39.190" E	24° 41' 25.048" N	7.55	4.01
22	Food Godown	24° 41' 25.716" N	90° 36' 10.925" E	11.340 5	90° 36' 40.933" E	24° 41' 24.688" N	3.65	1.94
23	Culvert	24° 41' 25.005" N	90° 36' 30.064" E	11.021 5	90° 36' 54.574" E	24° 41' 31.848" N	4.92	2.61
24	Doctor Training Building	24° 41' 24.595" N	90° 36' 40.943" E	11.965 5	90° 36' 56.328" E	24° 41' 24.769" N	2.88	1.53
25	Hospital	24° 41' 24.924" N	90° 36' 39.188" E	10.354 5	90° 37' 31.742" E	24° 41' 33.289" N	3.81	2.03
26	Primary School	24° 41' 24.623" N	90° 36' 56.340" E	12.153 5	90° 35' 47.695" E	24° 41' 20.508" N	4.51	2.40
27	Rail Center	24° 41' 33.157" N	90° 37' 31.746" E	10.538 5	90° 35' 47.623" E	24° 41' 18.852" N	4.06	2.16
28	Bridge	24° 41' 10.548" N	90° 35' 57.833" E	13.599 5	90° 35' 44.007" E	24° 41' 10.283" N	2.84	1.51
29	Bridge	24° 41' 9.995" N	90° 35' 57.580" E	14.413 5	90° 35' 41.720" E	24° 41' 8.676" N	5.13	2.73
30	College	24° 41' 10.305" N	90° 36' 1.275" E	15.257 5	90° 35' 38.453" E	24° 41' 7.393" N	2.36	1.25
31	College	24° 41' 10.162" N	90° 35' 59.910" E	12.199 5	90° 35' 40.010" E	24° 41' 7.008" N	4.19	2.23
32	Culvert	24° 40' 51.161" N	90° 36' 2.790" E	11.529 5	90° 35' 43.409" E	24° 41' 8.235" N	0.77	0.41
33	Ac land Office	24° 41' 10.222" N	90° 35' 43.954" E	10.475 5	90° 35' 42.709" E	24° 41' 7.658" N	2.40	1.27
34	High School 3	24° 41' 6.086" N	90° 35' 43.434" E	20.278 5	90° 35' 43.358" E	24° 41' 6.105" N	2.22	1.18
35	High School 3	24° 41' 7.513" N	90° 35' 42.662" E	16.595 5	90° 35' 34.203" E	24° 41' 3.637" N	4.64	2.46
36	Primary School	24° 41' 8.295" N	90° 35' 43.692" E	6.4655	90° 35' 32.446" E	24° 41' 3.485" N	8.19	4.35
37	Court	24° 41' 8.571" N	90° 35' 41.701" E	10.260 5	90° 35' 36.928" E	24° 41' 4.083" N	3.28	1.74
38	Sub Register Office	24° 41' 5.450" N	90° 35' 40.249" E	9.9685	90° 35' 57.927" E	24° 41' 10.583" N	8.53	4.53
39	Madrasha 01	24° 41' 6.983" N	90° 35' 40.016" E	10.291 5	90° 35' 57.577" E	24° 41' 10.162" N	0.78	0.42
40	Madrasha 02	24° 41' 7.318" N	90° 35' 38.485" E	10.469 5	90° 35' 59.928" E	24° 41' 10.298" N	2.47	1.31
41	Culvert	24° 41' 3.893" N	90° 35' 36.824" E	10.676 5	90° 36' 1.291" E	24° 41' 10.380" N	6.54	3.47
42	Police Station	24° 41' 3.581" N	90° 35' 34.149" E	17.657 5	90° 36' 2.791" E	24° 40' 51.136" N	2.31	1.23
43	Post Office	24° 41' 3.484" N	90° 35' 32.398" E	8.8105	90° 35' 40.184" E	24° 41' 5.721" N	1.35	0.72
Total							188.24	100.00

Annex –I: Mauza List of Ishwarganj Upazila

SN	Division	District	Upazila	Union	Mauza_JL_S
1	Mymensingh	Mymensingh	Ishwarganj	Mogtola	Tajpur_152_000
2	Mymensingh	Mymensingh	Ishwarganj	Mogtola	Madhupur_151_000
3	Mymensingh	Mymensingh	Ishwarganj	Rajibpur	Chorkheuaralgi 037 000
4	Mymensingh	Mymensingh	Ishwarganj	Mogtola	Nowri 153 002
5	Mymensingh	Mymensingh	Ishwarganj	Rajibpur	Char Naopara 038 006
6	Mymensingh	Mymensingh	Ishwarganj	Mogtola	Gouripur 155 000
7	Mymensingh	Mymensingh	Ishwarganj	Mogtola	Nager Danguri 157 000
8	Mymensingh	Mymensingh	Ishwarganj	Mogtola	Sreerampur_144_000
9	Mymensingh	Mymensingh	Ishwarganj	Mogtola	Nowri 153 001
10	Mymensingh	Mymensingh	Ishwarganj	Mogtola	Nowpara 150 000
11	Mymensingh	Mymensingh	Ishwarganj	Mogtola	Garakandi_156_000
12	Mymensingh	Mymensingh	Ishwarganj	Mogtola	Baghber_154_000
13	Mymensingh	Mymensingh	Ishwarganj	Mogtola	Galahor 158 000
14	Mymensingh	Mymensingh	Ishwarganj	Rajibpur	Majihati 123 002
15	Mymensingh	Mymensingh	Ishwarganj	Mogtola	Durgapur_143_000
16	Mymensingh	Mymensingh	Ishwarganj	Rajibpur	Rajarampur_149_000
17	Mymensingh	Mymensingh	Ishwarganj	Mogtola	Chhatiantola Boirate 159 002
18	Mymensingh	Mymensingh	Ishwarganj	Rajibpur	Chorrammohon 036 004
19	Mymensingh	Mymensingh	Ishwarganj	Mogtola	Bagber Abdullapur 160 000
20	Mymensingh	Mymensingh	Ishwarganj	Rajibpur	Char Naopara 038 004
21	Mymensingh	Mymensingh	Ishwarganj	Rajibpur	Char Naopara 038 005
22	Mymensingh	Mymensingh	Ishwarganj	Rajibpur	Bil Kherua_145_000
23	Mymensingh	Mymensingh	Ishwarganj	Rajibpur	Ramgopalbari 148 000
24	Mymensingh	Mymensingh	Ishwarganj	Rajibpur	Subondi 147 000
25	Mymensingh	Mymensingh	Ishwarganj	Rajibpur	Rudrapur_124_000
26	Mymensingh	Mymensingh	Ishwarganj	Mogtola	Magtala Para Basati_142_000
27	Mymensingh	Mymensingh	Ishwarganj	Rajibpur	Tarap Char Para_126_000

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SN	Division	District	Upazila	Union	Mauza_JL_S
28	Mymensingh	Mymensingh	Ishwarganj	Rajibpur	Ghagra_121_000
29	Mymensingh	Mymensingh	Ishwarganj	Rajibpur	Majihati 123 001
30	Mymensingh	Mymensingh	Ishwarganj	Rajibpur	Behargati 122 000
31	Mymensingh	Mymensingh	Ishwarganj	Mogtola	Mogtola Dhaniakandi_141_000
32	Mymensingh	Mymensingh	Ishwarganj	Rajibpur	Maghtala (2Nd Portion)_146_000
33	Mymensingh	Mymensingh	Ishwarganj	Rajibpur	Bhobanepur 120 000
34	Mymensingh	Mymensingh	Ishwarganj	Rajibpur	Swalpa Char Para_125_000
35	Mymensingh	Mymensingh	Ishwarganj	Mogtola	Chhatinata Bairati_159_001
36	Mymensingh	Mymensingh	Ishwarganj	Rajibpur	Swalpa Ghagra_119_000
37	Mymensingh	Mymensingh	Ishwarganj	Maijbhag	Maijbhag 169 006
38	Mymensingh	Mymensingh	Ishwarganj	Maijbhag	Maijbhag 169 005
39	Mymensingh	Mymensingh	Ishwarganj	Mogtola	Dhitpur_161_000
40	Mymensingh	Mymensingh	Ishwarganj	Rajibpur	Kabilbaksi_128_000
41	Mymensingh	Mymensingh	Ishwarganj	Maijbhag	Khorddo Saiya 164 000
42	Mymensingh	Mymensingh	Ishwarganj	Mogtola	Tarap Sonamani_140_000
43	Mymensingh	Mymensingh	Ishwarganj	Maijbhag	Tarati_170_001
44	Mymensingh	Mymensingh	Ishwarganj	Rajibpur	Ghagra Narayanpur_103_000
45	Mymensingh	Mymensingh	Ishwarganj	Rajibpur	Chorrammohon 036 003
46	Mymensingh	Mymensingh	Ishwarganj	Maijbhag	Dattagaon 172 002
47	Mymensingh	Mymensingh	Ishwarganj	Rajibpur	Ghagra Gopalpur_102_000
48	Mymensingh	Mymensingh	Ishwarganj	Mogtola	Korma 162 000
49	Mymensingh	Mymensingh	Ishwarganj	Rajibpur	Hat Bhulsoma_105_000
50	Mymensingh	Mymensingh	Ishwarganj	Rajibpur	Bishnupur 104 000
51	Mymensingh	Mymensingh	Ishwarganj	Mogtola	Banasrom 163 000
52	Mymensingh	Mymensingh	Ishwarganj	Mogtola	Mogtola Tarap Panchail_129_002
53	Mymensingh	Mymensingh	Ishwarganj	Rajibpur	Bri Ghagra 106 000
54	Mymensingh	Mymensingh	Ishwarganj	Mogtola	Mogtola Tarap Panchail_129_001
55	Mymensingh	Mymensingh	Ishwarganj	Mogtola	Dubli_139_000
56	Mymensingh	Mymensingh	Ishwarganj	Rajibpur	Sreenagar_131_000
57	Mymensingh	Mymensingh	Ishwarganj	Mogtola	Raghudebpur_137_000
58	Mymensingh	Mymensingh	Ishwarganj	Rajibpur	Ramnagar_130_000
59	Mymensingh	Mymensingh	Ishwarganj	Rajibpur	Char Naopara 038 003
60	Mymensingh	Mymensingh	Ishwarganj	Mogtola	Uchargati_132_000
61	Mymensingh	Mymensingh	Ishwarganj	Rajibpur	Char Naopara 038 002
62	Mymensingh	Mymensingh	Ishwarganj	Rajibpur	Bri-Debstan 127 000
63	Mymensingh	Mymensingh	Ishwarganj	Maijbhag	Bhasa Gokulnagar_166_000
64	Mymensingh	Mymensingh	Ishwarganj	Maijbhag	Kadukhali_136_000
65	Mymensingh	Mymensingh	Ishwarganj	Rajibpur	Rajibpur 108 000
66	Mymensingh	Mymensingh	Ishwarganj	Rajibpur	Debstan 101 000
67	Mymensingh	Mymensingh	Ishwarganj	Rajibpur	Gati Para_100_000

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SN	Division	District	Upazila	Union	Mauza_JL_S
68	Mymensingh	Mymensingh	Ishwarganj	Maijbhag	Maijbhag 169 004
69	Mymensingh	Mymensingh	Ishwarganj	Mogtola	Narayanpur_133_000
70	Mymensingh	Mymensingh	Ishwarganj	Rajibpur	Chorrammohon 036 002
71	Mymensingh	Mymensingh	Ishwarganj	Maijbhag	Dattagoan 172 001
72	Mymensingh	Mymensingh	Ishwarganj	Rajibpur	Chandranagar_110_000
73	Mymensingh	Mymensingh	Ishwarganj	Rajibpur	Momrejpur_118_000
74	Mymensingh	Mymensingh	Ishwarganj	Rajibpur	Chorrammohon 036 001
75	Mymensingh	Mymensingh	Ishwarganj	Rajibpur	Haripur_117_000
76	Mymensingh	Mymensingh	Ishwarganj	Rajibpur	Umanathpur_116_000
77	Mymensingh	Mymensingh	Ishwarganj	Borohit	Bil Sakrail_078_000
78	Mymensingh	Mymensingh	Ishwarganj	Rajibpur	Brahmangati_111_000
79	Mymensingh	Mymensingh	Ishwarganj	Rajibpur	Charakona 109 000
80	Mymensingh	Mymensingh	Ishwarganj	Maijbhag	Boroibari 173 000
81	Mymensingh	Mymensingh	Ishwarganj	Rajibpur	Saheb Nagar_112_000
82	Mymensingh	Mymensingh	Ishwarganj	Rajibpur	Udayrampur_114_000
83	Mymensingh	Mymensingh	Ishwarganj	Maijbhag	Uttampur 168 000
84	Mymensingh	Mymensingh	Ishwarganj	Rajibpur	Radhaballabhpur_113_000
85	Mymensingh	Mymensingh	Ishwarganj	Borohit	Keshabpur_077_000
86	Mymensingh	Mymensingh	Ishwarganj	Rajibpur	Ramgobindapur_115_000
87	Mymensingh	Mymensingh	Ishwarganj	Atharobari	Behawri 288 000
88	Mymensingh	Mymensingh	Ishwarganj	Maijbhag	Maijbagh 169 002
89	Mymensingh	Mymensingh	Ishwarganj	Rajibpur	Ramchandrapur 099 000
90	Mymensingh	Mymensingh	Ishwarganj	Rajibpur	Rajendrapur_097_000
91	Mymensingh	Mymensingh	Ishwarganj	Rajibpur	Ramkrishnapur_096_000
92	Mymensingh	Mymensingh	Ishwarganj	Borohit	Kathal Danguree 135 000
93	Mymensingh	Mymensingh	Ishwarganj	Rajibpur	Char Naopara 038 001
94	Mymensingh	Mymensingh	Ishwarganj	Borohit	Pyare Narayanpur_076_000
95	Mymensingh	Mymensingh	Ishwarganj	Jatia	Kumaruly 265 000
96	Mymensingh	Mymensingh	Ishwarganj	Borohit	Lakshmipur_098_000
97	Mymensingh	Mymensingh	Ishwarganj	Borohit	Rajendrapur_079_000
98	Mymensingh	Mymensingh	Ishwarganj	Maijbhag	Maijbhag 169 003
99	Mymensingh	Mymensingh	Ishwarganj	Uchakhila	Bri-Charakona 095 000
100	Mymensingh	Mymensingh	Ishwarganj	Atharobari	Chair Asia 298 000
101	Mymensingh	Mymensingh	Ishwarganj	Borohit	Debashram_080_000
102	Mymensingh	Mymensingh	Ishwarganj	Uchakhila	Ishwarpur Gobindanagar 046 000
103	Mymensingh	Mymensingh	Ishwarganj	Uchakhila	Uchakhila 044 002
104	Mymensingh	Mymensingh	Ishwarganj	Maijbhag	Mujatiya 181 000
105	Mymensingh	Mymensingh	Ishwarganj	Maijbhag	Char Shankar 167 000
106	Mymensingh	Mymensingh	Ishwarganj	Maijbhag	Kabirvulsoma 175 000
107	Mymensingh	Mymensingh	Ishwarganj	Uchakhila	Gopalpur (2nd Portion)_094_000

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SN	Division	District	Upazila	Union	Mauza_JL_S
108	Mymensingh	Mymensingh	Ishwarganj	Jatia	Rokonpur 268 000
109	Mymensingh	Mymensingh	Ishwarganj	Uchakhila	Magha 045 000
110	Mymensingh	Mymensingh	Ishwarganj	Atharobari	Doshashia 299 000
111	Mymensingh	Mymensingh	Ishwarganj	Atharobari	Sohilati 297 000
112	Mymensingh	Mymensingh	Ishwarganj	Atharobari	Moheshchatol 287 000
113	Mymensingh	Mymensingh	Ishwarganj	Atharobari	Sreedebpur 301 000
114	Mymensingh	Mymensingh	Ishwarganj	Jatia	Kahetgaon 263 000
115	Mymensingh	Mymensingh	Ishwarganj	Atharobari	Bagra 303 000
116	Mymensingh	Mymensingh	Ishwarganj	Atharobari	Raypur 302 000
117	Mymensingh	Mymensingh	Ishwarganj	Atharobari	Bongaon 290 000
118	Mymensingh	Mymensingh	Ishwarganj	Atharobari	Gorail 300 001
119	Mymensingh	Mymensingh	Ishwarganj	Uchakhila	Char Algi 039 002
120	Mymensingh	Mymensingh	Ishwarganj	Jatia	Rampur 264 000
121	Mymensingh	Mymensingh	Ishwarganj	Uchakhila	Uchakhila 044 001
122	Mymensingh	Mymensingh	Ishwarganj	Atharobari	Katiarhaor 291 000
123	Mymensingh	Mymensingh	Ishwarganj	Atharobari	Atharobari 289 000
124	Mymensingh	Mymensingh	Ishwarganj	Maijbhag	Maijbhag 169 001
125	Mymensingh	Mymensingh	Ishwarganj	Borohit	Boro Danguree 183 002
126	Mymensingh	Mymensingh	Ishwarganj	Uchakhila	Marichar Char 034 004
127	Mymensingh	Mymensingh	Ishwarganj	Uchakhila	Haripur 2 Part 048 000
128	Mymensingh	Mymensingh	Ishwarganj	Uchakhila	Haripur 047 000
129	Mymensingh	Mymensingh	Ishwarganj	Uchakhila	Amudpur 049 000
130	Mymensingh	Mymensingh	Ishwarganj	Maijbhag	Pitamborpara 176 000
131	Mymensingh	Mymensingh	Ishwarganj	Uchakhila	Raphiar Algi 040 000
132	Mymensingh	Mymensingh	Ishwarganj	Atharobari	Digholiya 286 000
133	Mymensingh	Mymensingh	Ishwarganj	Uchakhila	Naranatia 042 000
134	Mymensingh	Mymensingh	Ishwarganj	Borohit	Narayanpur (2nd Portion)_093_00
135	Mymensingh	Mymensingh	Ishwarganj	Jatia	Jotia 174 001
136	Mymensingh	Mymensingh	Ishwarganj	Uchakhila	Char Algi 039 001
137	Mymensingh	Mymensingh	Ishwarganj	Atharobari	Patharia 284 000
138	Mymensingh	Mymensingh	Ishwarganj	Jatia	Jotia 174 002
139	Mymensingh	Mymensingh	Ishwarganj	Jatia	Kahetgaon 263 000
140	Mymensingh	Mymensingh	Ishwarganj	Jatia	Panal 270 000
141	Mymensingh	Mymensingh	Ishwarganj	Atharobari	Khalvola2 285 000
142	Mymensingh	Mymensingh	Ishwarganj	Jatia	Hiradhara 259 000
143	Mymensingh	Mymensingh	Ishwarganj	Borohit	Khairat Bhulsoma_082_000
144	Mymensingh	Mymensingh	Ishwarganj	Uchakhila	Rampur 050 000
145	Mymensingh	Mymensingh	Ishwarganj	Jatia	Satiya 260 000
146	Mymensingh	Mymensingh	Ishwarganj	Jatia	Saguli 266 000
147	Mymensingh	Mymensingh	Ishwarganj	Jatia	Fotepur 269 000

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SN	Division	District	Upazila	Union	Mauza_JL_S
148	Mymensingh	Mymensingh	Ishwarganj	Maijbhag	Uttompur 177 000
149	Mymensingh	Mymensingh	Ishwarganj	Uchakhila	Marichar Char 034 005
150	Mymensingh	Mymensingh	Ishwarganj	Jatia	Koraikandi 247 000
151	Mymensingh	Mymensingh	Ishwarganj	Uchakhila	Marichar Char 034 006
152	Mymensingh	Mymensingh	Ishwarganj	Maijbhag	Barajora_182_002
153	Mymensingh	Mymensingh	Ishwarganj	Maijbhag	Mollikpur 180 000
154	Mymensingh	Mymensingh	Ishwarganj	Borohit	Barahit_089_000
155	Mymensingh	Mymensingh	Ishwarganj	Uchakhila	Amudpur 053 000
156	Mymensingh	Mymensingh	Ishwarganj	Atharobari	Chor Asia 296 000
157	Mymensingh	Mymensingh	Ishwarganj	Uchakhila	Alinagar 043 000
158	Mymensingh	Mymensingh	Ishwarganj	Borohit	Boro Danguree 183 001
159	Mymensingh	Mymensingh	Ishwarganj	Uchakhila	Haripur 1 Part 054 000
160	Mymensingh	Mymensingh	Ishwarganj	Borohit	Nasati_086_000
161	Mymensingh	Mymensingh	Ishwarganj	Atharobari	Bongaon 281 00
162	Mymensingh	Mymensingh	Ishwarganj	Borohit	Para Narayanpur_085_000
163	Mymensingh	Mymensingh	Ishwarganj	Atharobari	Golkunda 279 003
164	Mymensingh	Mymensingh	Ishwarganj	Atharobari	Tourail 282 000
165	Mymensingh	Mymensingh	Ishwarganj	Borohit	Chandipur_092_000
166	Mymensingh	Mymensingh	Ishwarganj	Atharobari	Golkunda 279 002
167	Mymensingh	Mymensingh	Ishwarganj	Uchakhila	Kazir Balsa 051 000
168	Mymensingh	Mymensingh	Ishwarganj	Jatia	Haripur 248 000
169	Mymensingh	Mymensingh	Ishwarganj	Atharobari	Kalandar_272_000
170	Mymensingh	Mymensingh	Ishwarganj	Uchakhila	Narayanpur 3 Part 052 000
171	Mymensingh	Mymensingh	Ishwarganj	Jatia	Bausoti 262 000
172	Mymensingh	Mymensingh	Ishwarganj	Atharobari	Sorati 293 000
173	Mymensingh	Mymensingh	Ishwarganj	Sarisa	Kurshipara 257 000
174	Mymensingh	Mymensingh	Ishwarganj	Atharobari	Bishnopur 274 02
175	Mymensingh	Mymensingh	Ishwarganj	Uchakhila	Marichar Char 034 003
176	Mymensingh	Mymensingh	Ishwarganj	Atharobari	Rajibpur 294 000
177	Mymensingh	Mymensingh	Ishwarganj	Jatia	Paika 249 000
178	Mymensingh	Mymensingh	Ishwarganj	Jatia	Makorjap 261 000
179	Mymensingh	Mymensingh	Ishwarganj	Atharobari	Srifaltala 283 000
180	Mymensingh	Mymensingh	Ishwarganj	Jatia	Horiswar 246 000
181	Mymensingh	Mymensingh	Ishwarganj	Atharobari	Golkunda 279 001
182	Mymensingh	Mymensingh	Ishwarganj	Maijbhag	Terachati 179 000
183	Mymensingh	Mymensingh	Ishwarganj	Uchakhila	Alladir Algi 028 000
184	Mymensingh	Mymensingh	Ishwarganj	Maijbhag	Harua 178 000
185	Mymensingh	Mymensingh	Ishwarganj	Atharobari	Gaborkailan 280 000
186	Mymensingh	Mymensingh	Ishwarganj	Tarundia	Balihata 041 000
187	Mymensingh	Mymensingh	Ishwarganj	Uchakhila	Haser Algi 029 000

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

SN	Division	District	Upazila	Union	Mauza_JL_S
188	Mymensingh	Mymensingh	Ishwarganj	Tarundia	Gopalpur 026 000
189	Mymensingh	Mymensingh	Ishwarganj	Maijbhag	Barajora_182_001
190	Mymensingh	Mymensingh	Ishwarganj	Tarundia	Matikhola 027 000
191	Mymensingh	Mymensingh	Ishwarganj	Atharobari	Bishnopur 274 001
192	Mymensingh	Mymensingh	Ishwarganj	Maijbhag	Durgapara 195 000
193	Mymensingh	Mymensingh	Ishwarganj	Maijbhag	Sadarpara 194 000
194	Mymensingh	Mymensingh	Ishwarganj	Borohit	Naopara 184 000
195	Mymensingh	Mymensingh	Ishwarganj	Atharobari	Madhupur 278 000
196	Mymensingh	Mymensingh	Ishwarganj	Sarisa	Masimpur 256 000
197	Mymensingh	Mymensingh	Ishwarganj	Borohit	Postori 073 002
198	Mymensingh	Mymensingh	Ishwarganj	Uchakhila	Marichar Char 034 002
199	Mymensingh	Mymensingh	Ishwarganj	Uchakhila	Golla Joypur 056 000
200	Mymensingh	Mymensingh	Ishwarganj	Uchakhila	Hariakhali 217 000
201	Mymensingh	Mymensingh	Ishwarganj	Tarundia	Begunbari 025 000
202	Mymensingh	Mymensingh	Ishwarganj	Tarundia	Nogorjatrapur 024 000
203	Mymensingh	Mymensingh	Ishwarganj	Jatia	Maliati_244_000
204	Mymensingh	Mymensingh	Ishwarganj	Maijbhag	Thuliati 196 000
205	Mymensingh	Mymensingh	Ishwarganj	Tarundia	Taherpur 023 000
206	Mymensingh	Mymensingh	Ishwarganj	Sarisa	Langael 254 000
207	Mymensingh	Mymensingh	Ishwarganj	Tarundia	Tarundia 055 001
208	Mymensingh	Mymensingh	Ishwarganj	Tarundia	Tarundia_055_002
209	Mymensingh	Mymensingh	Ishwarganj	Ishwarganj	Ashrobpur 191 000
210	Mymensingh	Mymensingh	Ishwarganj	Maijbhag	Kumrashason 193 000
211	Mymensingh	Mymensingh	Ishwarganj	Borohit	Bhadrasrom 068 000
212	Mymensingh	Mymensingh	Ishwarganj	Ishwarganj	Charpubail_185_000
213	Mymensingh	Mymensingh	Ishwarganj	Tarundia	Mirzapur 021 000
214	Mymensingh	Mymensingh	Ishwarganj	Borohit	Nijpubail 069 000
215	Mymensingh	Mymensingh	Ishwarganj	Tarundia	Goalpara 58 000
216	Mymensingh	Mymensingh	Ishwarganj	Tarundia	Kajir Boyra 022 000
217	Mymensingh	Mymensingh	Ishwarganj	Ishwarganj	Shorshi 190 000
218	Mymensingh	Mymensingh	Ishwarganj	Jatia	Fanur 250 000
219	Mymensingh	Mymensingh	Ishwarganj	Tarundia	Chhotoraghobpur 016 000
220	Mymensingh	Mymensingh	Ishwarganj	Jatia	Tong Tangia 243 000
221	Mymensingh	Mymensingh	Ishwarganj	Tarundia	Modhorboira 020 000
222	Mymensingh	Mymensingh	Ishwarganj	Atharobari	Mrigali 275 000
223	Mymensingh	Mymensingh	Ishwarganj	Atharobari	Fotenogor 276 000
224	Mymensingh	Mymensingh	Ishwarganj	Jatia	Majiakandi 198 000
225	Mymensingh	Mymensingh	Ishwarganj	Tarundia	Indrojitkhila 018 000
226	Mymensingh	Mymensingh	Ishwarganj	Sarisa	Kholilnogor 252 000
227	Mymensingh	Mymensingh	Ishwarganj	Sarisa	Enayetpur 253 000

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SN	Division	District	Upazila	Union	Mauza_JL_S
228	Mymensingh	Mymensingh	Ishwarganj	Sohagi	Shahebnogor 240 001
229	Mymensingh	Mymensingh	Ishwarganj	Tarundia	Sortaj_Boyra_019_000
230	Mymensingh	Mymensingh	Ishwarganj	Tarundia	Ramvodropur 017 000
231	Mymensingh	Mymensingh	Ishwarganj	Tarundia	Chorgithor 059 000
232	Mymensingh	Mymensingh	Ishwarganj	Jatia	Niztulandar 242 000
233	Mymensingh	Mymensingh	Ishwarganj	Tarundia	Padurboira 010 000
234	Mymensingh	Mymensingh	Ishwarganj	Ishwarganj	Balisita 201 000
235	Mymensingh	Mymensingh	Ishwarganj	Ishwarganj	Majiakandi 192 000
236	Mymensingh	Mymensingh	Ishwarganj	Tarundia	Sreepurjithor_015_000
237	Mymensingh	Mymensingh	Ishwarganj	Sarisa	Bairate 239 000
238	Mymensingh	Mymensingh	Ishwarganj	Ishwarganj	Chorshehari 186 000
239	Mymensingh	Mymensingh	Ishwarganj	Ishwarganj	Khoiraty 189 000
240	Mymensingh	Mymensingh	Ishwarganj	Tarundia	Giridhorpur 014 000
241	Mymensingh	Mymensingh	Ishwarganj	Borohit	Chor_Pumbail 066 000
242	Mymensingh	Mymensingh	Ishwarganj	Tarundia	Bilkella 011 002
243	Mymensingh	Mymensingh	Ishwarganj	Tarundia	Konapara 009 000
244	Mymensingh	Mymensingh	Ishwarganj	Ishwarganj	Chorhosainpur 187 003
245	Mymensingh	Mymensingh	Ishwarganj	Ishwarganj	Chorhosainpur 187 001
246	Mymensingh	Mymensingh	Ishwarganj	Ishwarganj	Tarakandi 202 000
247	Mymensingh	Mymensingh	Ishwarganj	Tarundia	Bhobanipur 003 000
248	Mymensingh	Mymensingh	Ishwarganj	Sohagi	Shahebnogor 240 002
249	Mymensingh	Mymensingh	Ishwarganj	Sarisa	Chapilakanda 236 000
250	Mymensingh	Mymensingh	Ishwarganj	Ishwarganj	Chorhosainpur 187 002
251	Mymensingh	Mymensingh	Ishwarganj	Ishwarganj	Chornikla_220_003
252	Mymensingh	Mymensingh	Ishwarganj	Ishwarganj	Vaidgaon 203 000
253	Mymensingh	Mymensingh	Ishwarganj	Tarundia	Ramnagar 008 000
254	Mymensingh	Mymensingh	Ishwarganj	Ishwarganj	Joypur 188 000
255	Mymensingh	Mymensingh	Ishwarganj	Ishwarganj	Dottopara 221 003
256	Mymensingh	Mymensingh	Ishwarganj	Ishwarganj	Chor Syed Bhakuri 206 00
257	Mymensingh	Mymensingh	Ishwarganj	Ishwarganj	Chornikla 220 002
258	Mymensingh	Mymensingh	Ishwarganj	Tarundia	Mamdipur 004 000
259	Mymensingh	Mymensingh	Ishwarganj	Sarisa	Kashipur 238 000
260	Mymensingh	Mymensingh	Ishwarganj	Tarundia	Punail 005 000
261	Mymensingh	Mymensingh	Ishwarganj	Ishwarganj	Syed Bhakuri 205 000
262	Mymensingh	Mymensingh	Ishwarganj	Tarundia	Gaborboali_060_000
263	Mymensingh	Mymensingh	Ishwarganj	Ishwarganj	Kakonhati 216 002
264	Mymensingh	Mymensingh	Ishwarganj	Tarundia	Polashkandi 007 000
265	Mymensingh	Mymensingh	Ishwarganj	Tarundia	Nondipara_012_000
266	Mymensingh	Mymensingh	Ishwarganj	Sarisa	Rameswarpur 235 001
267	Mymensingh	Mymensingh	Ishwarganj	Sarisa	Baroikanda 234 000

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SN	Division	District	Upazila	Union	Mauza_JL_S
268	Mymensingh	Mymensingh	Ishwarganj	Sohagi	Darunborovag 209 000
269	Mymensingh	Mymensingh	Ishwarganj	Tarundia	Sakhua_002_001
270	Mymensingh	Mymensingh	Ishwarganj	Sohagi	Ruhi 210 000
271	Mymensingh	Mymensingh	Ishwarganj	Tarundia	Bakripara 001 000
272	Mymensingh	Mymensingh	Ishwarganj	Ishwarganj	Dhamdi 219 000
273	Mymensingh	Mymensingh	Ishwarganj	Ishwarganj	Doripachashi 215 000
274	Mymensingh	Mymensingh	Ishwarganj	Ishwarganj	Parapachashi 218 000
275	Mymensingh	Mymensingh	Ishwarganj	Sohagi	Sohagi 231 001
276	Mymensingh	Mymensingh	Ishwarganj	Sohagi	Bara Tarakandi 211 000
277	Mymensingh	Mymensingh	Ishwarganj	Ishwarganj	Kakonhati 216 001
278	Mymensingh	Mymensingh	Ishwarganj	Sohagi	Dokhinborobag 214 000
279	Mymensingh	Mymensingh	Ishwarganj	Sohagi	Bri_Kathalia 227 000
280	Mymensingh	Mymensingh	Ishwarganj	Sohagi	Suniakandi 225 000
281	Mymensingh	Mymensingh	Ishwarganj	Sohagi	Maizhati 232 000
282	Mymensingh	Mymensingh	Ishwarganj	Sohagi	Muktapur 224 000
283	Mymensingh	Mymensingh	Ishwarganj	Tarundia	Sakhua 002 002
284	Mymensingh	Mymensingh	Ishwarganj	Tarundia	Sulari 006 000
285	Mymensingh	Mymensingh	Ishwarganj	Tarundia	Terashia 061 000
286	Mymensingh	Mymensingh	Ishwarganj	Tarundia	Kandalia_013_000
287	Mymensingh	Mymensingh	Ishwarganj	Tarundia	Bilkoila_011_001
288	Mymensingh	Mymensingh	Ishwarganj	Uchakhila	Marichar Char 034 001
289	Mymensingh	Mymensingh	Ishwarganj	Borohit	Paikuranagar_067_000
290	Mymensingh	Mymensingh	Ishwarganj	Borohit	Borohit 070 000
291	Mymensingh	Mymensingh	Ishwarganj	Borohit	Breepachashi 071 000
292	Mymensingh	Mymensingh	Ishwarganj	Borohit	Parapachashi 072 000
293	Mymensingh	Mymensingh	Ishwarganj	Borohit	Postori 073 001
294	Mymensingh	Mymensingh	Ishwarganj	Borohit	Jugiakhali_087_000
295	Mymensingh	Mymensingh	Ishwarganj	Borohit	Porahata_088_000
296	Mymensingh	Mymensingh	Ishwarganj	Borohit	Narayanpur1_091_000
297	Mymensingh	Mymensingh	Ishwarganj	Borohit	Isuabad_090_000
298	Mymensingh	Mymensingh	Ishwarganj	Borohit	Mustafapur_084_000
299	Mymensingh	Mymensingh	Ishwarganj	Borohit	Syedabad 083 001
300	Mymensingh	Mymensingh	Ishwarganj	Borohit	Buniadpur_081_000
301	Mymensingh	Mymensingh	Ishwarganj	Borohit	Madhyapala_075_000
302	Mymensingh	Mymensingh	Ishwarganj	Borohit	Paradanguri 074 000
303	Mymensingh	Mymensingh	Ishwarganj	Ishwarganj	Chorhosainpur 187 004
304	Mymensingh	Mymensingh	Ishwarganj	Ishwarganj	Shonchapur 199 000
305	Mymensingh	Mymensingh	Ishwarganj	Ishwarganj	Ayoagnogor 200 000
306	Mymensingh	Mymensingh	Ishwarganj	Ishwarganj	Noyashimul 204 000
307	Mymensingh	Mymensingh	Ishwarganj	Ishwarganj	Paibhakuri 217 000

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SN	Division	District	Upazila	Union	Mauza_JL_S
308	Mymensingh	Mymensingh	Ishwarganj	Ishwarganj	Chornikla_220_001
309	Mymensingh	Mymensingh	Ishwarganj	Ishwarganj	Shimrail 222 000
310	Mymensingh	Mymensingh	Ishwarganj	Ishwarganj	Dottopara 221 001
311	Mymensingh	Mymensingh	Ishwarganj	Ishwarganj	Dottopara 221 002
312	Mymensingh	Mymensingh	Ishwarganj	Ishwarganj	Dottopara 221 005
313	Mymensingh	Mymensingh	Ishwarganj	Ishwarganj	Dottopara 221 004
314	Mymensingh	Mymensingh	Ishwarganj	Sarisa	Rameswarpur 235 002
315	Mymensingh	Mymensingh	Ishwarganj	Atharobari	Etauliya 277 000
316	Mymensingh	Mymensingh	Ishwarganj	Sohagi	Monoharpur 241 000
317	Mymensingh	Mymensingh	Ishwarganj	Sohagi	Chati 207 000
318	Mymensingh	Mymensingh	Ishwarganj	Sohagi	Bhalukaber 233 002
319	Mymensingh	Mymensingh	Ishwarganj	Sohagi	Bhalukaber 233 001
320	Mymensingh	Mymensingh	Ishwarganj	Sohagi	Hatulia 208 000
321	Mymensingh	Mymensingh	Ishwarganj	Sohagi	Sohagi 231 002
322	Mymensingh	Mymensingh	Ishwarganj	Sohagi	Momrezpur 230 000
323	Mymensingh	Mymensingh	Ishwarganj	Sohagi	Kathalia 228 000
324	Mymensingh	Mymensingh	Ishwarganj	Sohagi	Bogaputa 229 000
325	Mymensingh	Mymensingh	Ishwarganj	Sohagi	Dari Bara Bhag 223 000
326	Mymensingh	Mymensingh	Ishwarganj	Sohagi	Ramnathkhali 213 000
327	Mymensingh	Mymensingh	Ishwarganj	Sohagi	Baroigao 226 000
328	Mymensingh	Mymensingh	Ishwarganj	Sohagi	Chototara Kandi 212 000
329	Mymensingh	Mymensingh	Ishwarganj	Sarisa	Anayetnagar 255 000
330	Mymensingh	Mymensingh	Ishwarganj	Sarisa	Sorisha 273 003
331	Mymensingh	Mymensingh	Ishwarganj	Sarisa	Sorisha 273 001
332	Mymensingh	Mymensingh	Ishwarganj	Sarisa	Sorisha 273 002
333	Mymensingh	Mymensingh	Ishwarganj	Sarisa	Moheshpur 237 003
334	Mymensingh	Mymensingh	Ishwarganj	Sarisa	Moheshpur 237 002
335	Mymensingh	Mymensingh	Ishwarganj	Sarisa	Moheshpur 237 001
336	Mymensingh	Mymensingh	Ishwarganj	Atharobari	Sonadailpara 295 000
337	Mymensingh	Mymensingh	Ishwarganj	Atharobari	Chorgaon 292 000
338	Mymensingh	Mymensingh	Ishwarganj	Sohagi	Doriondo 251 000
339	Mymensingh	Mymensingh	Ishwarganj	Jatia	Bijoypur 267 000
340	Mymensingh	Mymensingh	Ishwarganj	Jatia	Sutia 258 000
341	Mymensingh	Mymensingh	Ishwarganj	Jatia	Tangongati 245 000
342	Mymensingh	Mymensingh	Ishwarganj	Jatia	Ghagrapara 197 000
343	Mymensingh	Mymensingh	Ishwarganj	Majjbhag	Sadhurgola 165 000
344	Mymensingh	Mymensingh	Ishwarganj	Rajibpur	Bothopur 107 000
345	Mymensingh	Mymensingh	Ishwarganj	Atharobari	Khalbola_271_000
346	Mymensingh	Mymensingh	Ishwarganj	Mogtola	Ballavpur_138

Annex-J: Sample Mauza Plot Schedule of Ishwarganj Upazila

District	Upazila	Union	Mouza_JL_Sheet	RS Plot No	Plot Type	Existing Landuse	Cropping Pattern	Ecological Category	Geological Suitability
Mymensingh	Ishwarganj	Uchakhila	Ishwarganj 027 000	258	Plot	Administrative	Double Crop	Flood Free Zone	Moderate
Mymensingh	Ishwarganj	Uchakhila	Ishwarganj 027 000	261	Plot	Administrative	Double Crop	Flood Free Zone	Moderate
Mymensingh	Ishwarganj	Uchakhila	Ishwarganj 027 000	274	Plot	Administrative	Double Crop	Flood Free Zone	Poor
Mymensingh	Ishwarganj	Uchakhila	Ishwarganj 027 000	275	Plot	Administrative	Double Crop	Flood Free Zone	Poor
Mymensingh	Ishwarganj	Uchakhila	Ishwarganj 027 000	287	Plot	Administrative	Double Crop	Flood Free Zone	Moderate
Mymensingh	Ishwarganj	Uchakhila	Ishwarganj 026 000	231	Plot	Administrative	Double Crop	Flood Free Zone	Moderate
Mymensingh	Ishwarganj	Uchakhila	Ishwarganj 062 000	1	Plot	Agricultural Area	Tripple Crop	Main Flood Flow Zone	Moderate
Mymensingh	Ishwarganj	Uchakhila	Adgatia 062 000	2	Plot	Agricultural Area	Tripple Crop	Main Flood Flow Zone	Moderate
Mymensingh	Ishwarganj	Uchakhila	Adgatia 062 000	5	Plot	Agricultural Area	Tripple Crop	Main Flood Flow Zone	Moderate
Mymensingh	Ishwarganj	Mogtola	Adgatia 062 000	10	Plot	Agricultural Area	Tripple Crop	Main Flood Flow Zone	Moderate
Mymensingh	Ishwarganj	Mogtola	Adgatia 062 000	11	Plot	Agricultural Area	Tripple Crop	Main Flood Flow Zone	Moderate
Mymensingh	Ishwarganj	Mogtola	Ishwarganj 062 000	12	Plot	Agricultural Area	Tripple Crop	Main Flood Flow Zone	Moderate
Mymensingh	Ishwarganj	Mogtola	Ishwarganj 062 000	13	Plot	Agricultural Area	Tripple Crop	Main Flood Flow Zone	Moderate
Mymensingh	Ishwarganj	Mogtola	Ishwarganj 062 000	14	Plot	Agricultural Area	Tripple Crop	Main Flood Flow Zone	Moderate
Mymensingh	Ishwarganj	Mogtola	Ishwarganj 062 000	15	Plot	Agricultural Area	Tripple Crop	Main Flood Flow Zone	Moderate
Mymensingh	Ishwarganj	Mogtola	Ishwarganj 062 000	15	Plot	Agricultural Area	Tripple Crop	Main Flood Flow Zone	Moderate
Mymensingh	Ishwarganj	Mogtola	Ishwarganj 062 000	18	Plot	Agricultural Area	Tripple Crop	Main Flood Flow Zone	Moderate

District	Upazila	Land Suitability	Name of Proposal	Landuse Plan	Area (Acre)	Area (SQKILOMETERS)
Mymensingh	Ishwarganj	Suitable		Administrative	0.000	0.000
Mymensingh	Ishwarganj	Suitable		Administrative	0.001	0.000
Mymensingh	Ishwarganj	Suitable		Administrative	0.000	0.000
Mymensingh	Ishwarganj	Suitable		Administrative	0.000	0.000
Mymensingh	Ishwarganj	Suitable		Circulation Network	0.000	0.000
Mymensingh	Ishwarganj	Suitable		Circulation Network	0.000	0.000
Mymensingh	Ishwarganj	Lowest Suitable		Agricultural Area	0.254	0.001
Mymensingh	Ishwarganj	Lowest Suitable		Agricultural Area	0.241	0.001
Mymensingh	Ishwarganj	Lowest Suitable		Agricultural Area	0.231	0.001
Mymensingh	Ishwarganj	Lowest Suitable		Agricultural Area	0.015	0.000
Mymensingh	Ishwarganj	Lowest Suitable		Agricultural Area	0.018	0.000
Mymensingh	Ishwarganj	Lowest Suitable		Agricultural Area	0.016	0.000
Mymensingh	Ishwarganj	Lowest Suitable		Agricultural Area	0.095	0.000
Mymensingh	Ishwarganj	Lowest Suitable		Agricultural Area	0.240	0.001
Mymensingh	Ishwarganj	Lowest Suitable		Agricultural Area	0.204	0.001
Mymensingh	Ishwarganj	Lowest Suitable		Circulation Network	0.001	0.000
Mymensingh	Ishwarganj	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 (Sq.ft)	Plot Area	Bulding Footprint Area (Acre)
1	2	3	4	5	6	7	8	9
1	28631	6092	39688	8444	2353	1700	2833	153
2								
3								
4								
5								
6								
7								
8								
9								

Gross Residential Area (Acre)	Ward Population 2011	Ward Population 2033	Structure No	Pucca Structure	Existing Residential Area (Acre)	Existing Residential Area Whole (Acre)	Planned Residential Area (Acre)
10	11	12	13	14	15	16.00	17
306	4024	5578	1367	168	51	68.55	
	6672	9249	1422	172	32	102.02	
	2432	3371	969	31	16	130.20	
	3108	4308	894	7	3	92.96	
	1397	1937	525	64	56	21.74	53.09
	3069	4254	926	7	3	102.53	
	2832	3926	792	26	11	86.14	
	1976	2739	607	7	4	75.93	

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	3121	4326	1065	33	13	113.30	
	28631	39688	8567	515	189	793.37	

Annex -L: Meeting Minutes of TMC Meeting

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 উপস্থিত 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 প্র্যান 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 প্র্যানটি 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 তাগিদ দেন। তিনি পরিকল্পনা মাফিক উন্নয়ন কর্মকান্ড বাস্তবায়নে সমস্যা ও সম্ভাবনার বিষয়ে বিস্তারিত ভাবে তুলে ধরেন। তিনি প্ল্যান 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 তৌফিক, 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 তৌহিদ 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 প্ল্যানার আব্দুল্লাহ আল ফাহাদ শিবপুর উপজেলার প্ল্যান উপস্থাপন করেন।

১০। শিবপুর পৌরসভার সহকারী প্রকৌশলী জনাব মুহাম্মদ কাইয়ুম চৌধুরী শিবপুর পৌরসভার Drainage Master Plan বিষয়ে জানতে চান। পরামর্শক প্রতিষ্ঠানের Hydrologist জনাব আদিবুল 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 প্ল্যান বুকে বিধি মোতাবেক Compensation দেওয়ার বিষয়টির কথা উল্লেখ থাকবে বলে জানান।

১১। পরবর্তীতে পরামর্শক প্রতিষ্ঠানের আরবান প্ল্যানার আব্দুল্লাহ আল ফাহাদ রায়পুরা উপজেলার প্রণীত Final Plan সভায় উপস্থাপন করেন।

১২। রায়পুরা উপজেলা প্রকৌশলী জনাব শাহ আলম বলেন যে, প্রস্তাবিত প্ল্যানে 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 ভাঙ্গন প্রবণ এলাকাতে Embankment cum Road করার

বিষয়টি বিবেচনা করতে বলেন। উপজেলা প্রকৌশলী প্র্যানে 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 প্র্যানে 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 রিপোর্ট সূত্র হিসেবে Field Survey, 2015/2016 উল্লেখ করা যুক্তিযুক্ত বলে মতামত দেন।

১৫। LGED এর প্রতিনিধি সহকারী প্রকৌশলী সোহানা পারভীন প্রণীত প্র্যানেটি SDG এর সাথে সমন্বয় করে উপস্থাপন করার জন্য ধন্যবাদ জানান। তিনি বলেন যে, এখানে SDG এর ১৭ (সেতোরো) 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 প্র্যানে 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 জানান। 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

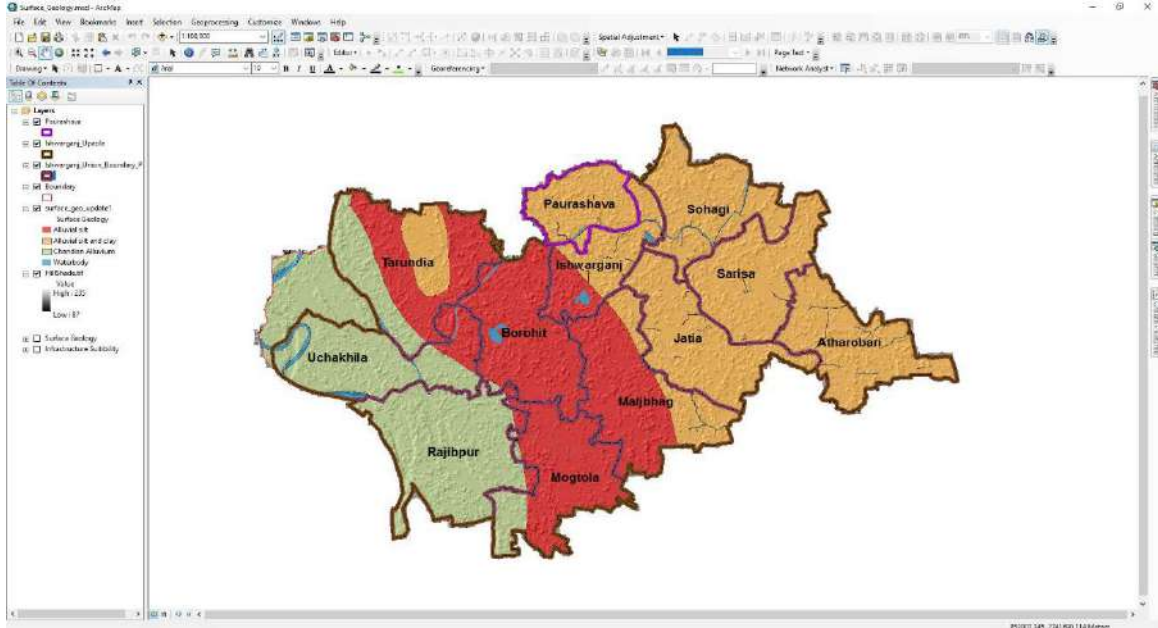
স্মারক নম্বর: ২৫.৪৫.০০০০.০০০.১৪.০০৯.১৭.৫৫

তারিখ: ৬ বৈশাখ ১৪২৫

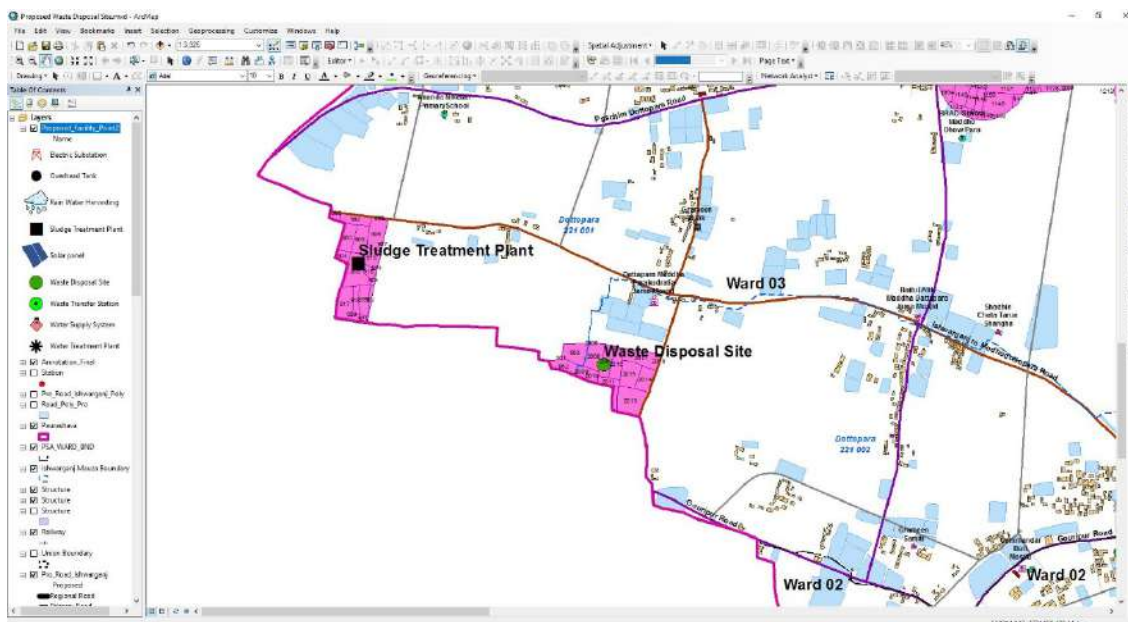
১৯ এপ্রিল ২০১৮

TMC সভার সুপারিশমালা ও সিদ্ধান্ত সমূহ এবং পরামর্শক প্রতিষ্ঠান কর্তৃক গৃহীত পদক্ষেপ

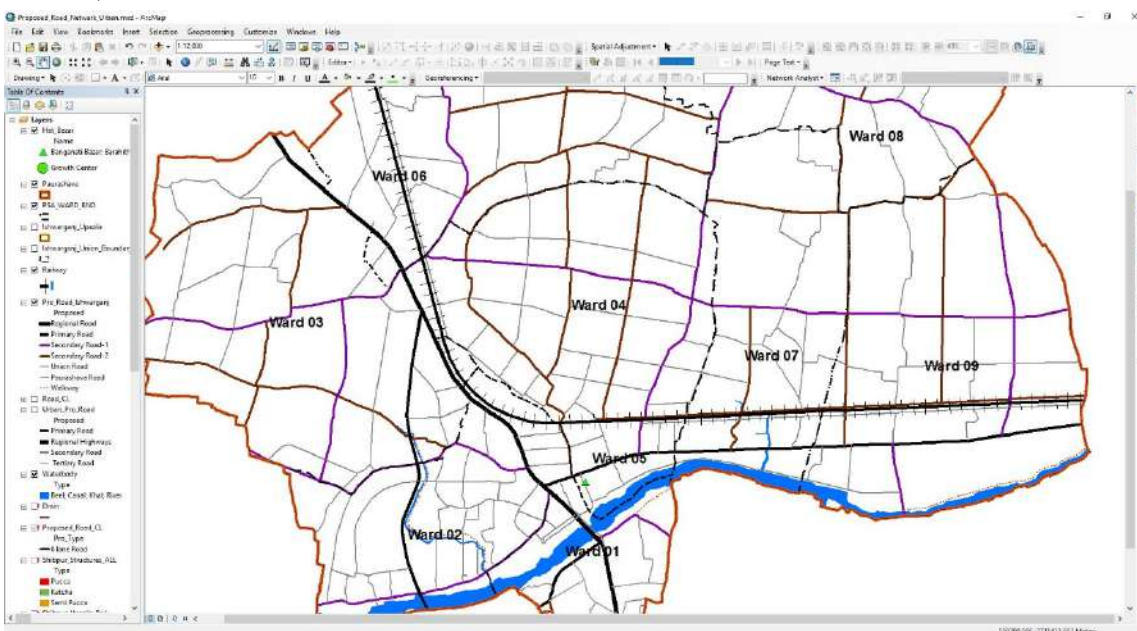
1. উপজেলা নির্বাহী অফিসার **এলিশ শরমিন** ৫ টায়ার পরিকল্পনা এবং তার সময়সীমা সম্বন্ধে যানতে চান। প্ল্যান Review/ পর্যালোচনা করার সুযোগ থাকবে কিনা যানতে চান।
পরামর্শক প্রতিষ্ঠানের টিম লিডার ৫ টায়ার পরিকল্পনা এবং তার সময়সীমা বিষয় ভাবে আলোচনা করেন এবং প্রকল্প পরিচালক জানান প্রতি ৫ বছর পর পর প্ল্যান Review/ পর্যালোচনা করার সুযোগ থাকবে।
2. টি.এম.সি সভাপতি নগর উন্নয়ন অধিদপ্তর পরিচালক মহোদয় তারুন্দিয়া ইউনিয়ন এর বিল এর মাঝখানে রাস্তার বিষয়ে জানতে চান রাস্তাটি বিদ্যমান এবং বর্ষার সময় তলিয়ে যায়না বলে টিম লিডার 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 নীচে সম্পদ বিষয়ে Study করা হয়নি, তবে ১০০ ফুট মাটির নীচের কোন খনিজ পদার্থের সন্ধান পাওয়া যায়নি।



4. ঈশ্বরগঞ্জ পৌরসভার সহকারী প্রকৌশলী জনাব উত্তম কুমার দাস Waste disposal site এর প্রস্তাবনার কথা যানতে চান।
গৃহীত পদক্ষেপ: প্রস্তাবনা দেয়া আছে বলে পরামর্শক প্রতিষ্ঠান জানান।

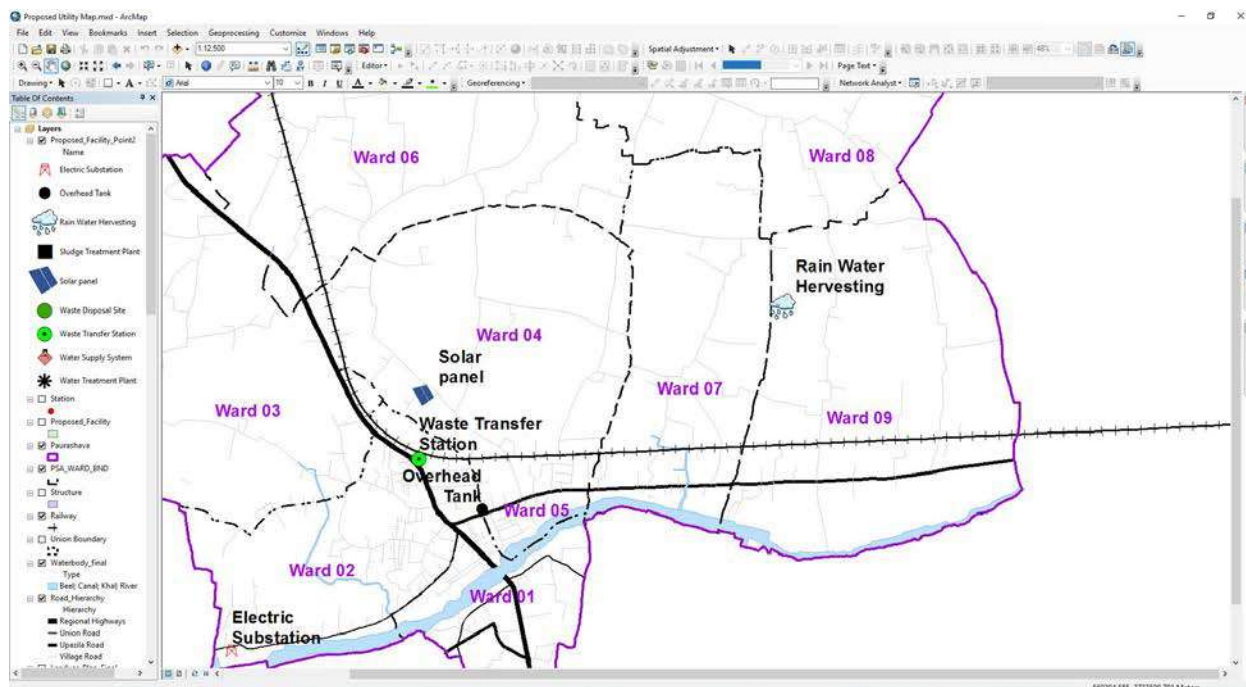


5. SOB এর প্রতিনিধি রাস্তার রং এবং Railline এর Legend পরিবর্তন করার কথা বলেন।
গৃহীত পদক্ষেপ : রাস্তার রং এবং Railline এর Legend পরিবর্তন করা হয়েছে।



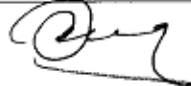
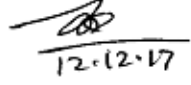

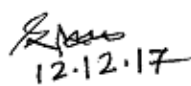
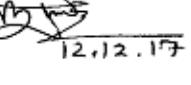
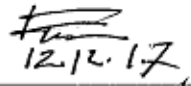
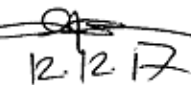
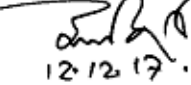
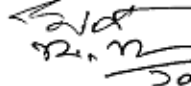

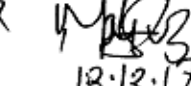

6. প্রকল্প ব্যবস্থাপক Solar Park এবং Rainwater Harvesting এর প্রস্তাবনা রাখার বিষয়ে মতামত ব্যক্ত করেন।

গৃহীত পদক্ষেপ : প্রস্তাবনা দেয়া আছে বলে পরামর্শক প্রতিষ্ঠান জানান।

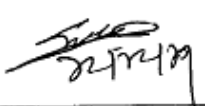
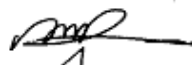
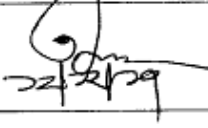

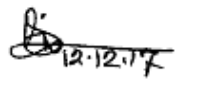
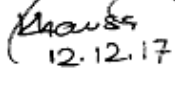
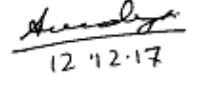


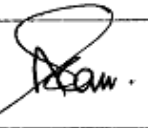
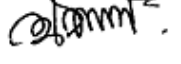
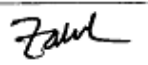


Annex-M: Attendance Sheet and Photographs of Final Workshop

**Workshop on
Draft Plan of Ishwarganj Upazila under Fourteen Upazilas Project**

Sl. No	Name & Designation	Mobile No	Signature
01.	Md. Arshaduzzaman Deputy Director	0172102480	
02.	Uday Sankar Das Senior planner S.P.U	01716007110	 12.12.17
03.	Md. Ali Siddique Upazila Education Officer	01711-023526	
04.	Eng. Nirangan Kundu. Resident Engineer, BPDB, Ishwarganj.	01755581367	 12.12.17
05.	Dulali Dhar, VRDO, BRDB office	01716-285238	 12.12.17
06.	A.K.M. Fazlul Haque Upazila Youth development officer	01722156996	 12.12.17
07.	Mahammad Kamal Hossain Upazila Family Planning officer	01716-083092	 12.12.17
08.	Mohammad. Kamrul HAQUE Secretary Ishwarganj Pourashava. Mynis	01712962400	 12.12.17.
09.	MD. MIZANUL ISLAM KHONDA Upazilla Social Services office	01855-978550	 12.12.17
10.	MD. MUETASEMUR RAHMAN Upazilla Food Controller	01715430760	 12.12.17
11.	MAHFUZUR RAHMAN S.O. Fire Service and Civil Defence	01770-669747	 12.12.17
12.	MD. MAZINUR RAHMAN S.O.	01954-320026	

**Workshop on
Draft Plan of Ishwarganj Upazila under Fourteen Upazilas Project**

Sl. No	Name & Designation	Mobile No	Signature
13.	ডাঃ আবদুল হক আল মাকসুদ উপজেলা নির্বাহী অফিসার কার্যালয়	০১৭০২৪২৬৪৭	
14.	নামদাউল হুসেন মল্লিক উপজেলা নির্বাহী অফিসার কার্যালয়	০১৭২৬৪৭৬৬৮	
15.	আবদুল হক আল মাকসুদ উপজেলা নির্বাহী অফিসার কার্যালয়	০১৭০৪৪৪৮৮৪০	
16.	ডাঃ জাফরুল হক উপজেলা নির্বাহী অফিসার কার্যালয়	০১৭২৬৪৭৬৬৮	
17.	ফজিলাতুন্নাহা উপজেলা নির্বাহী অফিসার কার্যালয়	০১৭০৮-২০৮০৬০	
18.	খবির উদ্দিন আহমদ উপজেলা নির্বাহী অফিসার কার্যালয়	০১৭০৭৪৭৪৪৪০	
19.	আবদুল হক আল মাকসুদ উপজেলা নির্বাহী অফিসার কার্যালয়	০১৭৪৮২২০২০	
20.	মোঃ হেলালুল হক উপজেলা নির্বাহী অফিসার কার্যালয়	০১৭২৬৬৬৪৪৪০	
21.	Afrane M Kamal	01819262012	
22.	Md. Aminul Islam AVCB-2, U.C. Ishwarganj -	01719323964	
23.	মোঃ আবদুল হক উপজেলা নির্বাহী অফিসার কার্যালয়	01718753893	
24.	Dr. Md. Zakim Islam UH & FPO, ISHWARGANJ Mymensingh	01711-10775	

**Workshop on
Draft Plan of Ishwarganj Upazila under Fourteen Upazilas Project**

Sl. No	Name & Designation	Mobile No	Signature
25.	আঃ শাহাদ হুসেইন, মাদার- ২নং উচ্চতর গড়	০১৭০৫৫৫৫৫৫৫৫	Hossain
26.	মাদার মাদার মাদার হুসেইন, মাদার- ২নং উচ্চতর গড় উচ্চতর গড়	০১৭২১৭৫৫৭ ২৭	মাদার
27.	মাদার মাদার মাদার হুসেইন মাদার মাদার মাদার	০১৭০৫৫০৫৫ ২৫	মাদার
28.	মাদার মাদার মাদার মাদার হুসেইন মাদার মাদার মাদার	০১৭২৫৩০ ৪৭৭	মাদার
29.	ডাঃ জাফরুল হক সচিব SCPL	০১৭১৭-৪১৭৭৭	ডাঃ জাফরুল হক
30.	ডাঃ মাদারুল আলী UDD	০১৭১১-০৩৪২৪৫	ডাঃ মাদারুল আলী
31.	রফিকুল হক UDD	০১৭১২০৫৬৭৭	রফিকুল হক
32.	ডাঃ মাদারুল হক	০১৭২২৭২১০২৫	ডাঃ মাদারুল হক
33.	ডাঃ মাদারুল হক	০১৭১২৫৩২৭৭০	ডাঃ মাদারুল হক
34.	ডাঃ মাদারুল হক	০১৭১২-৪৭৩০ ৫৫	ডাঃ মাদারুল হক
35.	ডাঃ মাদারুল হক	০১৭১২-৫৫৫৫	ডাঃ মাদারুল হক
36.	ডাঃ মাদারুল হক	০১৭১২-৫৫৫৫	ডাঃ মাদারুল হক

Ministry of Housing & Public Works
Urban Development Directorate(UDD)
Preparation of Development Plan of Fourteen Upazila (Package-02)
Attendance Sheet for Stakeholder Consultation Meeting(Ishwarganj Upazila)

Sl. No	Name & Designation	Mobile No	Signature
01			
02	আবদুল্লাহ মন্ডল, জেলা প্রশাসক, মন্ডল	01919878017	
03	মোঃ আবদুল মন্ডল - জেলা প্রশাসক, মন্ডল	0465842072	
04	মোঃ মোস্তাফিজুর রহমান - জেলা প্রশাসক, মন্ডল	01712-156671	
05	আবদুল মন্ডল	01819262012	
06	ড. মুহাম্মদ হোসেন নাজিম		
07	মোঃ আবদুল মন্ডল (জিলা)	01734-788672	
08	মোঃ মোঃ মন্ডল	0268888888	
09	মোঃ মোস্তাফিজুর রহমান	0192195672	
10	মোঃ মোস্তাফিজুর রহমান	01811559133	
11	মোঃ মোঃ মন্ডল	01710666263	
12	মোঃ মোস্তাফিজুর রহমান	01954320026	
13	মোস্তাফিজুর রহমান	02926892516	
14	মোস্তাফিজুর রহমান	01727432240	
15	মোস্তাফিজুর রহমান	01790999027	
16	মোস্তাফিজুর রহমান	01962-836047	
17	মোস্তাফিজুর রহমান	02268086020	
18	মোস্তাফিজুর রহমান	01925265874	
19	মোস্তাফিজুর রহমান	01777072953	

ইশ্বরগঞ্জ উপজেলা কর্মশালার স্থির চিত্র:



গত ১১.০৯.২০১৭ তারিখে ঈশ্বরগঞ্জ উপজেলা মিলনায়তনে খসড়া প্ল্যান নিয়ে সরবস্তরের জনগনের সাথে আলোচনার স্থির চিত্র:



গত ১২.১০.২০১৭ তারিখে ময়মনসিংহ-৮ (ঈশ্বরগঞ্জ উপজেলা) এর মাননীয় সংসদ সদস্য এর সাথে সংসদ সচিবালয়ে ঈশ্বরগঞ্জ উপজেলার থসড়া প্ল্যান নিয়ে আলোচনার স্থির চিত্র:



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