

5) UzDRRAP of Ulipur, Kurigram

**Upazila Disaster Risk Reduction
Action Plan (UzDRRAP)**

Ulipur, Kurigram

June 2025

**Upazila Disaster Management Committee
(UzDMC), Ulipur, Kurigram**

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Preface

Bangladesh is one of the most disaster-prone countries in the world due to its geographical location. The frequency and intensity of disasters have increased in recent years due to climate change, as floods and storm surges are likely to become more severe with increases in intense tropical cyclones. Also, geographically, the country is located close to active seismic zones and is susceptible to medium to large earthquakes. These disasters cause not only direct physical damage to lives and assets, but also indirect and consequent losses to various sectors such as the agricultural sector, food security, water, health and sanitation, significantly impacting the economy and livelihood of the local communities. To tackle the situation, the government has achieved breakthroughs in disaster risk management by mentioning this as one of the top priorities, as described in the 8th Five-Year Plan (July 2020- June 2025), "a sustainable development pathway resilient to disaster and climate change" as a core theme.

In order to accelerate the disaster resilience of the country, it is vital to develop and implement local disaster risk reduction strategies and plans, as also indicated in the Sendai Framework for Disaster Risk Reduction 2025-2030. Expectedly, by adopting a local disaster risk reduction plan in every Upazila, it is possible to effectively reduce the damage and loss caused by disaster, and enhance continuous and sustainable development of the country's economy, and therefore achieve Vision 2041 of the government.

In light of this, "The Project for Capacity Enhancement on Formulation and Implementation of Local Disaster Risk Reduction Plan" has been implemented since December 2020, led by MoDMR and DDM, supported by the Japan International Cooperation Agency (JICA). In this Project, Upazila Disaster Risk Reduction Action Plans have been formulated in six pilot Upazilas of three districts, which are Cox's Bazar (Cox's Bazar Sadar and Chakria), Sunamganj (Chhatak and Jagannathpur) and Kurigram (Chilmari and Ulipur). These plans have been developed by unique approaches that are 1) Scientific analysis for local hazards; 2) Setting DRR targets based on risk quantification; 3) Involvement of project implementing agencies including BWDB, LGED, SoB, GSB, BMD, PWD, FSCD, and so on. These approaches have successfully established this effective plan and promote the execution of the projects to reduce disaster risk.

This plan is expected to save lives, livelihoods, and resources of the Upazila, as well as pave the way for enhancing future development through disaster risk reduction in the country.

UzDRRAP Formulated by the Department of Disaster Management (DDM) and
Technical Assistance from the JICA Expert Team (JET) of "The Project for Capacity Enhancement on
Formulation and Implementation of Local Disaster Risk Reduction Plan".



Director General
Department Of
Disaster Management



Message

Bangladesh is the 7th most vulnerable country to climate change according to Global Climate Risk Index (CRI) ranks published by German watches. Accordingly, people in Bangladesh are often affected by number of natural disasters like cyclone, storm surges, floods, riverbank erosion, drought, salinity intrusion, cold wave and thunderstorm etc. The Government of Bangladesh (GoB) recognizes these risks as significant detriment to the growth prospects of the country and has taken several measures over the decades.

Bangladesh made its policies and strategies for disaster risk management following principles of the SFDRR (Sendai Framework for Disaster Risk Reduction) since the adoption of the framework in March 2015. Over time, the GoB has shifted its focus from conventional response and relief approach to a more proactive comprehensive risk reduction approach in order to make our common people more resilient. In light of SFDRR, the Ministry of Disaster Management and Relief (MoDMR) has taken a pilot project in a titled "The Project for Capacity Enhancement on Formulation and Implementation of Local Disaster Risk Reduction Plan - LDRRP" with the financial and technical support of JICA. This project is being piloted six Upazilas in three different geographical locations of Cox's Bazar (Cox's Bazar Sadar & Chakaria), Sunamganj (Chhatak & Jagannathpur) and Kurigram (Chilmari & Ulipur) respectively.

I expressed my cordial thanks to JICA Expert Team (JET) including development partners "GPAD" (Geo Planning for Advanced Development) for their diligent efforts to prepare this Upazila Disaster Risk Reduction Action Plan (UzDRRAP) engaging members of UDMC, UzDMC and relevant govt. agencies. I hope that the said plans will play a vital role for reducing disaster risk in the pilot Upazilas and later be expanded across the country.

Razwanur Rahman
(Additional Secretary)



Project Director
LDRR Project
and
Director

Planning & Development
Department Of Disaster Management

Message

Bangladesh is one of the most vulnerable countries to natural disasters due to its geographical location, and socio-economic condition. The geographical location, land characteristics, multiplicity of rivers and the monsoon climate render Bangladesh highly vulnerable to natural hazards. Bangladesh is a riverine country with numerous rivers, and the three major ones flowing over its 147570 square kilometers of surface area are the Ganges, the Brahmaputra, and the Meghna. Due to climate change, natural disasters are hitting Bangladesh on a massive scale every year, which is regularly holding back Bangladesh's progress. A disaster is a serious disruption of human lives including socio-economic strata and environmental degradation causes long term effects and impacts, which exceeds the ability of the affected community or society to cope using its own resources.

In this consequence in the light of Sendai Framework for Disaster Risk Reduction (SFDRR), the Ministry of Disaster Management and Relief (MoDMR) has taken a pilot project named "The Project for Capacity Enhancement on Formulation and Implementation of Local Disaster Risk Reduction Plan - LDRRP" with the financial and technical support of JICA is being piloting in six Upazilas of three pilot districts namely Cox's Bazar, Sunamganj & Kurigram considering local hazards in different geographical location. The Bangladesh Government has also emphasized on proactive Disaster Risk Management (DRM) instead of Post Disaster Response (PDR). Our belief is that formulation of Upazila Disaster Risk Reduction Action Plan (UzDRRAP) is a fundamental need for the Upazilas in order to reduce the rate of damage and loss through early response. This plan will take us on the path of prosperity by reducing the risk of disasters and will play a significant role in the development of the country.

I expressed my cordial thanks to the members of Union Disaster Management Committee (UDMC), Upazila/District Disaster Management Committee (Uz/DDMC), govt. agencies/departments and other stakeholders for their active participation in respect to invested time & ideas in the whole process during formulation of UzDRRAPs. I also expressed my heartiest thanks to JICA Expert Team (JET) and Sub-Consultant "Geo planning for Advanced Development (GPAD)" for their relentless efforts to prepare this UzDRRAP.

Md. Abdullah Al-Mamun
(Joint Secretary)



Deputy Commissioner
Kurigram District



Message

Kurigram is located in the northern region of Bangladesh along the border with India. The district is bordered by Jamalpur district of Mymensingh division to the south, Gaibandha, Rangpur and Lalmonirhat districts as well as West Bengal state of India to the West, and the Indian states of Assam and Meghalayato the East. The area of this district is 2245.04 square kilometers where 278.28 kilometers of international border with India. It consists of 09 Upazilas (Ulipur, Chilmari, Rourari, Nageshwari, Bhurungamari and Phulbari, Kurigram Sadar, Nageshwari, Bhurungamari, Rajarhat, Ulipur, Chilmari, Phulbari, Rourari & Rajibpur and 03 Pourashavas (Municipality) & 73 Unions with 1872 villages. Kurigram District Town stands on the Bank of the Dharla River. There are some prominent rivers exists in this district, these are Brhammaputra, Tista, Dharala, Dhudkumar, Fulkumar, Jingram, Sonavori, Holholla, Kalzani and Sankosh etc.

The district faces annual flooding due to water from upstream areas, as well as riverbank erosion both of which significant hazards. These natural disasters result in the loss of standing crops, valuable property, and even homes, posing a major threat to people's lives and livelihoods. As a result, the progress of development work is often slowed. In light of this, the formulation of Upazila Disaster Risk Reduction Plan (UzDRRP) has become a timely and essential action.

I am pleased to learn that the Upazila Disaster Risk Reduction Action Plan (UzDRRAP) is being implemented on a pilot basis in the Ulipur and Chilmari Upazilas of Kurigram district, through joint collaboration of JICA and the Bangladesh Government. It is expected that this action plan will play a crucial role in reducing the loss and damage caused by natural disasters, while accelerating development efforts in the future.

Nusrat Sultana



Upazila Nirbahi Officer
Ulipur, Kurigram District

Message

Ulipur Upazila, located in the northern part of Bangladesh, consists of thirteen unions and one municipality under Kurigram district, Bangladesh. The Upazila is bounded by Chilmari and Raomari Upazilas in the South, Kurigram Sadar and Rajarhat Upazilas in the North, Assam state of India in the East and Rangpur District in the West, covering an area of 458.48 km² with 103,061 households. Natural disasters are a constant companion for the people living here, and their lives and livelihoods continue to struggle year after year with these natural disasters (especially floods, riverbank erosion, lightning, drought, etc.). Every year, natural disasters are destroying the lives and wealth of the people and creating poverty vicious cycle. In such a situation, there is no alternative to reducing disaster risk (DRR). The people of this area are fortunate that an Upazila Disaster Risk Reduction Action Plan (UzDRRAP) is being prepared in Ulipur Upazila with the financial and technical support of JICA and the Bangladesh Government, where the Upazila Disaster Management Committee and the Union Disaster Management Committee are playing an active role.

I firmly believe that this Upazila Disaster Risk Reduction Action Plan (UzDRRAP) will play an effective and fruitful role in combating DRR with respect to reducing loss and damage, vis-à-vis improving the lives of the community people, which our country will be benefitted. It's my pleasure to express my sincere thanks and gratitude to all stakeholders, including members of the JICA Expert Team (JET), for their hard work.


Nayan Kumar Saha

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Attachment 1: Proposed Countermeasures List [Linked with (Chapter 5.2) Action Plan]

Attachment 2: Member lists of UzDMC and UzSC for the development of the Plan with related documents

Attachment 3: Workshop and other activity photos in Ulipur

Acronyms

ADP	Annual Development Program
BBS	Bangladesh Bureau of Statistics
BCC	Building Construction Committee
BMD	Bangladesh Meteorological Department
BNBC	Bangladesh National Building Code
BWDB	Bangladesh Water Development Board
CRA	Community Risk Assessment
DAE	Department of Agricultural Extension
DDM	Department of Disaster Management
DDMC	District Disaster Management Committee
DEM	Digital Elevation Model
DMC	Disaster Management Committee
DPHE	Department of Public Health Engineering
DPP	Development Project Proposal
DRMP	Disaster Risk Management Plan
DRR	Disaster risk reduction
DRRO	District Relief & Rehabilitation Officer
FOCG	Focal Point Operational Coordination Group
FSCD	Fire Service and Civil Defense
GDP	Gross domestic product
GIS	Geographic Information System
GSB	Geological Survey of Bangladesh
GSD	Ground Sampling Distance
HED	Health Engineering Department
ID	Identity Document
JET	JICA Expert Team
JICA	Japan International Cooperation Agency
LDRRP	Local Disaster Risk Reduction Plan
LGED	Local Government Engineering Department
MoDMR	Ministry of Disaster Management and Relief
MoE	Ministry of Education
NGO	Non-governmental Organization
NPDM	National Plan for Disaster Management
PIO	Project Implementation Officer
PWD	Public Works Department

RRAP	Risk Reduction Action Plan
SFDRR	Sendai Framework for Disaster Risk Reduction
SOB	Survey of Bangladesh
SOD	Standing Orders on Disaster 2019
TSC	Technical Sub-Committee
UNO	Upazila Nirbahi Officer
UPs	Union Parishads
URC	Upazila Resource Center
UzCC	Upazila Construction Committee
UzDMC	Upazila Disaster Management Committee
UzDMP	Upazila Disaster Management Plan
UzDRRAPs	Upazila Disaster Risk Reduction Action Plans
UzSC	Upazila Disaster Risk Reduction Action Plans Sub-Committee
VDP	Village Defense Party

Chapter-1. Introduction

1.1 Purpose and aim of the Plan

The purpose of the Ulipur Upazila Disaster Risk Reduction Action Plan (UzDRRAP) is to identify necessary countermeasures against natural disasters and implement them in cooperation with relevant stakeholders to reduce disaster risks in the Upazila. This Plan contributes to increasing investment in disaster risk reduction by ensuring a mechanism for project implementation of the line ministries' countermeasures and by promoting further funding from agencies.

1.2 Rationale for the formulation of the Plan

This Plan corresponds to the Risk Reduction Action Plan (RRAP) that is required to be developed as a part of the Disaster Risk Management Plan (DRMP) by Disaster Management Committees (DMC) at District, Upazila, and Union DMCs, according to the Standing Orders on Disaster 2019 (SOD). In the SOD, it is recommended to prepare RRAP by local DMCs, as well as the Contingency Plan. While disaster response, which is covered by the Contingency Plan, has been relatively conducted as required in emergencies, risk reduction measures based on the objective hazard and risk assessment had not been sufficiently implemented at the Upazila level. In consideration of this situation and the importance of the DRR investment for the further development of the country, this plan, therefore, emphasises disaster risk reduction and proposes the necessary actions as a master plan corresponding to the RRAP of the Upazila Disaster Management Plan (UzDMP), which directly leads to the preparation of Development Project Proposals (DPPs) and Annual Development Programmes (ADPs).

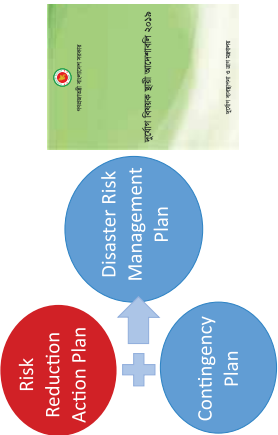


Figure 1-1. Risk Reduction Action Plan in the SOD

The formulation of the UzDRRAP and the implementation of the countermeasure against disasters are in line with the government strategies, policies, and plans of the country, as listed below.

- The Bangladesh Delta Plan 2100 mentions the importance of strengthening the disaster risk management and combating the effects of climate change.
- 8th Five-Year Plan (July 2020-June 2025) emphasizes appropriate policy and institutional capacity building to address their concerns on climate-resilient development and disaster management at all levels of the government, especially at the local government level where most of the programmes are to be implemented.

- The National Plan for Disaster Management (NPDM 2021-2025) focuses on "Making disaster risk reduction a development practice to achieve resilient public investment and the SDGs" and "Building capacity and leadership to implement NPDM 2021-2025 at the national and local level".

In addition, from an international perspective, this plan directly contributes to the Sendai Framework for Disaster Risk Reduction 2015-2030 (SFDRR), specifically the target (e) "To substantially increase the number of countries with national and local disaster risk reduction strategy".

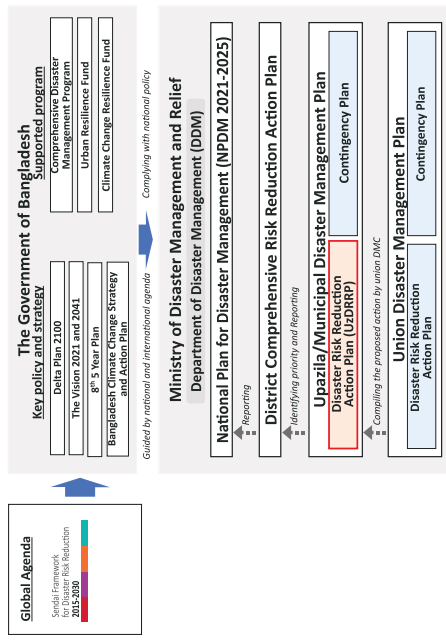


Figure 1-2. Relationship between national key policies and this plan

1.3 Relevance to other Upazila plans

Based on the Local Government (Upazila Parishad and Upazila Administration Reorganization) Act 1998 and the Local Government (Upazila Parishad) Act 2009, each Upazila shall prepare a development plan and land use plan. This plan and the proposed countermeasure against the disasters have been considered to ensure consistency with these plans in this Upazila.

1.4 Features of the Planning

The features of this Planning are 1) Scientific Analysis for Local Hazards, 2) Setting DRR Target based on Risk Quantification, and 3) Involvement of Project Implementing Agencies, which are expected to contribute to the actual execution of the effective countermeasures.

Feature 1: Scientific Analysis for Local Hazards:

The hazard maps were developed by simplified technical analysis, which processes are not adopted in the Community Risk Assessment (CRA), using observed disaster records of rainfall and tidal level, the Digital Elevation Model (DEM), and current hazard maps. The developed hazard maps represent the vulnerable areas of the Upazila and help promote to objective understanding of the hazard potential.

Feature 2: Setting DRR Targets based on Risk Quantification:

Risks in this Upazila were quantified based on risk quantification using hazard maps and various factors such as natural conditions and socio-economic factors, and visualized to share with relevant agencies. A DRR target was set in consideration of the result of identifying which areas are highly affected by potential hazards, by these risk quantifications, as well as the current policies of the line ministries (project implementing agencies).

Feature 3: Involvement of Project Implementing Agencies:

The Upazila Sub-Committee (UzSC), which is composed of the Upazila chairman, UNO, PIO, engineers from LGED, BWDB, and DPHE in the Upazila, Upazila officials, Union Parishad chairman, was established to identify disaster risks and consider priorities of countermeasures against the disasters at the Upazila level. Since the committee at the Upazila level does not have the authority to determine the countermeasures listed in the plan to be implemented, the members from the line ministries at the central level are involved in the planning processes to promote the schemes/projects listed in the UzDRRAP and secure budgets.

1.5 Methodology for the development of the Plan

1.5.1 Institutional Arrangement

For the development of this Plan, an UzSC, that is stipulated in the SOD, was established in this Upazila. The roles and responsibilities of this committee are to:

- 1) Prepare this UzDRRAP by identifying existing DPPs and pipeline projects related to DRR, Union Parishads (UPs) priority, and some development projects that might affect people or increase disaster risk;
- 2) Summarize DRR projects by examining the needs of UPs and Risk Reduction Action Plans developed by UPs;
- 3) Identify possible DPP to be able to collaborate among line ministries on structural and non-structural measures to maximize the efficiency and effectiveness of DRR.

In addition to this UzSC at the Upazila level, the Technical Sub Committee (TSC) was established to coordinate projects proposed by other Upazilas in addition to Ulipur Upazila at the central level. Implementation of the projects proposed in the UzDRRAP is determined by the line ministries at the central level. The roles and responsibilities of this TSC are to:

- 1) Summarize and monitor the progress of DRR related projects based on the plans that UzSCs submitted;
- 2) Request the line ministries on the possibility of doing further investigation on DRR project needs based on the UzDRRAP;
- 3) Make efforts to integrate DRR ideas into DPP, ADP and SYP in Upazila and line ministries, considering the disaster risk reduction target in the UzDRRAP;
- 4) Discuss among line ministries on development projects which might affect people or cause disaster;
- 5) Establish the guidelines and manuals to prepare UzDRRAPs
- 6) Take the initiative to start up UzSCs for the preparation of UzDRRAPs.

1.5.2 Planning Process and Methodology

This plan was established based on a combination of methods, namely JICA 8 steps and the CRA method which has been broadly utilized as a vulnerability assessment in the country, as shown in the figure below. For developing each chapter of this plan, the following methodology was introduced.

Chapter 2: Geographic, Socio-economic, and Meteorological Conditions

This chapter illustrates the characteristics of the Upazila, that is the conditions to develop the Action plan for DRR. The statistics data including the Census 2022 and meteorological data were collected and analyzed.

Chapter 3: Hazard Characteristics and Disaster Risk

This chapter explains the disaster records and experiences, target hazards, as well as hazard and disaster risks of the Upazila. While disaster records and experience were mostly collected by the DRRO of the district and UzDMC members, hazard and disaster risks were identified through scientific analysis by utilizing data such as elevation data (DEM), probability rainfall data, land use data, and important public facilities. These hazard maps and risk assessment results were then confirmed in workshops where the UzDMC members participated.

Chapter 4: DRR Targets of the Upazila

This chapter describes Vision and Challenges by hazard. This Vision indicates the target that all the stakeholders intend to achieve in carrying out their projects defined in this Plan. Challenges by hazard show the short-to-mid-term and long-term countermeasures to be taken to achieve the Vision, which depends on the target areas, namely inland area, along river, and Char area.

Chapter 5: Action Plan of DRR Countermeasures

This chapter shows the current status of the general DRR countermeasures, as well as the action plan in line with the DRR target. The current status of the countermeasures was identified and analyzed by consultation with UzDMC and UzSC members, while the Action Plan was developed in consideration of the risk assessment results, consultation by line ministries and proposals given by the UzDMC members.

¹ The risk assessment was conducted in accordance with the developed guideline – Guideline on Hazard and Risk Assessment.

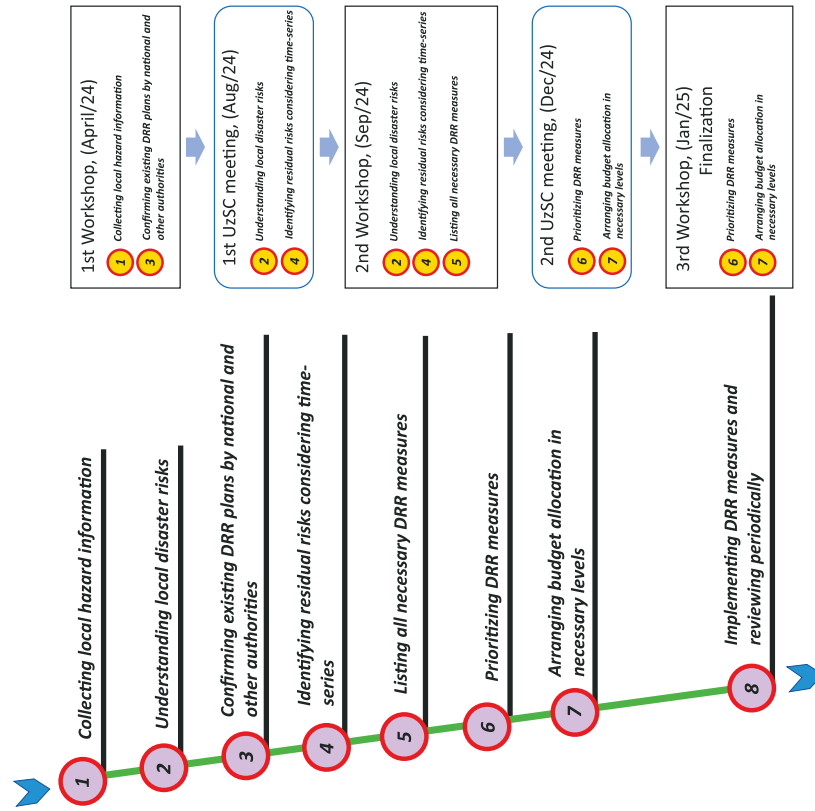


Figure 1-3. "8 Steps" for Upazila DRR Planning in case of this plan

Chapter-2. Geographic, Socio-economic, and Meteorological Conditions

2.1 Location and Geographic Conditions

2.1.1 Location of the Upazila

Ulipur Upazila is an Upazila of Kurigram District under the Rangpur Division of the northern part of Bangladesh. It is located near the Indo-Bangladesh frontier, which is intersected by the mighty Brahmaputra River. It is located 65.1 km south-east of the divisional headquarters city of Rangpur. It is bounded on the north by Kurigram Sadar and Rajarhat upazilas, on the south by Chilmari and Sundarganj Upazilas, on the east by Raumari upazila and Assam state of India, and on the west by Sundarban and Pirgachha Upazilas (Figure 2-1.). The total area of the Upazila is approximately 461.01 km2 and is located between 25°33' and 25°49' north latitudes and 89°29' and 89°51' east longitudes.

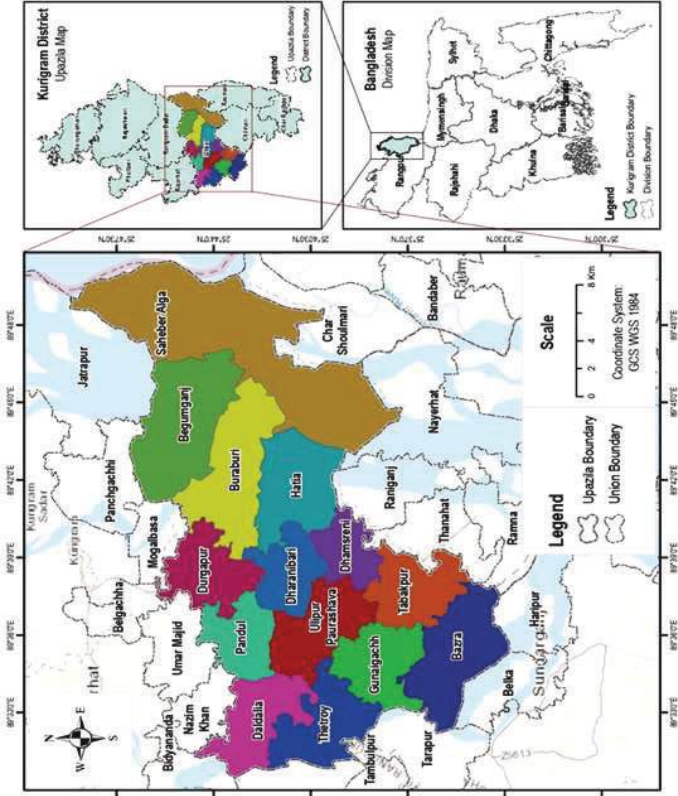


Figure 2-1. Location Map of Ulipur Upazila

2.1.2 Topography of the Upazila

The topography of Ulipur Upazila consists mostly of flatland and riverine itself with an average elevation of 28.09m above mean sea level (Figure 2-2). Therefore, it is often heavily flooded during the rainy seasons. The flat areas are used for agriculture, fishing in open water bodies between Testa River, Brahmaputra River, and Dharla River, as well as the settlement.

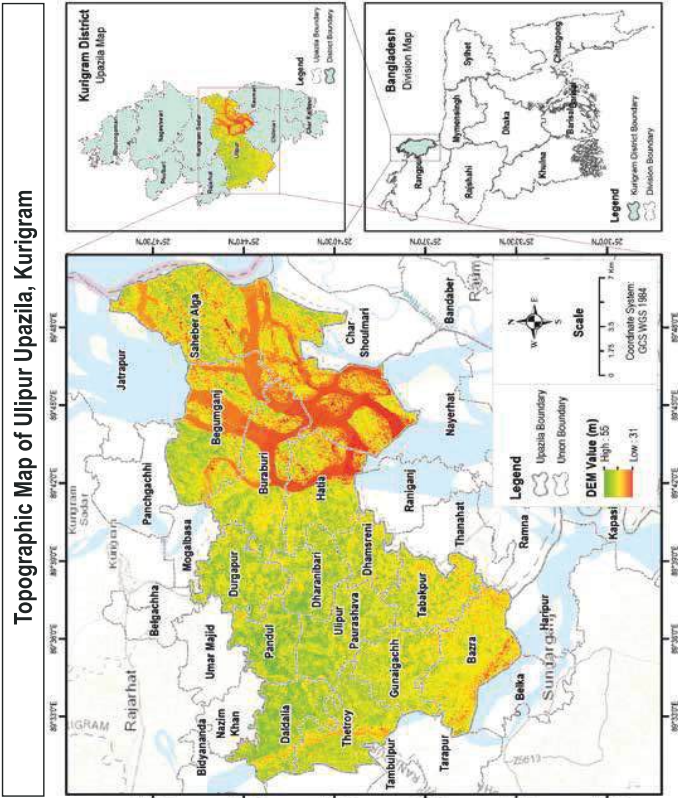


Figure 2-2. Topographic Map of Ulipur Upazila, Kurigram District

2.1.3 River System of the Upazila

The Kurigram district is located in the alluvial plain of the Teesta-Brahmaputra basin. The region is prone to flooding during the monsoon season due to the rivers' overflow and the low elevation of the area.

The major rivers are the Brahmaputra River, Dharla River, and Teesta River, and the minor rivers include the Dudhkumar River, Phulkar River, Gangadhar River, Jinjram River, and others.

The Dharla River is a transboundary river flowing through India, Bhutan and Bangladesh. The river enters Bangladesh through Lalmonirhat District and flows through Chilmari Upazila, Kurigram District. The Dharla River is a tributary of the Brahmaputra River, which is a swift river during the rainy season and a braided

stream in winter. The river is prone to flooding, especially during the rainy season. For example, in June 2024, the Dharla River rose due to heavy rains, and river erosion was reported in Ulipur. The length of the river within Bangladesh is about 75 km. One has to cross to go to Nageshwar, Fulbaria and Bhurungamari upazilas in northern Kurigram.

The Teesta River is a river in Bangladesh that flows through Kurigram District and joins the Brahmaputra River at Haripur Port in Kurigram District. The Teesta River has caused severe erosion and flooding in Kurigram, submerging hundreds of hectares of Anan paddy fields. The Teesta river's water level can rise due to continuous rainfall, and also drop due to a decrease in rainfall and upstream water flow.

The Brahmaputra River originates from the Kailash ranges of the Himalayas and enters Bangladesh in the Bhabanipur area of the northeast of Kurigram district.

According to BWDB in July 2024, the Brahmaputra River was flowing 80cm above the threshold at Hatia water gage point, meanwhile, the water level of the Dharla River water gage point rose by 20cm above the danger level.

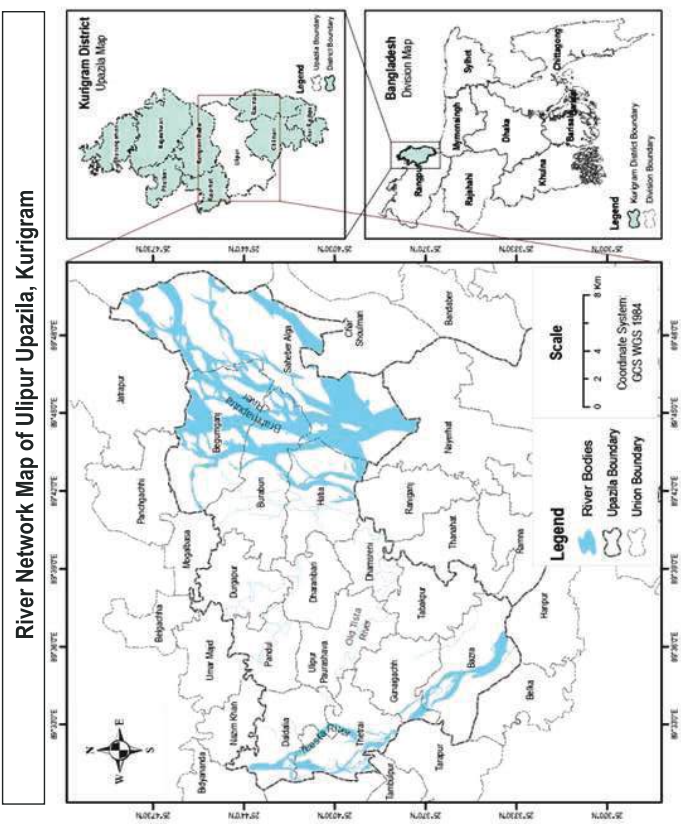


Figure 2-3. River network map of Ulipur Upazila

2.2 Socio-economic Conditions

2.2.1 Demography

Ulipur Upazila is divided into one Paurashava and thirteen Unions: Bazra, Begumganj, Buraburi, Daldalia, Dhamsreni, Dharanibari, Durgapur, Gunaigachh, Hatia, Pandul, Shaheber Alga, Tabakpur, Thetroy, and Ulipur Paurashava. According to the census 2022, the total population of the Upazila is 440,152. The demography of Ulipur Upazila is shown below.

Table 2-1. Demography of Ulipur Upazila

Union Name	Total Area (km ²)	Total Population	Number of Households
Bazra	32.51	32,408	9,029
Begumganj	49.72	17,717	4,388
Buraburi	38.99	38,530	10,587
Daldalia	22.44	25,349	7,394
Dhamsreni	18.87	26,640	7,017
Dharanibari	23.08	31,910	9,191
Durgapur	24.23	39,413	10,650
Gunaigachh	30.92	30,357	8,504
Hatia	30.77	32,958	8,731
Pandul	17.56	26,244	7,133
Shaheber Alga	99.03	21,817	5,771
Tabakpur	25.37	39,450	10,797
Thetroy	27.29	26,401	7,801
Ulipur Paurashava	20.24	50,958	13,802
Total	461.01	440,152	120,795

Source: Population and Housing Census 2022. District Report: Kurigram

2.2.2 Economy and Industry

The economy of Ulipur Upazila mainly depends on agriculture and agriculture-based farming. The main crops in this area are paddy, jute, maize, kaun, ground nut, mustard, pulse, sesame, ginger, garlic, onion, betel leaf, and the main fruits are mango, jackfruit, blackberry, coconut, papaya, banana, betel nut, etc. The manufacturing of this area are flour mill, husking mill, ice factory, Tredol pump factory (locally known as Dheki Kal), welding factory, and the industries are goldsmith, blacksmith, embroidery, etc.

According to the district statistics (2011), agriculture contributes to the economy 69.41%, non-agricultural sectors 3.10%, industry 0.53%, commerce 10.61%, transport and communication 2.53%, service 5.61%, construction 1.11%, religious service 0.17%, rent and remittance 0.38% and others 6.55%.

The following table (Table 2-2) shows different sectors involved in the economy of Ulipur Upazila.

Table 2-2. Employed by sectors of Ulipur Upazila

Sector Name	Working Population	
	2011	2022
Agriculture	50,954	71,030
Industry	1,553	15,854
Service	5,284	33,325

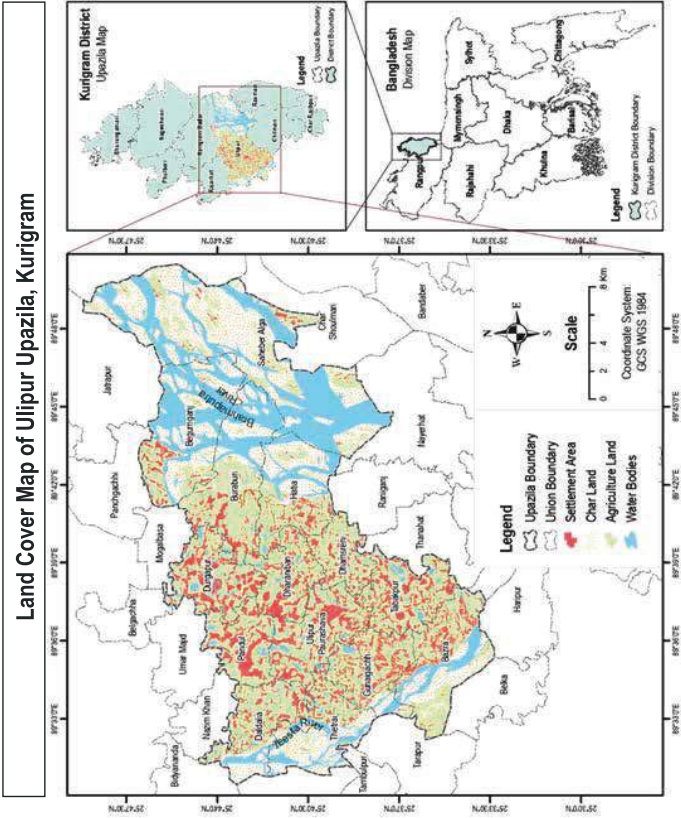


Figure 2-4. Land cover map of Ulipur Upazila

2.2.3 Urbanization

The urbanization rate in Kurigram District, expressed as the percentage of the population living in urban or urbanized areas, is relatively low compared to the national average of 31.51% (Population and Housing Census 2022). A comparison between 2011 and 2022 shows that the urbanization rate increased in Ulipur Upazila, along with the upazilas of Bhurungamari, Kurigram Sadar, Nageshwari, Phulbari, Rajarhat, Rajibpur, and Rourmari. However, Chilmari Upazila experienced a decline in its urbanization rate during the same period.

According to the 2022 census, only 14.87% of the population in Ulipur Upazila resides in urban areas. The annual population growth rate in Ulipur Upazila from 2011 to 2022 is 1.24%, which is slightly higher than the national average of 1.22% (Population and Housing Census 2022). Particularly, the unions of Buraburi, Dhamsreni, Dharanibari, Durgapur, Hatia, and Pandul have experienced annual population growth rates higher than the upazila average. This elevated growth is one of the indicators of ongoing urbanization trends in these unions (Table 2-3).

Table 2-3. Population growth rate of Ulipur Upazila

Union Name	Population		Annual Population Growth Rate (2011 - 2022)
	2011	2022	
Bazra	31,634	32,408	0.24%
Begumganj	17,309	17,717	0.24%
Buraburi	33,090	38,530	1.64%
Daldalia	23,084	25,349	0.98%
Dhamsreni	21,881	26,640	2.17%
Dharanibari	27,964	31,910	1.41%
Durgapur	34,263	39,413	1.50%
Gunaigachh	28,239	30,357	0.75%
Hatia	28,933	32,958	1.39%
Pandul	23,321	26,244	1.25%
Shaheber Alga	20,427	21,817	0.68%
Tabakpur	35,245	39,450	1.19%
Thetroy	23,884	26,401	1.05%
Ulipur Paurashava	45,933	50,958	1.09%
Total	395,207	444,152	1.24%

Source: Population and Housing Census 2011, Community Report: Kurigram, Population and Housing Census 2022, District Report: Kurigram

2.3 Meteorological Conditions

Ulipur Upazila has a humid subtropical climate, which is warmer in the summer and cooler in the winter than other parts of Bangladesh.

The average annual rainfall of Uttar Daldalia station at Ulipur Upazila is about 2,866.7 mm (source: <https://www.worldweatheronline.com/uttar-daldalia-weather-averages/bd.aspx>) for the period from January 2009 to December 2024, shown in Figure 2-5, which is higher than the average annual rainfall of Bangladesh (2,200 mm).

As shown in Figure 2-5, most rainfall in the Upazila is concentrated for the months from May to August, which is more than 400 mm, and this heavy rainfall causes flooding in this area. The average annual rainfall days is 147 days.

The Upazila has a little higher temperature in comparison with the national average. The average maximum temperature of 34.0°C reached in April, as indicated that the highest temperature is 40.0°C in April 2024. The average minimum temperature is 14.0°C in January (Figure 2-6).

Chapter-3. Hazard Characteristics and Disaster Risk

3.1 Disaster Record of the Upazila

3.1.1 Disaster Record

Kurigram has a long history of natural disasters, predominantly characterized by floods, riverbank erosion, droughts, and cold waves. Table 3-1 shows some significant historical disasters that impacted the region.

Table 3-1. Recent Disaster Record in Ulipur Upazila

No.	Year	Damage
1. Flood		
(1)	1988	1988 Flood: One of the most devastating floods in the history of Bangladesh, which also affected Kurigram. The Brahmaputra and Teesta rivers overflowed, causing widespread destruction. Thousands of people were displaced, and crops were severely damaged. The water level at Chilmari point was 25.04 mPWD, whereas the danger level is 24 mPWD. The water above the danger level stayed for 15 days.
(2)	1998	1998 Flood: Often referred to as the "flood of the century" in Bangladesh, Kurigram was one of the worst-hit areas. Water remained stagnant for weeks, and approximately 60-70% of the region was submerged. It led to a large-scale humanitarian crisis, with food shortages, loss of property, and diseases. The water level at Chilmari point was 24.77 mPWD, whereas the danger level is 24 mPWD, and the water above the danger level stayed for 22 days.
(3)	2007	2007 Flood: Affected by heavy monsoon rains and water coming from upstream India, Kurigram faced significant damage. The flood submerged large areas of agricultural land, damaging crops and leaving thousands of people displaced.
(4)	2012	2012 Flood: The recorded water level on 30 June was 24.48 mPWD at Chilmari station, which was 48 cm above the danger level for 8 days
(5)	2014	2014 Flood: Water level: 24.49 mPWD (danger level of 24.0 mPWD) for 13 days
(6)	2015	2015 Flood: Water level: 24.44 mPWD (danger level 24.0 mPWD) for 10 days at Chilmari BWDB point.
(7)	2016	2016 Flood: Water level: highest peak water level of 24.99 mPWD, which was 54 cm above its danger level (24.45 mPWD) for 23 days in monsoon.
(8)	2017 ¹	2017 Flood: A severe flood affected Kurigram, submerging large parts of the district. The disaster impacted hundreds of thousands of people, displacing families, destroying homes, and wiping out significant portions of crops and livestock. The district saw prolonged waterlogging, which exacerbated the crisis. The water level at Chilmari (Brahmaputra) reached a peak of 24.87 mPWD on 15 August (0.87 m above danger level DL 24.0 mPWD) for 14 days above the danger level in the 2017 monsoon. At Noonkhawa (Brahmaputra) station, the water level attained the peak at 27.39 mPWD for 3 days. water flowing above danger level (DL 27.25 mPWD) Affected population in the district: 165,955
(9)	2019	2019 Flood: Water level: highest peak of 25.02 m for 17 days

¹ FFWC, Annual flood report 2017. 2017, Flood Forecasting and Warning Centre, Bangladesh Water Development Board, Government of Bangladesh Dhaka, Bangladesh. p. 108. <http://www.fwc.gov.bd/images/annual17.pdf>

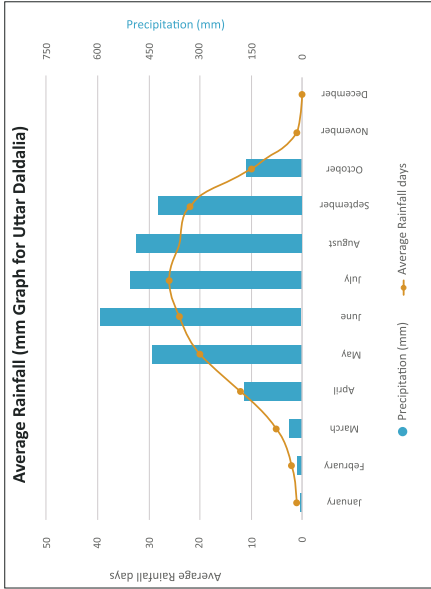
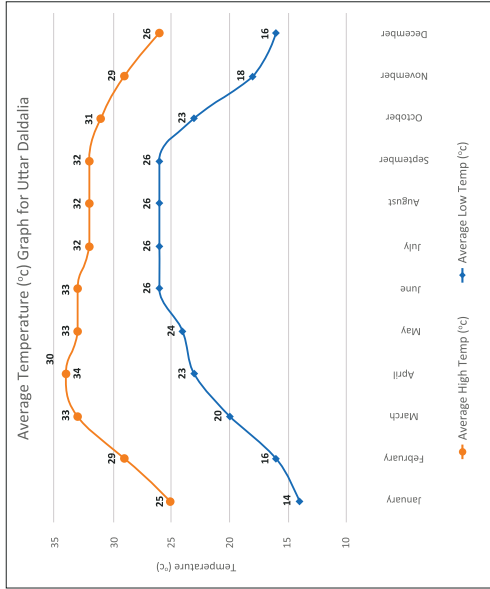


Figure 2-5. Annual average rainfall (mm) and average rainfall days of Uttar Daldalia station, Ulipur Upazila

(Source: <https://www.worldweatheronline.com/uttar-daldalia-weather-averages/bd.aspx>)



(Source: <https://www.worldweatheronline.com/uttar-daldalia-weather-averages/bd.aspx>)

Figure 2-6. Average Temperature (°C) of Uttar Daldalia station, Ulipur Upazila

No.	Year	Damage
(10)	2021 ²	2021 Flood: Water level at Chilmarī (Brahmaputra) reached peak 24.21 mPWD on 2 September (0.51 m above danger level DL 23.7 mPWD, revised after 2017 flood) 10 days above danger level in 2021 monsoon. At Noonkhawā (Brahmaputra) station, the water level attained the peak at 26.5 mPWD, the same as the danger level (DL 26.5 mPWD, revised after the 2017 flood)
(11)	2022	2022 Flood: Water level reached 32 cm at Chilmarī (Brahmaputra) point and 74 cm at Hatia (Brahmaputra) point above the danger level on 21 June and the water above the danger level stayed for 7 days.
(12)	2024	2024 Flood: Water levels rising of the Brahmaputra, Dudhkumar, and Dharla rivers; 72 cm above its danger point at Chilmarī; 80 cm above at Hatia union Affected population: Over 70,000 people Damaged croplands: 2300 hectares
2. Riverbank erosion		
(1)	1970s – 1990s	1970s-1990s: Throughout these decades, Kurigram saw steady riverbank erosion, particularly along the Brahmaputra River. Many communities lost their homes and farmland, forcing frequent relocation and deepening poverty.
(2)	2016 - 2019	2016-2019 Erosion Events: Riverbank erosion became more severe, with thousands of people losing their homes annually. This ongoing issue has led to the displacement of entire villages, with some areas disappearing entirely into the river.
3. Drought		
(1)	2019 ³	Just after floods, many farmers hit hard by drought in Kurigram after the water receded. Many farmers could not plant transplanted Aman rice due to a lack of saplings and water, due to flooding. Those who planted Aman, tried to protect the field by irrigating which is quite costly as Aman is mainly rainfed crop when farmers are not prepared for irrigation.
(2)	2024 ⁴	Severe droughts, excessive rainfall and flooding had caused an extensive loss (1.05 billion BDT) to agriculture (jute, aman seedbeds, vegetables and aush paddy) in Kurigram in 2024. Due to the drought, only 17,256 hectares were cultivated. In 2024 despite the Department of Agricultural Extension (DAE) targeting 17,950 hectares for jute cultivation. Kurigram hit by consecutively by drought during April and May, followed by excessive rainfall in June (1,100 mm recorded), while flooding began in early July. The DAE advised farmers in flood-affected areas to prepare for early Rabi crops if water takes time to recede.
4. Cold wave		
(1)	2021 ⁵	On 15 January 2021, Kurigram faced cold waves of 8.8°C hitting children and elderly people of low-income families and the farmers hard when most day-labourers were unable to go out for work. At least 800-900 people were taking treatment every day for cold-related illnesses at Kurigram General Hospital while thick fog was recorded near the riversides that would damage the crop creating blast and other diseases.

² FFWC, Annual flood report 2021. 2021. Flood Forecasting and Warning Centre, Bangladesh Water Development Board, Government of Bangladesh Dhaka, Bangladesh. p. 115. <http://www.ffwc.gov.bd/images/annual21.pdf>

³ After flood, drought hits Kurigram farmers, United News of Bangladesh, 8 September 2019, <https://unb.com.bd/category/Special/after-flood-drought-hits-kurigram-farmers/27758>

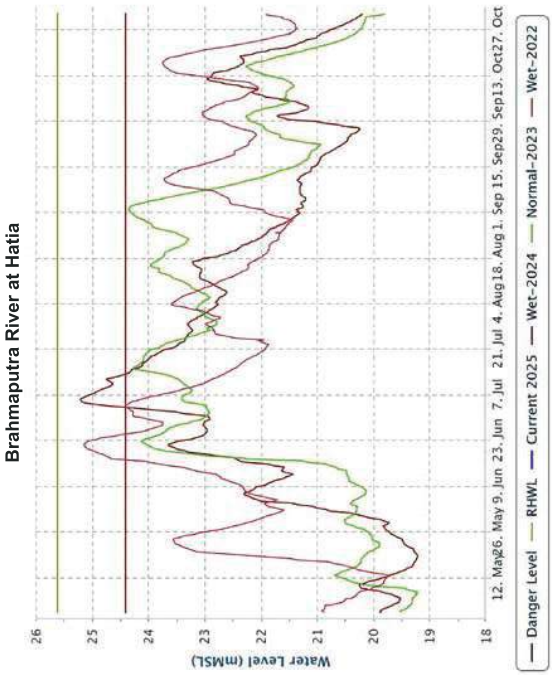
⁴ Natural disasters cause 105C loss in Kurigram's agri sector in 2024,Dhaka Tribune, 16 August 2024, <https://www.dhakatribune.com/bangladesh/354933/natural-disasters-cause-105c-loss-in-kurigram%E2%80%99s>

⁵ Kurigram shivers in cold wave, The Financial Express, 15 January 2021, <https://thefinancialexpress.com.bd/national/country/kurigram-shivers-in-cold-wave-1610710256>

No.	Year	Damage
(2)	2024 ⁶	On 25 January 2024, Kurigram faced cold waves of 9.4°C when around 2,000 schools remained closed and thick fog had enveloped the entire region, while on 26 January morning the district recorded its lowest temperature at 6.8°C. The drop in temperature had led to discomfort in the Brahmaputra, Dharla, Teesta, Dudhkumar and 16 other riverside areas, affecting the lives of local citizens. Hospitals in the district had reported an increase in cases of diarrhea, pneumonia, respiratory distress, colds and coughs and other winter-related illnesses.

Reference:

The hydrograph at Hatia station, Brahmaputra River has been shown in Figure 3-1 in which the recorded highest water level was 25.61 mMSL whereas the danger level at this station is 24.40 mMSL.



(source: <http://www.ffwc.gov.bd/index.php/hydrograph/monsoon>)

Figure 3-1. The hydrograph of Brahmaputra River at Hatia station

⁶ Cold wave grips Kurigram, mercury drops to 6.8°C, Dhaka Tribune, 26 January 2024 <https://www.dhakatribune.com/bangladesh/nation/337796/cold-wave-grips-kurigram-mercury-drops-to-6.8%C2%B0C>

3.1.2 Disaster Experience

In this section, the issues/challenges facing each Union Parishad are shown in Figures below. These disaster experiences were compiled based on the opinions of the Union Parishad representatives expressed at the first UzDRRAP formulation workshop held in April 2024, as well as interviews with UDMC members and local residents.

Issues/challenges in Bazra Union Parishad

The people of Bazra Union have experienced the disaster of flood, river erosion and lightning almost every year. In Bazra, Wards No. 1, 4, 5, 6, 7 and 9 are severely affected by river erosion, which causes homesteads and croplands to be washed away into the river. In these circumstances, people of this area live below the poverty line. Almost every year, people of Wards No 2, 3, 5, 6, 7, 8 and 9 are affected by floods; and during the flood period, most houses and roads are submerged, crops and seed beds get damaged, and cattle die from various diseases due to food scarcity.

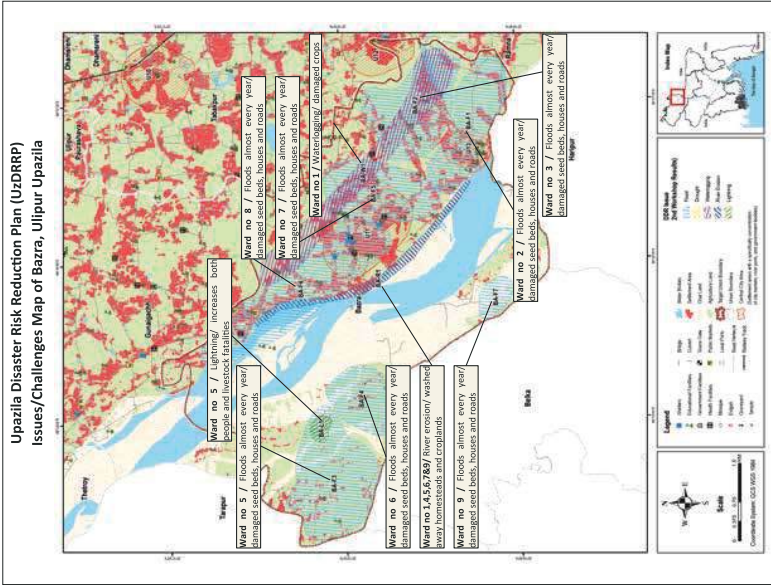


Figure 3-2. Issues/challenges in Bazra Union Parishad

Issues/challenges in Begumganj Union Parishad

People of Begumganj Union have experienced the disaster of flood, river erosion and lightning almost every year. In Begumganj, Wards No. 1, 2, 4, 5 and 7 are affected by river erosions, which causes houses, croplands, roads, and schools to be washed away into the river. All Wards of this union are affected by floods almost every year, which lead to various issues, including the displacement of people and livestock, causing roads to submerge and disruption of transportation. People and livestock are killed due to lightning strikes in this union.

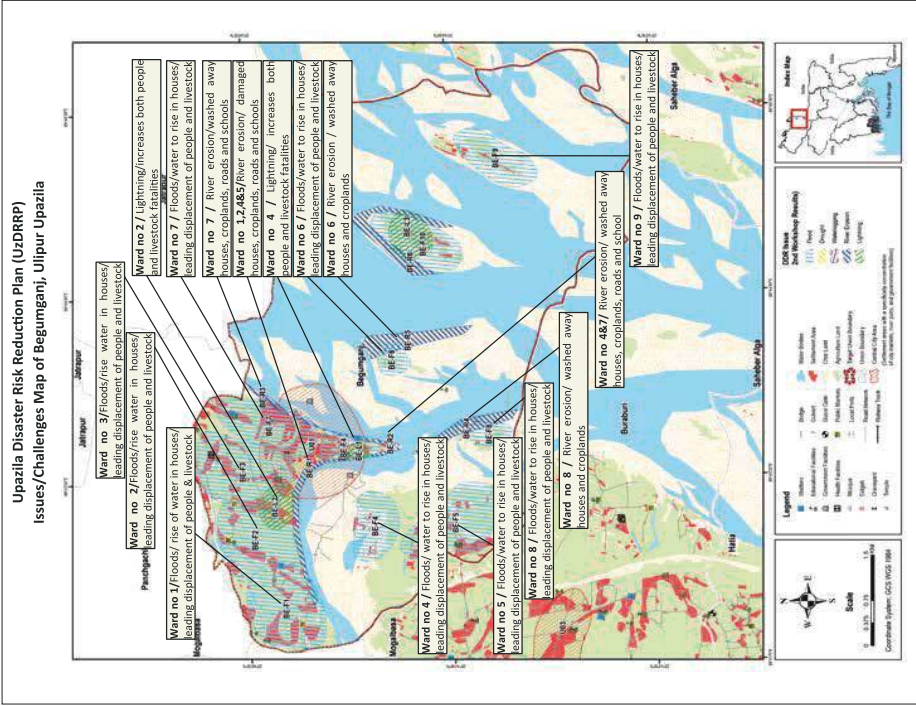


Figure 3-3. Issues/challenges in Begumganj Union Parishad

Issues/challenges in Buraburi Union Parishad

Buraburi Union has been affected by the disasters of flood, waterlogging, river erosion, drought and lightning almost every year. People of Ward No 6 are severely affected by river erosion. In this union, crops are destroyed, houses and roads are submerged, educational activities are disrupted, and medical services are hampered during flooding. Wards No 3 and 8 are affected by drought, which leads to a lack of water during the dry season and causes problems for agriculture.

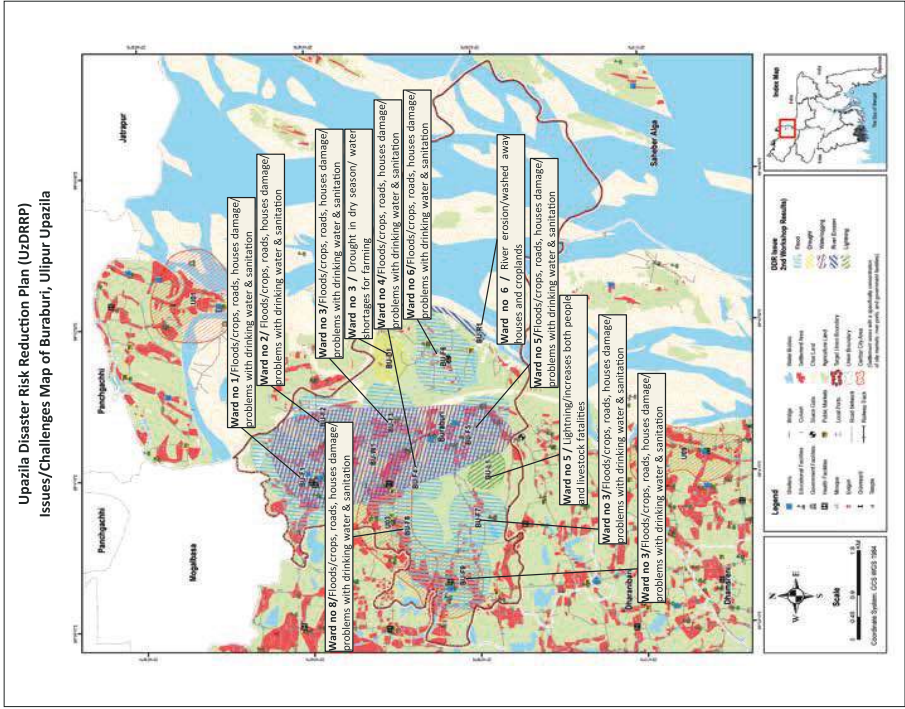


Figure 3-4. Issues/challenges in Buraburi Union Parishad

Issues/challenges in Daldalia Union Parishad

People of Daldalia union have experienced the disasters of flood, waterlogging, river erosion and drought almost every year. In this union, Wards No 3 and 8 are affected by river erosion, which causes homesteads and croplands to be washed away into the river. In Daldalia union, floods have resulted in crop destruction, submerged houses, roads and pathways, issues with safe drinking water and sanitation, disruption of educational activities and medical services.

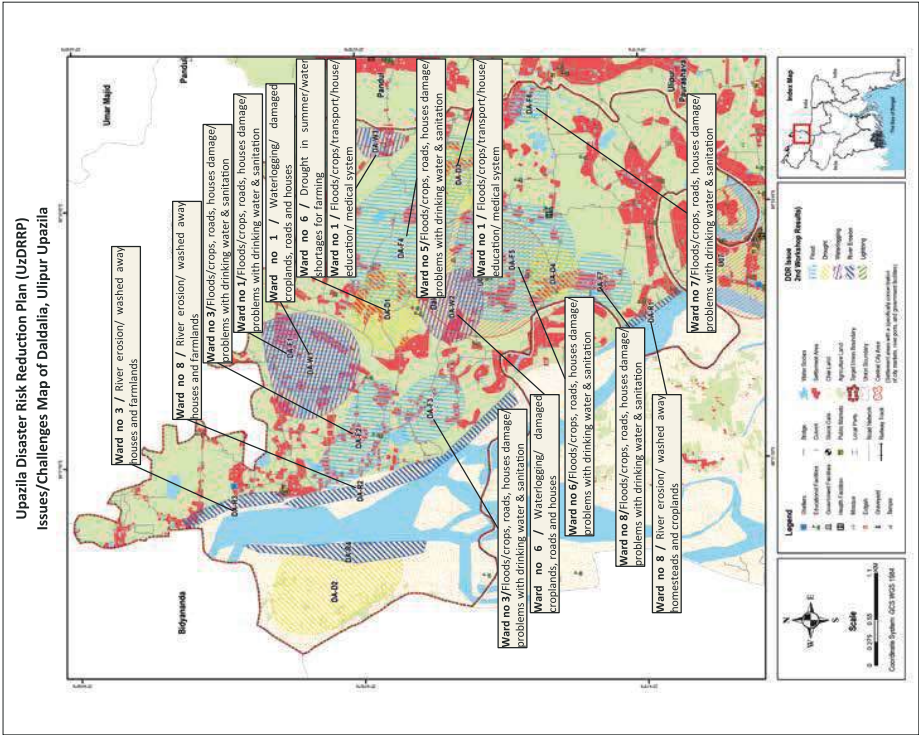


Figure 3-5. Issues/challenges in Daldalia Union Parishad

Issues/challenges in Dhamnsreni Union Parishad

Dhamnsreni union is a flood-affected area, and during floods, most of this union gets submerged in water, causing significant crop damage and severe damage to clean water and sanitation systems.

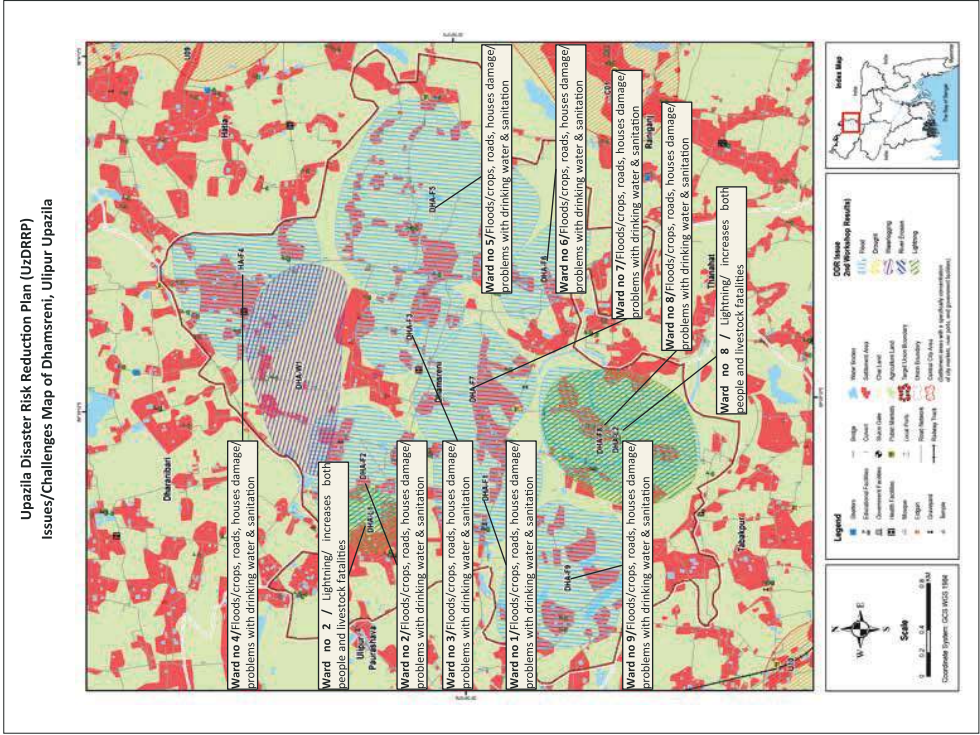


Figure 3-6. Issues/challenges in Dhamnsreni Union Parishad

Issues/challenges in Dharanibari Union Parishad

The low-lying areas of Dharanibari union get submerged even in light floods, and this continues to be waterlogging, which causes damage to croplands. Ward No 4 is affected by drought in the dry season, which causes water shortages for farming.

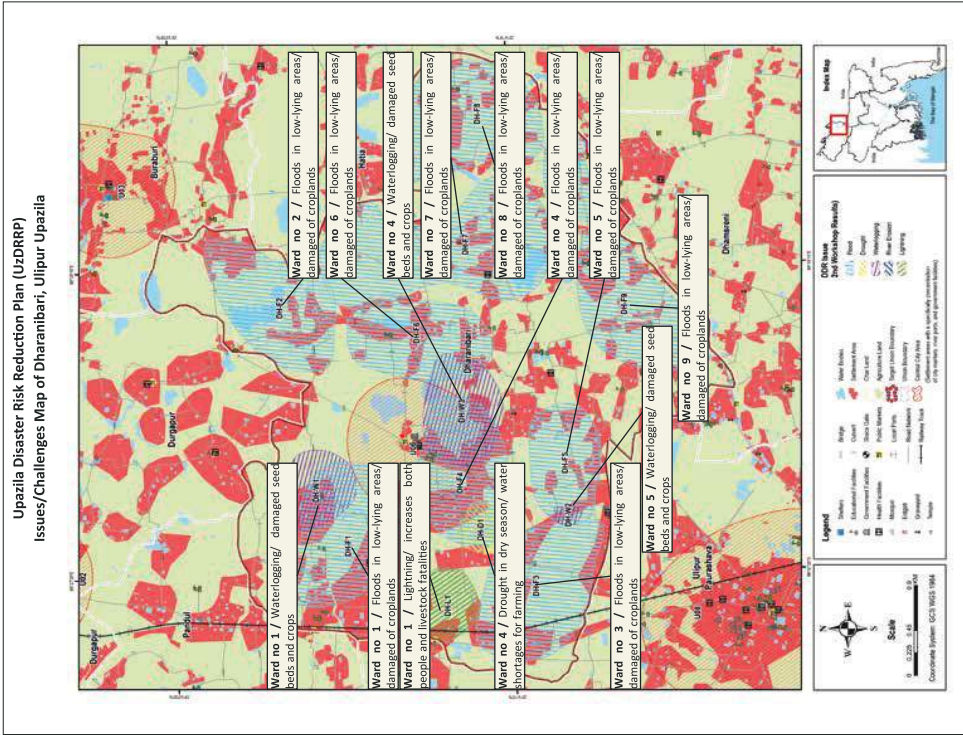


Figure 3-7. Issues/challenges in Dharanibari Union Parishad

Issues/challenges in Durgapur Union Parishad

People of Durgapur have experienced the disaster of floods, waterlogging and lightning almost every year. Almost all Wards of this union are affected by floods and waterlogging, which lead to extensive damage to residential properties, agricultural lands, roads, livestock, and fisheries. In this union, lightning strikes have occurred in various places in recent years, causing loss of life to both people and livestock.

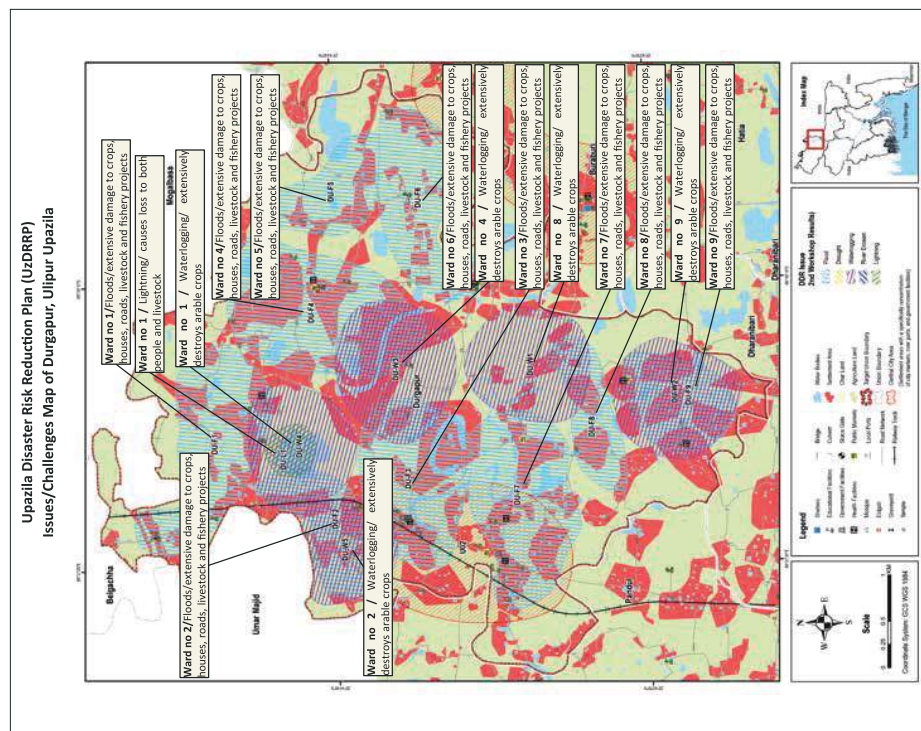


Figure 3-8. Issues/challenges in Durgapur Union Parishad

Issues/challenges in Gunaigachh Union Parishad

Due to river erosion, Santosh Aviram, Titma and Kajirchak areas are completely submerged in the river. Wards No 4, 5, 6, 7 and 9 of this union are affected by the flood, causing inconvenience to public movement.

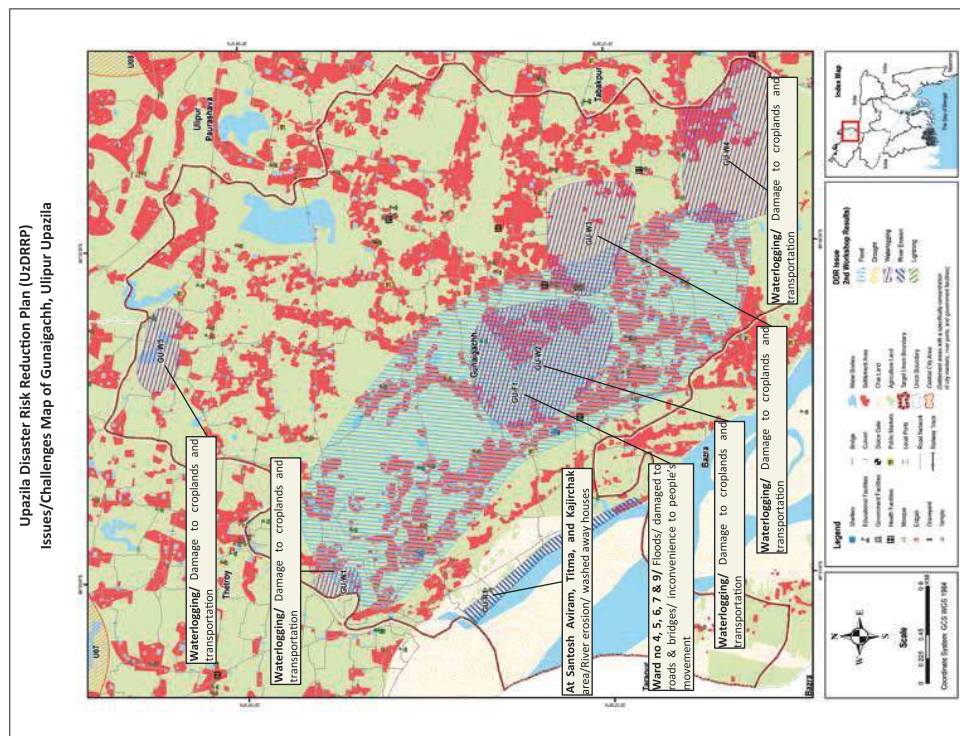


Figure 3-9. Issues/challenges in Gunaigachh Union Parishad

Issues/challenges in Hatia Union Parishad

Hatia union is affected by flood, river erosion, waterlogging, drought and lightning almost every year. Wards No 4 and 5 are affected by river erosion, causing houses and crops to be washed away into the river. Hatia union is experiencing severe flooding, for which houses, roads and croplands have been submerged in water, leaving people homeless and facing economic hardship.

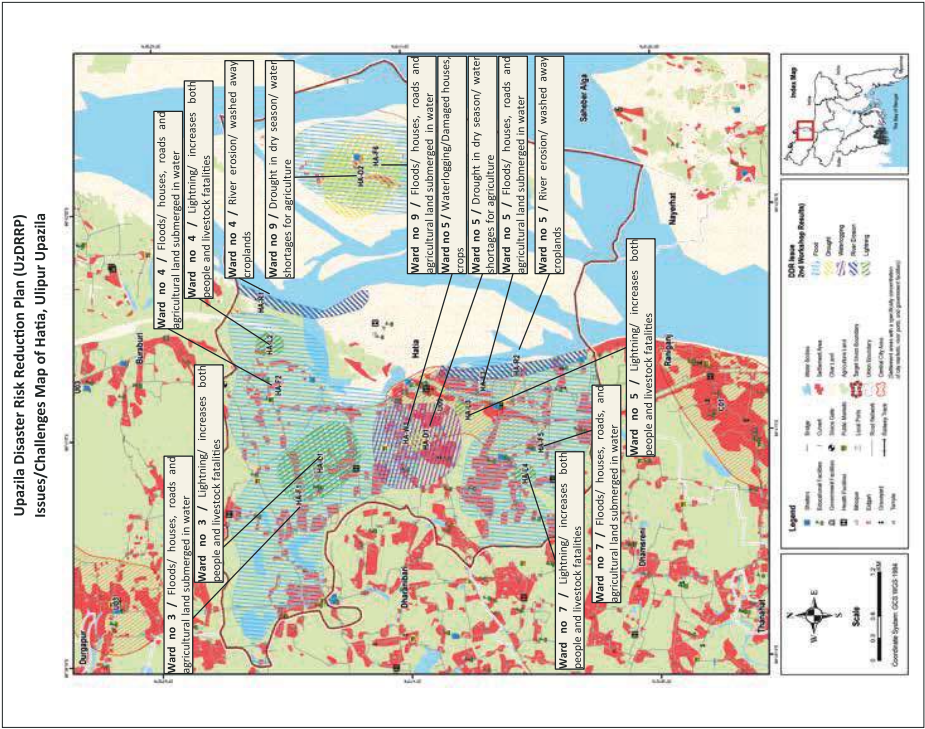


Figure 3-10. Issues/challenges in Hatia Union Parishad

Issues/challenges in Pandul Union Parishad

People of Pandul union are experiencing the disaster of waterlogging, which causes damage to croplands. In recent years, severe lightning strikes have caused the deaths of people and livestock in this union.

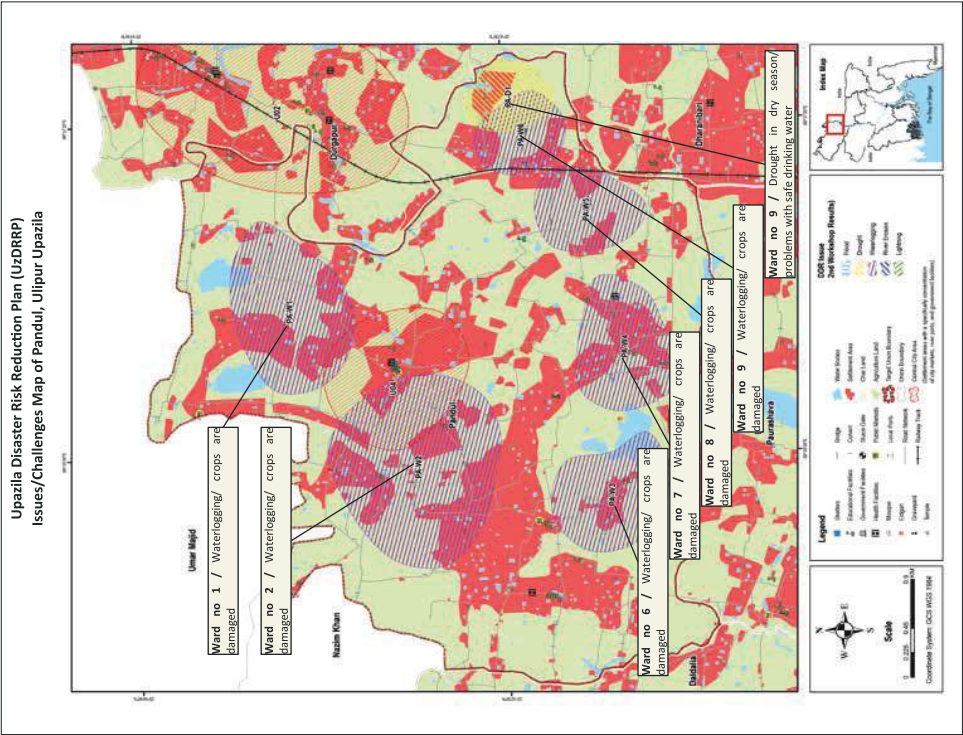


Figure 3-11. Issues/challenges in Pandul Union Parishad

Issues/challenges in Saheber Alga Union Parishad

As Saheber Alga is a Char area, this union is highly prone to river erosion, floods and lightning. Due to flooding and river erosion, homesteads and croplands often become submerged, impacting human habitation, livestock, and food security.

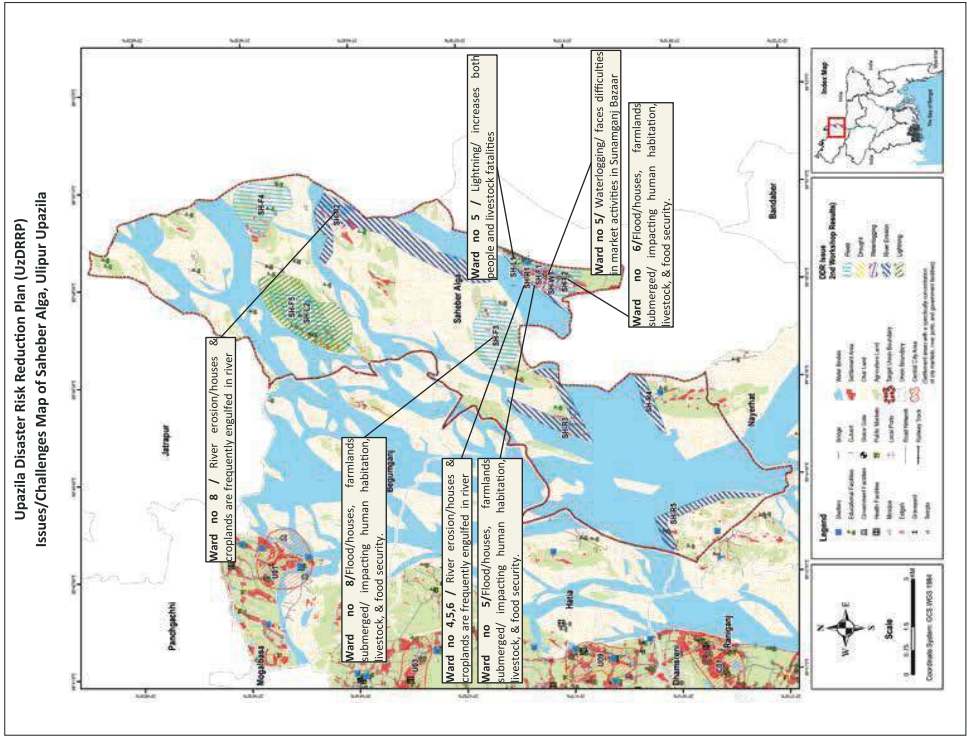


Figure 3-12. Issues/challenges in Saheber Alga Union Parishad

Issues/challenges in Tabakpur Union Parishad

People of Tabakpur union are experiencing the disasters of flood, waterlogging, drought and lightning almost every year. Flooding and waterlogging are causing extensive damage to agricultural land, homesteads, roads and livestock. In this union, people and livestock die every year due to lightning strikes.

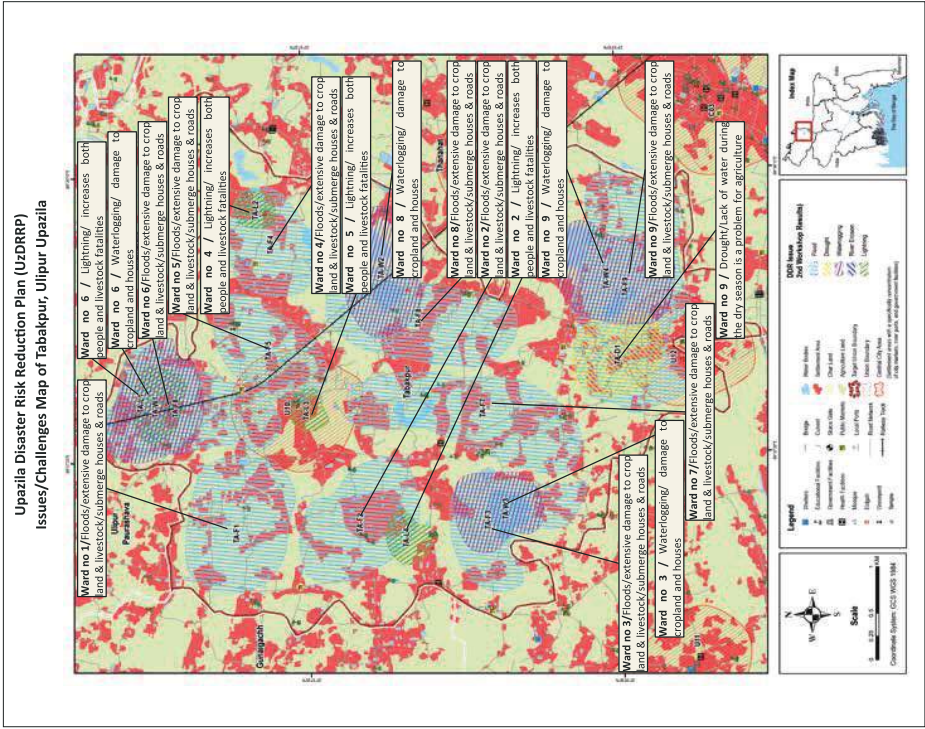


Figure 3-13. Issues/challenges in Tabakpur Union Parishad

Issues/challenges in Thetroy Union Parishad

People of Thetroy union have experienced the disaster of flood, river erosion, drought and lightning. Wards No 4, 7, 8 and 9 of this union are affected every year due to river erosion, which leads houses and croplands to be washed away into the river, causing them to become homeless and suffer economic losses. Thetroy union is heavily affected by frequent flooding, which also destroys houses, crops, and roads.

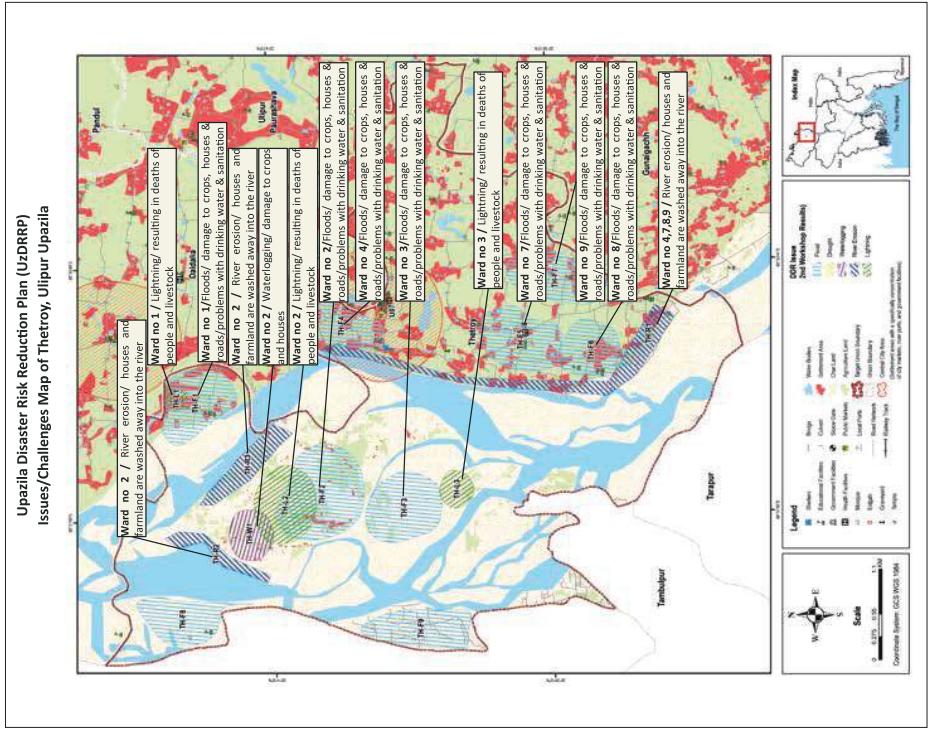


Figure 3-14. Issues/challenges in Thetroy Union Parishad

Issues/challenges in Ulipur Paurashava

Ulipur Paurashava is experiencing the disaster of waterlogging, which causes difficulties for both people and vehicles to move around, and crops are damaged, leading to food shortage.

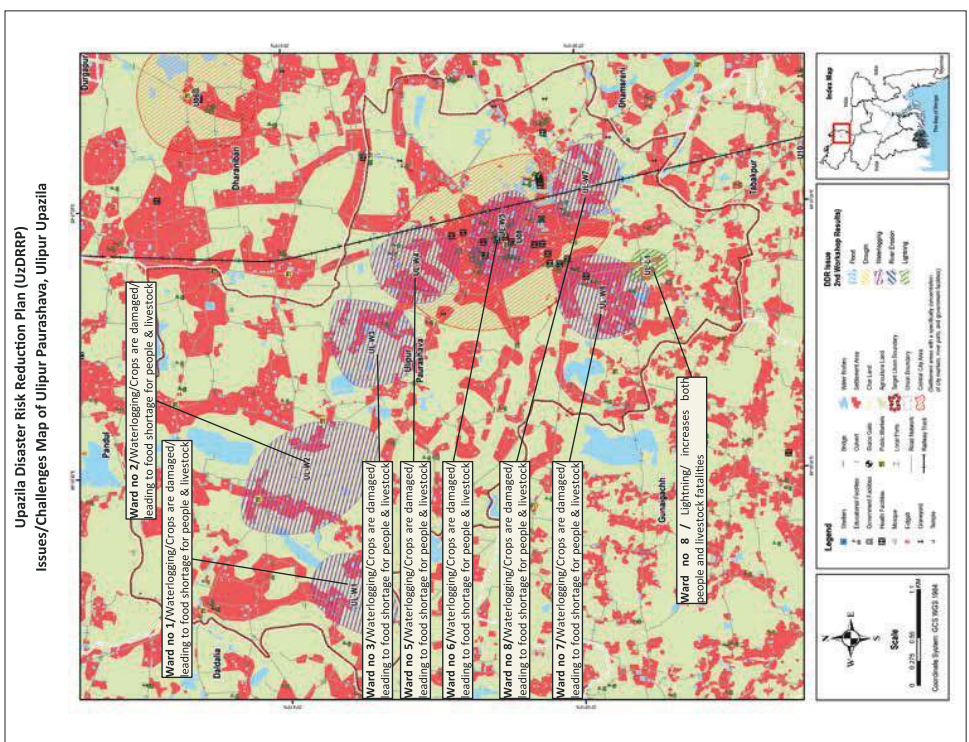


Figure 3-15. Issues/challenges in Ulipur Paurashava

3.2 Target Hazards of this Plan

As described in the previous section as challenges/issues given by the Union parishad, this Plan targets all the possible disasters in the Upazila, including lightning and drought, whereas it objectively and scientifically analyzes the following disasters with high damage potentials and shows hazard maps to identify the hazard potential in the Upazila.

- Flood/Waterlogging
- River erosion
- Earthquake

Table 3-2. Damage Report on disasters in 2020 (River erosion)

Union Name	Area (km ²)		Population	
	Total	Affected	Total	Affected
Bazra	32.51	8.55	32,408	320
Begumganj	49.72	21.85	17,717	490
Buraburi	38.99	8.50	38,530	542
Daldalia	22.44	5.20	25,349	377
Dhamsreni	18.87		26,640	
Dharanibari	23.08		31,910	
Durgapur	24.23		39,413	
Gunaigachh	30.92	3.65	30,357	289
Hatia	30.77	8.55	32,958	438
Pandul	17.56		26,244	
Saheber Alga	99.03	28.60	21,817	510
Tabakpur	25.37		39,450	
Thetroy	27.29	7.50	26,401	335
Ulipur Paurashabha	20.24		50,958	
Total	458.55	92.40	395,207	3,301

(Source: D-form from PIO, UlipurUpazila, Kurigram District; dated 28/07/2020)

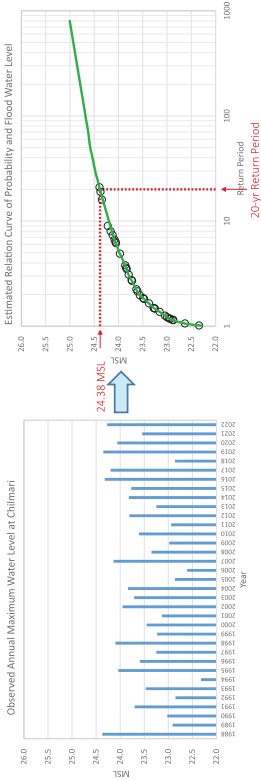
3.3 Hazard and Disaster Risk of the Upazila by Disaster

3.3.1 Flood

(1) Hazard

The flood hazard risk was assessed based on observed historical water level data from the Bangladesh Water Development Board (BWDB) by combining with danger water levels defined by BWDB. The danger water level is the water level above which the flood may cause damages to nearby crops and homesteads. It is generally fixed slightly below the design flood level of the embankment. In terms of the probability of occurrence, the corresponding return period is approximately 2 to 5 years, although it varies depending on the location. Therefore, the difference between the design flood level and the danger water level needs to be calculated.

To obtain the design flood level, which corresponds to a 20-year return period's flood for this plan, the highest water level of each year was plotted against the year after sorting the values against year in ascending order. Then a trend line was drawn in accordance with standard procedures for hydrological statistical analysis. From this trend line, any return period's water level could be extracted. For the sake of this plan, 20-year return period's water level of 24.38 m MSL (above mean sea level) was considered (Figure 3-16).



(Source: JICA Expert Team, based on data provided by BWDB)

Figure 3-16. Observed annual maximum water level at Chilmari (left) and plotting water level against year (right)

Figure 3-17 is a flood hazard map of Ulipur Upazila using inundation depth of a 20-year return period, which causes tremendous damage to the paddy production (cultivation). Among the unions in Ulipur Upazila, all are particularly prone to flooding because the lands of such unions are low-lying. Special attention should be taken at Begumganj, Buraburi, Hatia and Saheber Alga unions as most areas (>30%) have a probability of being inundated above 3.6 m of flooding at the 20-year return period (Table 3-3). The paddy fields and the settlement area in such unions are affected severely and widely.

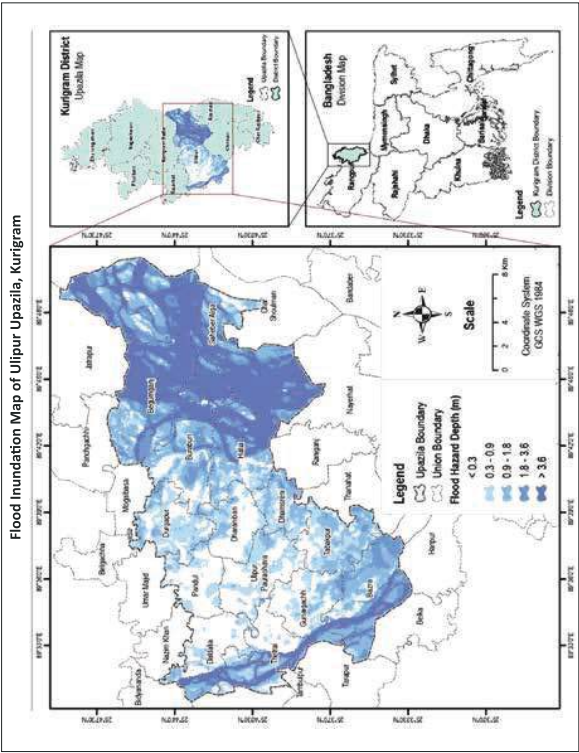


Figure 3-17. Flood Hazard Map at the 20-year return period of Ulipur Upazila

Table 3-3: Union-wise flood inundation area in hectare and percentage of area of Ulipur Upazila

Union/Upazila	Below 0.3 m (%)	0.3 - 0.9 m (%)	0.9 - 1.8 m (%)	1.8 - 3.6 m (%)	Above 3.6 m (%)	Total Area (%)
Bazra	255.4 (7.0)	372.9 (10.2)	1398.1 (38.4)	953.9 (26.2)	658.0 (18.1)	3638.3 (100)
Begumganj	108.4 (2.4)	354.2 (7.8)	876.6 (19.2)	774.7 (17.0)	2450.7 (53.7)	4564.7 (100)
Buraburi	597.1 (14.7)	616.1 (15.2)	951.9 (23.4)	605.7 (14.9)	1291.4 (31.8)	4062.3 (100)
Daidalia	1421.7 (54.2)	528.5 (20.2)	341.8 (13.0)	81.8 (3.1)	248.4 (9.5)	2622.2 (100)
Dhamserni	210.7 (13.7)	747.5 (48.7)	505.7 (33.0)	68.8 (4.5)	1.5 (0.1)	1534.2 (100)
Dharanibari	1119.6 (55.9)	624.1 (31.2)	254.2 (12.7)	5.6 (0.3)	0.0	2003.5 (100)
Durgapur	728.7 (30.0)	1243.1 (51.2)	392.6 (16.2)	63.1 (2.6)	0.0	2427.5 (100)
Gunaigachh	1133.5 (46.3)	683.3 (27.9)	439.9 (18.0)	91.5 (3.7)	99.3 (4.1)	2447.6 (100)
Hatia	268.0 (8.5)	496.7 (15.7)	880.6 (27.9)	406.3 (12.9)	1102.1 (34.9)	3153.6 (100)
Pandul	1287.9 (66.3)	575.7 (29.6)	77.8 (4.0)	1.6 (0.1)	0.0	1943.0 (100)
Saheber Alga	254.6 (2.5)	511.7 (5.1)	1764.6 (17.4)	1884.8 (18.6)	5700.0 (56.3)	10115.8 (100)
Tabakpur	442.5 (17.7)	900.8 (36.1)	1039.4 (41.7)	111.8 (4.5)	0.0	2494.5 (100)
Thetroy	1047.0 (37.5)	464.7 (16.6)	477.6 (17.1)	142.3 (5.1)	661.5 (23.7)	2793.0 (100)
Ulipur	1494.8 (54.5)	1091.7 (39.8)	149.0 (5.4)	8.5 (0.3)	0.0	2744.0 (100)
Paurashava Ulipur Upazila	10369.8 (22.3)	9211.1 (19.8)	9549.9 (20.5)	5200.4 (11.2)	12213.0 (26.2)	46544.2 (100)

(2) Disaster Risk

The flood disaster risk in the Upazila was estimated focusing on three major assets to be protected: cultivation fields, settlement areas, as well as important infrastructures and public facilities. By overlaying the flood hazard map on these areas, the affected areas were identified.

I. Damage estimation of the paddy field by the flood

As shown in Figure 3-18 and Figure 3-19, the most vulnerable unions to flooding are Bazra, Buraburi, Durgapur, Hatia, Saheber Alga and Tabakpur Unions, consisting of large areas of dunes of the Brahmaputra River and the Teesta River. The inundation areas are >1,000 ha at each union. Besides, the rest of the unions will also be inundated with flood water that would damage paddy fields, however lesser extent than the other three mostly affected unions.

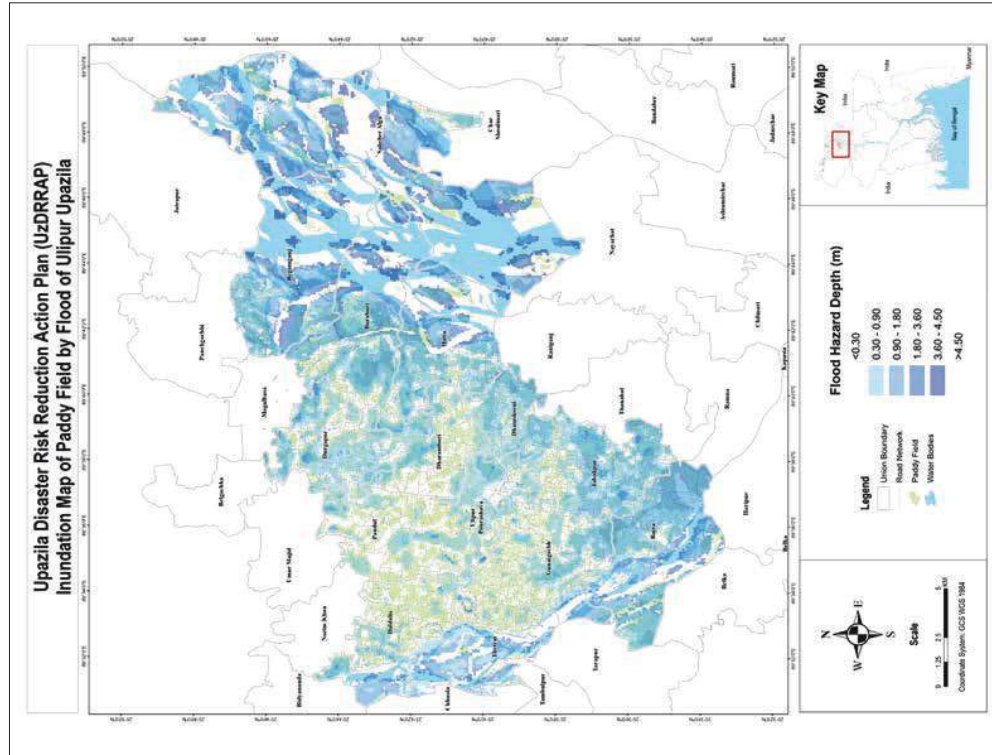


Figure 3-18. Inundated Area of Paddy Field by flood of Ulipur Upazila

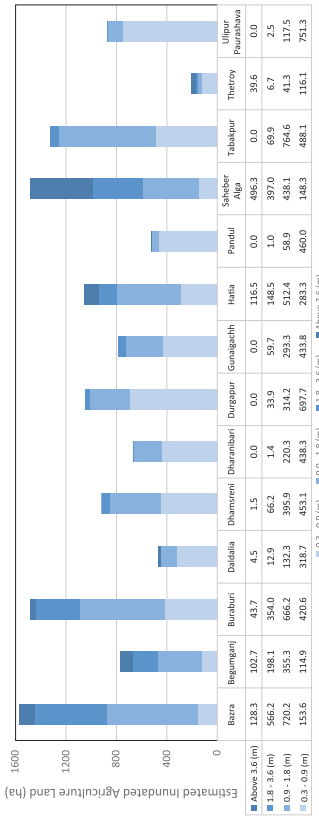


Figure 3-19. Inundated Area of paddy field by the flood of Ulipur Upazila

II. Damage estimation of the settlement area by flood

Figure 3-20 shows the spatial distribution of expected inundation areas with the settlement areas, and Figure 3-21 illustrates the estimated inundated areas of the settlement areas by union, based on the calculated design flood level (24.38 MSL) at Chilmari station of BWDB. Comparing the affected settlement areas by union, Tabakpur has the highest area (>500 ha), while the others range between 20 and 500 ha. However, settlements in unions like Bazra, Begumganj, Hatia and Saheber Alga are expected to be largely affected by deep inundation (>1.8 m), which is quite alarming to take into consideration for evacuation facilities. These unions are located in comparably lower elevation areas in dunes and thus are more prone to flooding.

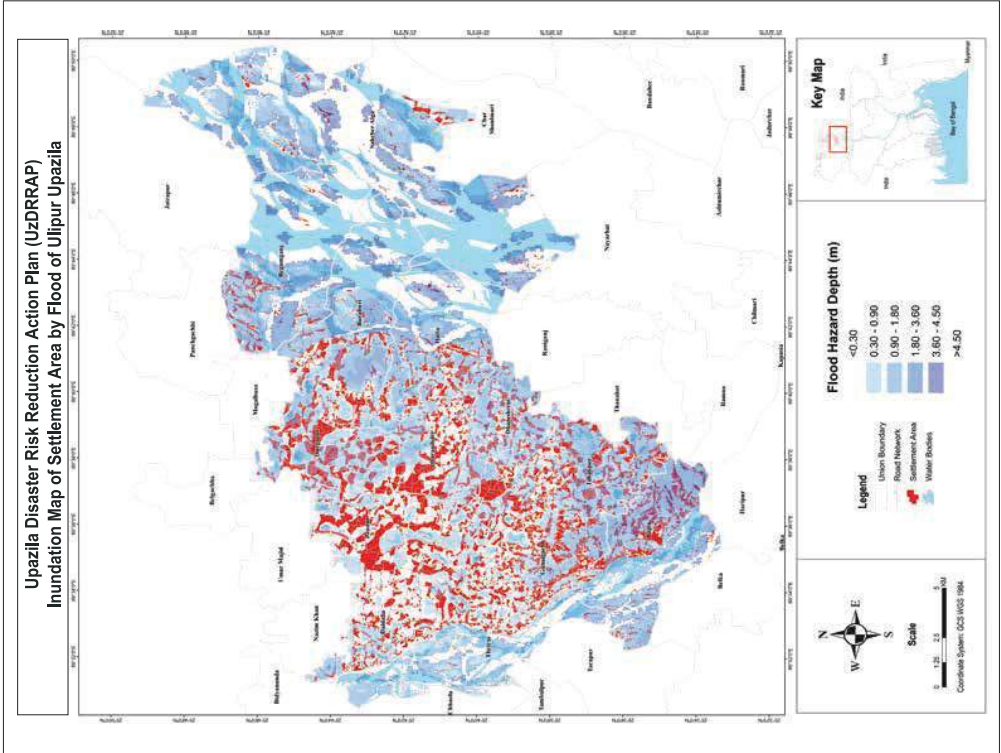


Figure 3-20. Inundated Settlement with the danger water level of BWDB

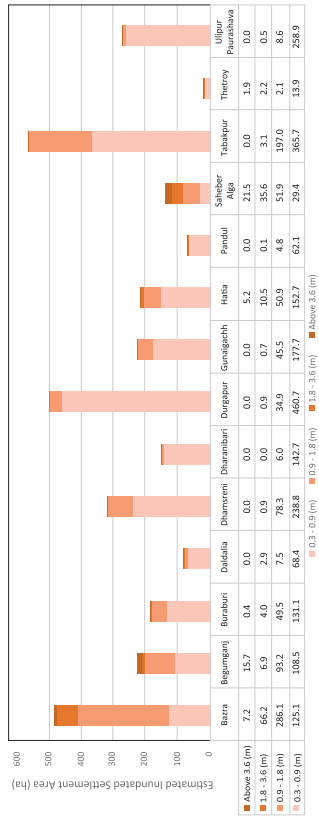


Figure 3-21. Inundated Area of Settlement of Ulipur Upazila at the danger water level of Chilmar station of BWDB

III. Damage estimation of important facilities and infrastructures by flood

Figure 3-22, 3-23 and Table 3-4 illustrate the damage estimation of the important DRR-related facilities and infrastructures, namely roads and bridges, government offices, schools and shelters, and hospitals, in consideration of the disaster management and emergency operation. Roads in Bazra, Begumganj, Dhamsreni, Hatia and Tabakpur unions are at the high risk of flooding (>70% of road length). Also, the bridges, culverts, and sluice gates in Bazra, Begumganj, Dhamsreni, Durgapur, Sahibpur Alga and Tabakpur are expected to severely damaged by flood (>80%). On the other hand, the estimated flood damage to DRR-related public facilities is concentrated in Begumganj and Tabakpur unions (>70%).

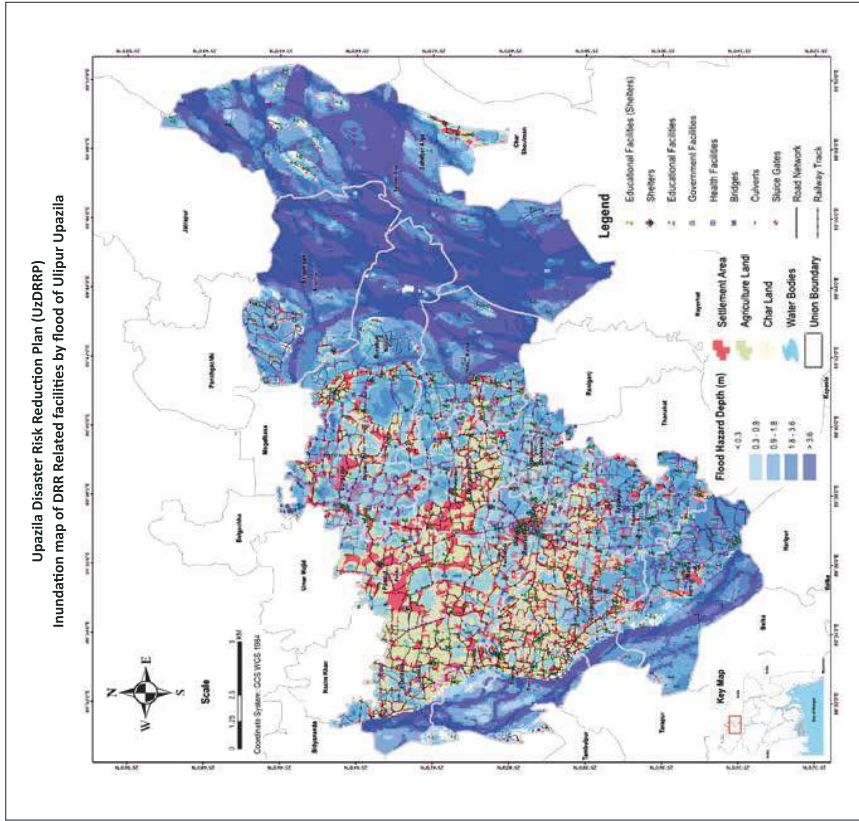


Figure 3-22. Inundated map of DRR-related facilities with danger water level by flood

3.3.2 River Erosion

(1) Hazard

Figure 3-24 shows the river erosion hazard map for Ulipur Upazila, using satellite images over the past years to identify the trends in riverbank erosion and then predict the risk areas during the next few years. Saheber Alga Union is relatively at high risk of erosion, followed by Begumganj, Bazra and Hatia.

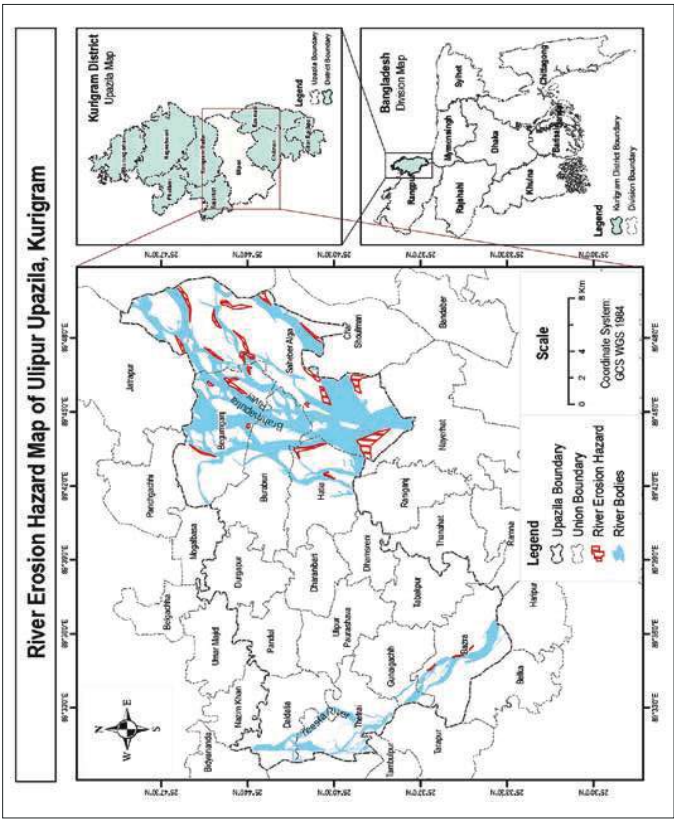


Figure 3-24. River erosion hazard map of Ulipur Upazila

(2) Disaster Risk

Among the unions in Ulipur Upazila, 8 unions, namely Bazra, Begumganj, Buraburi, Daldalia, Gunaigachh, Hatia, Saheber Alga, and Thetroy, were affected by river erosion as per D-form shown in Table 3-2. According to the analysis, Saheber Alga is relatively at high risk, followed by Begumganj, Bazra and Hatia.

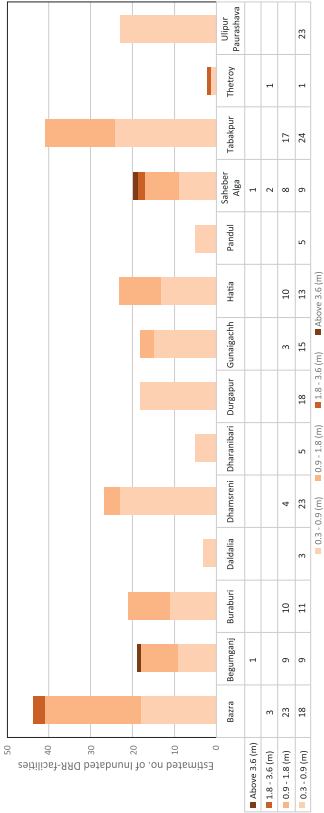


Figure 3-23. Inundated DRR-related facilities by flood in Ulipur Upazila

Table 3-4. Flood-affected facilities and infrastructure by Union

Union Name	Road Length (m)		DRR-related (important) facilities (no.)		(Reference) Bridges, Culverts and Sluice Gate	
	Total	Inundated (≥0.3m)	%	Inundated (≥0.3m)	Total	%
Bazra	59565.4	52855.6	88.7	63	19	17
Begumganj	39732.7	34680.9	87.3	25	10	10
Buraburi	82711.3	46457.9	56.2	53	29	15
Daldalia	94452.5	24722.2	26.2	37	29	13
Damsreni	67946.4	55621.7	81.9	41	28	26
Dharanibari	85901.8	30111.4	35.1	46	55	30
Durgapur	87191.8	51110.0	58.6	45	70	58
Gunaigachh	90439.7	30631.7	33.9	57	21	15
Hatia	69283.7	49269.7	71.1	48	28	20
Pandul	60214.4	14936.4	24.8	32	42	17
Saheber Alga	19329.2	13329.2	69.0	33	3	3
Tabakpur	132115.3	103523.0	78.4	57	34	32
Thetroy	73944.4	11938.1	16.1	41	10	2
Ulipur Paurashava	103424.1	36207.3	35.0	107	62	41

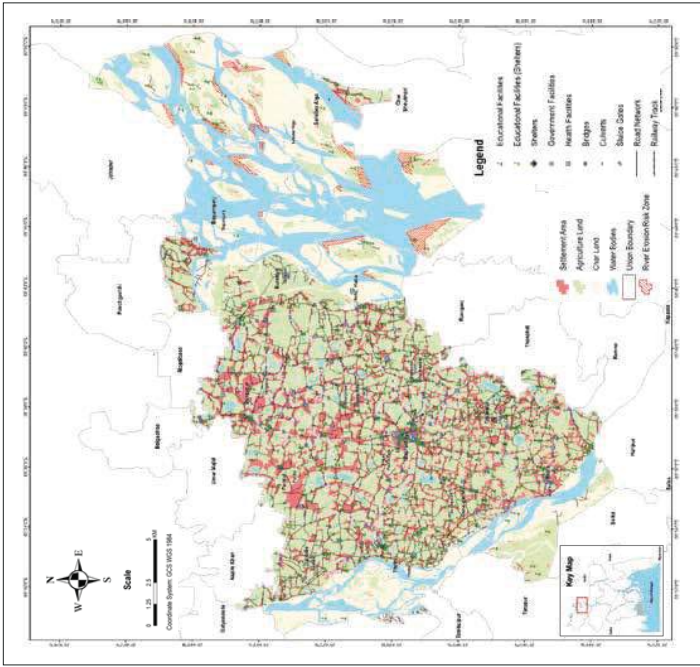


Figure 3-25. River erosion hazard map with land use and DRR-related facilities of Ulipur Upazila



Figure 3-26. River erosion hazard map on settlement area and paddy field in Ulipur

3.3.3 Earthquake Shaking

(1) Hazard

The earthquakes can be mainly caused by the collision of the Indian and Eurasian tectonic plates, which creates a complex fault system in the region. Figure 3-27 shows an average PGA (Peak Ground Acceleration on surface) of each union of Ulipur Upazila, which illustrates the earthquake shaking risk. According to this, the earthquake shaking risks of the upazilas of Begumbari, Buraburi, Sahebar Alga, and Hatia are relatively high.

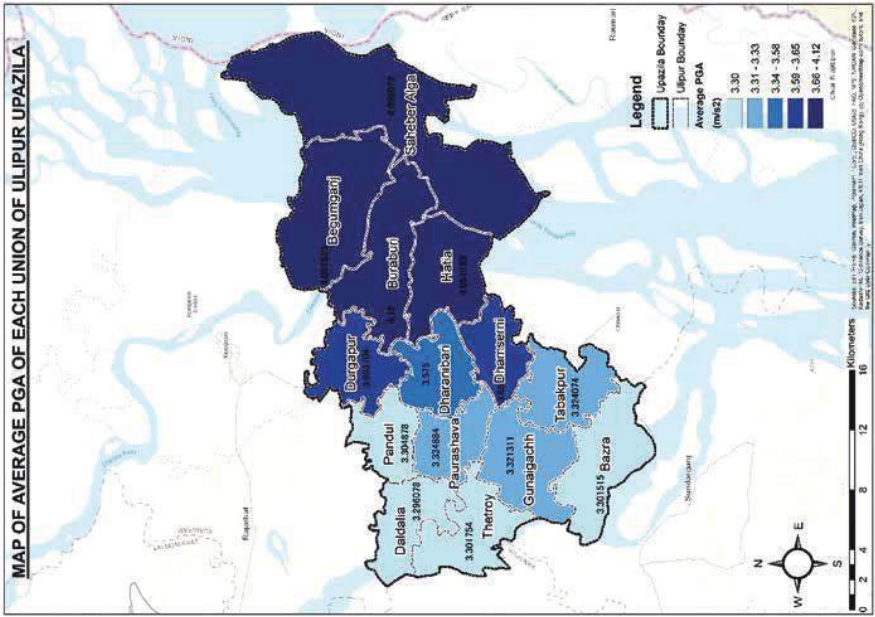


Figure 3-27. Average PGA of each Union of Ulipur Upazila

(2) Disaster Risk

The risk of earthquake shaking is high due to inadequate seismic resistant buildings in Ulipur Upazila. Figure 3-28, 3-29 and Table 3-5 show that Ulipur Paurashava, having the largest population in Ulipur Upazila, is expected to be most affected by the earthquake shaking, followed by Bazra, Buraburi, Durgapur, Hatia and Tabakpur Unions. The ratio of the affected households is the highest in Begungani, Buraburi, Hatia and Saheber Alga Unions (>80%). In general, the earthquake resistance measure is to strengthen the buildings.

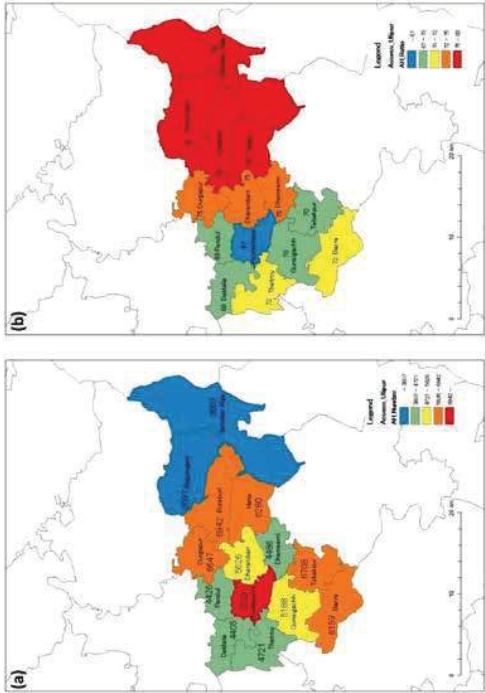


Figure 3-28. (a) Expected Number of Affected Households, (b) Expected ratio of affected households by earthquake in Ulipur Upazila

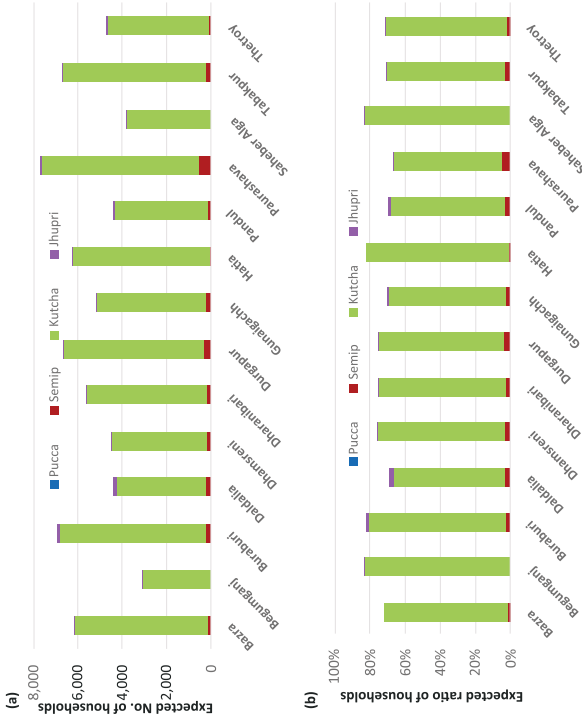


Figure 3-29. (a) Expected number of households, and (b) Expected ratio of households by earthquake shaking in Chilmari Upazila

Table 3-5. Affected Households by Earthquake Shaking at Ulipur Upazila

Union Name	Expected No. of affected Household	Total Household (Census 2011)	Expected ratio of affected households (%)
Bazra	6159	8549	72%
Begungani	3097	3720	83%
Buraburi	6942	8458	82%
Daldalla	4405	6380	69%
Dhamsreni	4486	5945	75%
Dharanibari	5626	7486	75%
Durgapur	6647	8901	75%
Gunaigachh	5188	7409	70%
Hatia	6280	7610	83%
Pandul	4426	6379	69%
Saheber Alga	3807	4564	83%
Tabakpur	6708	9547	70%
Thetroy	4721	6587	72%
Ulipur Paurashava	7702	11526	67%

3.4 DRR Issues and Higher Risk Unions

3.4.1 Flood and waterlogging

(1) DRR Issues

The summary of the DRR issues given by the unions of Ulipur Upazila for flood is;

- Inundation damage to houses, farmland, crops, livestock, and aquaculture farms, resulting in economic damage and feed shortages
- Disruption of transportation networks due to flooded roads and lack of bridges, difficulties in movement
- Damage to livestock due to infectious diseases caused by flooding
- Lack of safe water, especially in shelters and schools, lack of and deteriorating sanitation facilities after flooding
- Interruption of educational and medical services, and disruption of access to them

The summary of the DRR issues given by the unions of Ulipur Upazila for waterlogging is;

- Flooding of houses, damage to farmland and crops due to waterlogging and its continuation, interruption of cultivation and lack of food for people and livestock
- Damage to roads and disruption of transportation networks
- Outbreak of infectious diseases due to waste runoff and stagnation

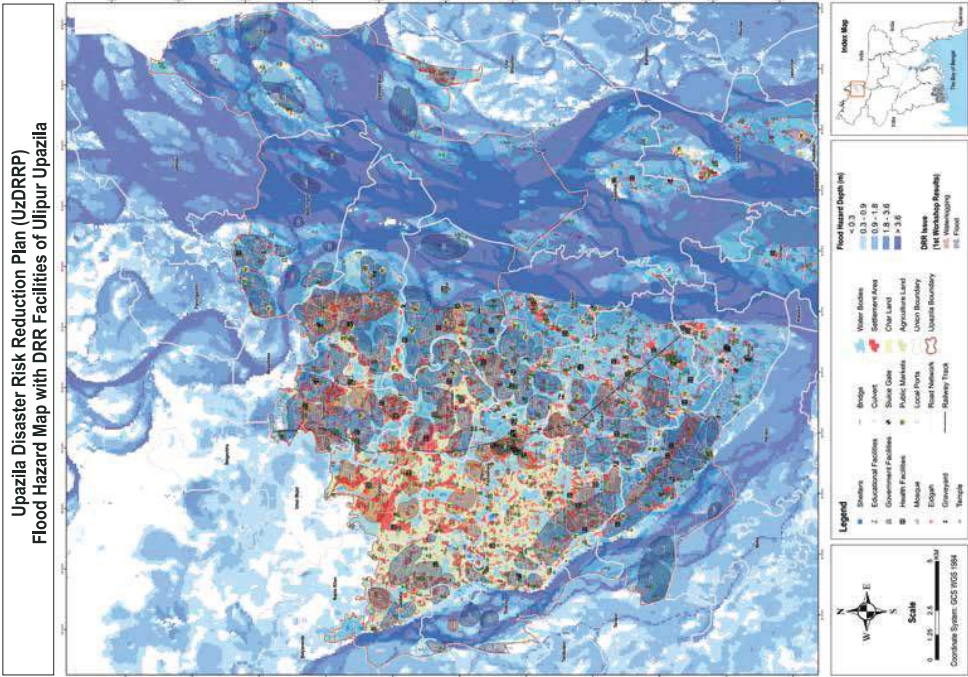


Figure 3-30. Flood hazard map with DRR issue in Ulipur Upazila

(2) Higher Risk Unions

Based on the scientific risk assessment results and DRR issues raised by the union parishad, the higher risk unions were revealed as shown in Figure 3-31 and Table 3-6.

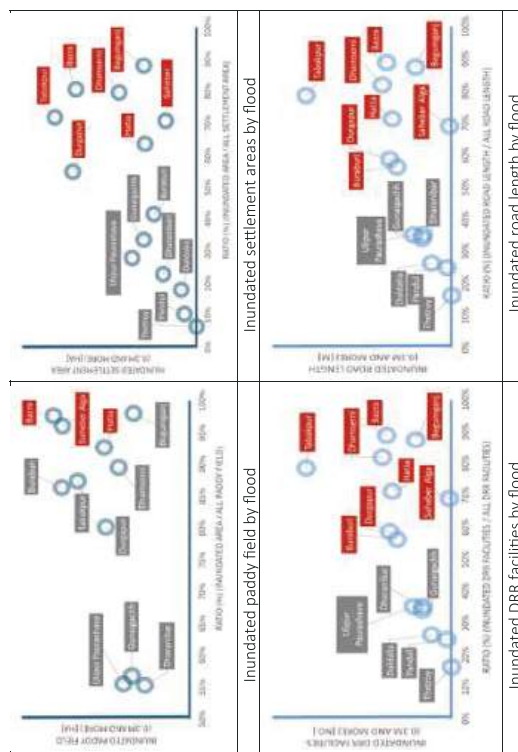


Figure 3-31. Higher risk unions for different disaster risks in Ullipur Upazila

Table 3-6. Higher risk unions for different issues by flood

Issues	Higher risk union
Inundated paddy field	Bazra, Hatia, Saheber Alga
Inundated settlement areas	Bazra, Begumgani, Dhamsreni, Durgapur, Hatia, Saheber Alga, Tabakpur
Inundated DRR facilities	Bazra, Begumgani, Buraburi, Dhamsreni, Durgapur, Hatia, Saheber Alga, Tabakpur
Inundated road length	Bazra, Begumgani, Buraburi, Dhamsreni, Durgapur, Hatia, Saheber Alga, Tabakpur

3.4.2 River Erosion

(1) DRR Issues

The summary of the DRR issues given by the unions of Ullipur Upazila for river erosion is;

- Damage, inundation or functional loss of houses and settlements, farmland, crops, livestock, roads, schools, flood embankments, which result economic damage
- Loss of districts, eviction of people and livestock

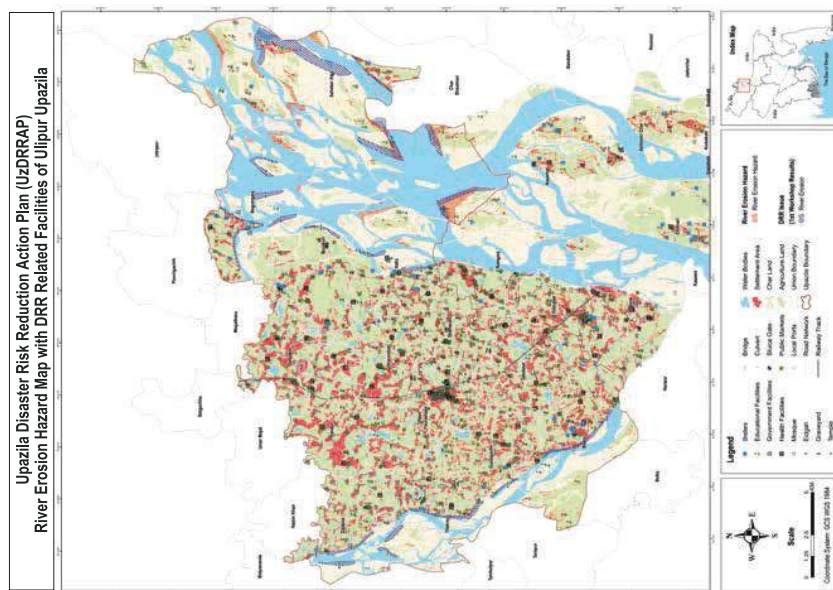


Figure 3-32. River erosion hazard map with DRR issue

(2) Higher Risk Unions

Based on the scientific risk assessment results and DRR issues raised by the union parishad, the higher risk unions by river erosion were Bazra, Begumgani, Hatia and Saheber Alga.

3.4.3.3 Others

The summary of the DRR issues given by the unions of Ullipur Upazila for other disasters is;

- Human, livestock, and crop damage due to lightning strikes
- Crop damage due to lack of water, interruption of farming and cultivation, and resulting feed shortages (for drought)

Chapter-4. DRR Target of the Upazila

4.1 Vision

The estimated human and economic damages by each disaster will be reduced by 50% within 10 years (from 2025 to 2035).

4.2 Challenges by Hazard

In order to accomplish the above vision effectively with the limited budget and human resources, the following challenges were identified by hazard.

Hazard	Target Area	Challenges by Hazard (Countermeasures policy)	
		Short-to-Mid term	Long term
Flood	Inland area	- Reduce at least the inundation risk of DRR-related facilities (e.g., government, medical care, education, and sanitation) and the central city areas* of the Upazila by improving flood control and drainage facilities and raising the land area of key facilities. - Reduce damage to at least people and assets (e.g., property, livestock) and maintain transportation networks during flooding by improving evacuation systems and major roads. - Ensure early evacuation through warning	Reduce flood damage to the entire area by stormwater drainage facilities and flood control facilities
	Along river	- Reduce at least the inundation risk of DRR-related facilities and the central city areas* of the Upazila by improving flood control in some priority areas and raising the land area of key facilities - Reduce damage to at least people and assets (e.g., property, livestock) and maintain transportation networks during flooding by improving evacuation systems and major roads. - Ensure early evacuation through warning	Reduce flood damage to the entire area, including administration and commercial centers, key infrastructures, residential areas, and agricultural lands, by improving riverbank protection and land use along the river.
Char area		- Minimize damage to at least people and assets (property, livestock, etc.) and maintain transportation networks during flooding by improving evacuation systems and major roads. - Ensure early evacuation through warning * Flood control measures to protect the Char area have not been currently planned.	Minimize flood damage to specific areas and facilities (e.g., residential areas, administrative and commercial centers and key DRR facilities) by land raising and land use improvements.

Hazard	Target Area	Challenges by Hazard (Countermeasures policy)	
		Short-to-Mid term	Long term
River Erosion	Along rivers	Urgently control the progress of riverbank erosion by emergency measures at riverbanks and dredging in areas with recent significant erosion damage.	Reduce the risk of riverbank erosion in the entire riverfront area through riverbank revetment and channel improvement, etc.
	Char area		Reduce the risk of riverbank erosion in administrative and commercial centers through emergency measures and dredging of revetments in some areas
Earthquake Shaking	All areas	- Promote compliance with building standards and seismic diagnostics - Raise awareness of earthquake risks and promote preparedness at home and in the community	Ensure earthquake resilience of buildings and infrastructure through seismic retrofitting, and proactive measures such as redundancy and alternative measures of the infrastructure
Drought	All areas	Promote to expand and improve irrigation and water storage facilities to provide stable water to the fields and for livestock, and to convert to drought-resistant crops and agricultural methods.	
Lightning	All areas	- Reduce damage to human life and livestock by establishing and maintaining lightning arresters and evacuation shelters (people, livestock) - Raise awareness of how to evacuate and cope with lightning strikes.	
Common	All areas	- Foster human resources through disaster management training and drills, as well as prepare material and equipment to enable rapid disaster response. - Provide DRR education and public awareness raising to encourage citizens to appropriately understand the hazard risk and prepare for the evacuation and disaster response, regardless of ages or gender.	

* Notes: DRR-related facilities and the central city area:

- DRR-related facilities:** the facilities where the government agencies and community leaders will use before, during, and after disasters for disaster preparedness and response.
- Central city area:** the areas with a specifically concentration of city markets, river ports, and government facilities in proximity to or within the settlement areas. These areas are referred to as the important areas in the Upazila in consideration of the DRR, and therefore should be protected in a priority manner. The following are the recognized areas in the Upazila.

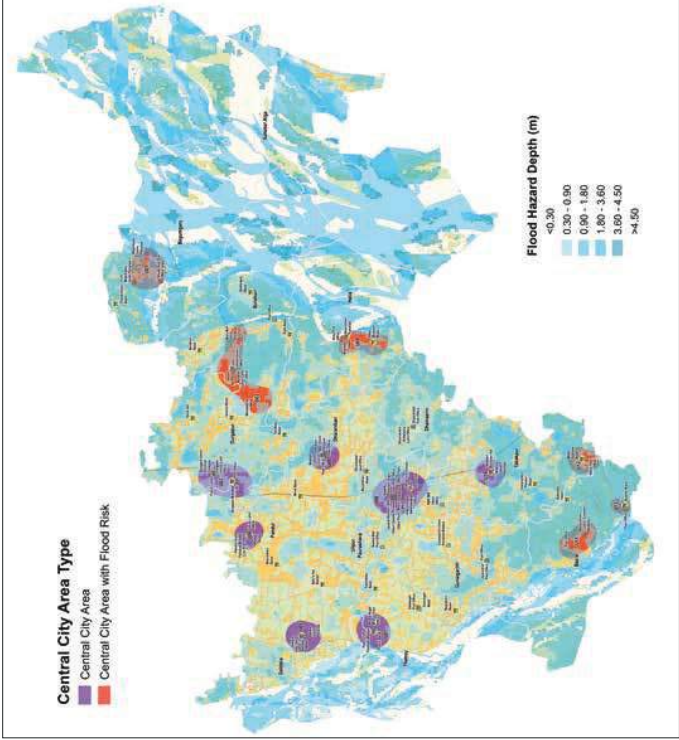


Figure 4-1. Ulipur Central city area on the scientific flood hazard map

Central city area list:

- U01 Begumganj Central City Area
 - U02 Durgapur Central City Area
 - U03 Buraburi Central City Area
 - U04 Pandur Central City Area
 - U05 Daldalia Central City Area
 - U06 Majhill Central City Area
 - U07 Thetroy Central City Area
 - U08 Ulipur Central City Area
 - U09 Hatia Central City Area
 - U10 Tabakpur Central City Area
 - U11 Bazra Central City Area
 - U12 Matial Central City Area
 - U13 Kashim Central City Area
- *Red color areas have high inundation risks of flooding

Chapter-5. Action Plan of DRR Countermeasures

5.1 Current status of the general DRR Countermeasures in the Upazila

This Chapter explains the current status of general DRR-related countermeasures and the responsible agencies in the upazila by hazard.

5.1.1 Structural countermeasures against Flood and River Erosion

BWDB is making efforts to mitigate inundation and erosion through various types of countermeasures, including embankment construction, small canal excavation, and sluice gates, while drain constructions have been conducted by DPHE. Retarding basin and reservoir are not commonly applied, and there is no reservoir in the Upazila. In addition, BWDB constructed several dams in different areas of the Upazila to protect the paddy fields.

Type of Countermeasures	Current status	Responsible Agency
Embankments/Dike/Slope protection (incl. sandbags)	✓	BWDB
Canal excavation and other river improvements (Widening and Deepening)	✓	BWDB
Sluice gates	✓	BWDB/LGED
Retarding basin/Reservoir	Not undertaken	BWDB
Drainage facilities (Pumping Station, etc.)	Not undertaken	Paurashava/DPHE/BWDB
Rubber dam	Not undertaken	BWDB/LGED

5.1.2 Countermeasure against Earthquake Shaking

In this area, most of the building structures are low-rise. There is the Paurashava authority and Upazila Construction Committee, which are responsible for supervising the building standards (BNBC-2020) in the design and construction of urban and rural areas, respectively. This Upazila has some old building infrastructures. After the Building Assessment (Seismic diagnosis) conducted by PWD, if required, PWD can suggest retrofit⁷."

Type of Countermeasures	Current status	Responsible Agency
Compliance with the building standards (BNBC-2020)	✓	BCC/UzCC/ Paurashava
Building Assessment (Seismic diagnosis)	Unknown	PWD
Seismic retrofitting of facilities and Infrastructures	Not undertaken	LGED/PWD/ Paurashava /DDM
Drill and awareness training	✓	DDM/FSCD/NGO's

5.1.3 Countermeasure against Drought and Lightning

BWDB, BADC, and DPHE are making efforts to mitigate the drought through various types of countermeasures like shallow tubewell, deep tubewell, channel excavation, irrigation projects, Drinking water supply projects, etc. In the Char area, BADC has been providing the solar motor pump for irrigation

⁷ Retrofitting to cope with earthquake shaking is the process of modifying existing structures to make them more resistant to seismic activity, and ground motion, or soil failure due to earthquakes"

purposes. In this area, reservoirs are not generally implemented, and there is no reservoir in the upazila but DPHE has a project to provide safe drinking water through pipeline connections to rural and urban areas. BADC has some programs for conversion to drought-resistant crops and agricultural methods. DDM has no lightning project in this Upazila.

Type of Countermeasures	Current status	Responsible Agency
Lightning arrester	✓	DDM
Well development	Unknown	DPHE/BADC
Reservoir	✓	DPHE/BADC
Repeat irrigation (e.g. pumps)	✓	BADC
Conversion to drought-resistant crops and agricultural methods	✓	BADC
Tree Plantation (Palm Tree)	Not undertaken	DDM/ Forest Department(FD)

5.1.4 Emergency Operations before, during, and after disasters

Shelter: Multipurpose Shelters (22 in total) like High School/College cum Shelter house are constructed by DDM and Primary school cum shelter house are constructed by LGED in this Upazila.

Transportation: LGED and Paurashava are the main responsible agencies for developing and maintaining the listed road and transportation infrastructure in rural and urban areas, respectively. In addition, DDM also develop the HBB, CC road and Earthen Road. In the Char areas, DDM develop the main connectivity in this upazila

Drainage system: Improvement of the drainage system is important to prevent prolonged inland flooding. Ulipur Paurashava, LGED and DPHE cope with the challenges of installing and rehabilitating drainage systems in urban areas. For rural areas, LGED/DPHE is responsible for the development of the required drainage systems to prevent the secondary effects of the disaster.

Water and sanitation: Water and sanitation infrastructures are critical to provide safe water and maintain the living environment hygiene. DPHE is the main agency to cope with water-related issues to prevent the secondary effects of the disaster.

Type of Countermeasures	Current status	Responsible Agency
Shelters (incl. lightning shelter house)/Mujib Killah	✓	DDM/ LGED
Roads	✓	DDM/LGED/Paurashava
Bridges	✓	
Culverts	✓	
Drains	✓	DPHE/Paurashava/LGED
Facilities for Water (e.g., Tube well, Pipeline and sanitation)	✓	DPHE/NGOs

5.1.5 Non-structural Countermeasures against Disasters

(1) Land use planning

The urbanization control areas are supposed to restrict or regulate the development and conversion of land use, especially in the Char areas that are prone to floods, erosion and environmental degradation. However, the implementation and enforcement of the urbanization control in Kurigram are weak due to a lack of

coordination among different agencies, political interference, population pressure, and poor awareness among the people.

To cope with this, it needs more vertical coordination and connection between governmental policy, district plan and strategy, and stakeholders in Union Parishads and Upazila administration. It's worth discussing in the UzSC continuously.

Type of Countermeasures	Current status	Responsible Agency
Urbanization control	Unknown	Upazila/UDD/DDM
Raising land area of specific facilities	✓	
Resettlement/Relocation	Unknown	
Designating special warning area	Unknown	

(2) Early warning information and communications

The broadcasting system is utilized by BWDB, DRRO, and PIO. BWDB collects meteorological information through the line ministries. Mainly in the rainy season, DRRO, along with PIO office, informs about rainfall and water level at the district level. The district office (DRRO) informs DDM and MoDMR of those issues.

Type of Countermeasures	Current status	Responsible Agency
Installation of monitoring system of rainfall and/or water level	✓	BMD/BIWTA/BWDB/DD M/NGO's
Flood forecasting and warning system, including community radio	✓	BWDB-FFWC/NGO's
Telecommunication system for search and rescue	✓	BTRC/DDM/NGO's

(3) Disaster management training, drills and equipment

Disaster preparedness and response drills are conducted before the flood season. Regional evacuation drills are conducted once a year at the Union level. Disaster management training for UDMC members is conducted at least once a year.

Type of Countermeasures	Current status	Responsible Agency
Identification of evacuation routes	Unknown	UzDMC/UDMC/LGED/DD M/Paurashava/FSCD
Disaster response and/or evacuation drill	Unknown	DDM/FSCD/UzDMC
Preparation of SOP for emergency operation	Unknown	DDM/Donor
Inventory preparation on vulnerable infrastructure, such as hospitals, water wells, and schools, based on the risk map	Unknown	UDD/PWD/FSCD/ DMC
Training on DRR, simulation and exercise	Unknown	DDM/FSCD
Preparation of equipment for emergency operation	✓	DDM/FSCD/ DGHS

(4) Raising public awareness and disaster education

Disaster education is provided irregularly in both primary and secondary school classes. Awareness raising for disaster risk reduction is mainly conducted through TV and Radio; however, in some areas, NGOs conduct courtyard meetings, simulations, drills, etc. when support by donors is available.

Several unions have emergency disaster preparedness equipment and emergency warehouses for stockpiled materials in the event of a disaster, and they are not functioning well due to a lack of coordination.

Type of Countermeasures	Current status	Responsible Agency
Publication of hazard maps and DRR educational materials	Unknown	DDM
Disaster preparedness education in school	✓	DoPE/DoEE
Awareness-raising activities on disasters to the public	✓	DDM
DRR awareness-related billboard and signs	✓	DDM/NGOs

5.2 Action Plan in line with the DRR Target (Short-to-mid-term)

This Chapter describes the structures of the Action plan aiming at the achievement of the Vision (see Chapter 4), and Action plans in short to mid-term under the Programs in the upazila.

Vision	Target hazard	Challenges by Hazard		Target area
		Policies	Programs	
The estimated human and economic damages by each disaster are reduced by 50% within 10 years (from 2025 to 2035).	1. Flood: To ensure protection of human lives and properties (livestock) from flooding	1-1. Reduce at least inundation risks of DRR-related facilities and Central city areas	A. Improvement of flood control facilities in some priority areas B. Improvement of drainage facilities in some priority areas	Inland areas, areas along rivers
		1-2. Reduce/minimize damage to at least people and assets by improving evacuation systems and maintaining transportation networks	C. Raising of land area of key facilities/ Relocation to elevation areas A. Construction and maintenance (incl. raising lands) of multi-purpose shelters B. Improvement and renovation of major roads, bridges, and culverts for evacuation and emergency operations	Inland areas, areas along rivers
		1-3. Ensure early evacuation through warning	A. Development and operation of early warning networks	Inland areas, areas along rivers, Char areas
2. River Erosion: To mitigate direct damage to residence and properties against river erosion		2-1. Urgently control the progress of riverbank erosion by emergency measures	A. Introduction of emergency measures (e.g., sandbags) for revetment, and dredging	Areas with recent significant erosion damage along rivers

Figure 5-1. Structure of the Action Plan

Vision	Target hazard	Challenges by Hazard		Target area
		Policies	Programs	
	3. Earthquake Shaking: To establish a resilient Upazila to withstand earthquakes	3-1. Enhance earthquake resistance	A. Promotion of compliance with the building standard (BNBC 2020) B. Implementation of the seismic diagnosis	All areas
		3-2. Promote earthquake preparedness at home and in the community	A. Awareness raising of earthquake risks and preparedness at home, schools, and communities	All areas
		4-1. Promote appropriate response and evacuation for lightning strikes	A. Installation and maintenance of lightning arresters / evacuation shelters for people and livestock	All areas
		5-1. Provide stable water supply for the fields and livestock	A. Expansion and improvement of irrigation facilities (e.g., pumps, well development) / water storage facilities (e.g., reservoir)	All areas
		5-2. Promote drought-resistant crops and agricultural methods	A. Conversion and/or introduction of drought-resistant crops and agricultural methods	All areas
	6. Common: To build communities capable of quick and appropriate disaster response	6-1. Foster human resources and prepare equipment to enable rapid disaster response	A. Implementation of disaster management training and drills B. Preparedness of the materials and equipment for disaster response	All areas
		6-2. Encourage people to prepare for the evacuation and disaster response	A. Provide DRR education and public awareness raising activities	All areas

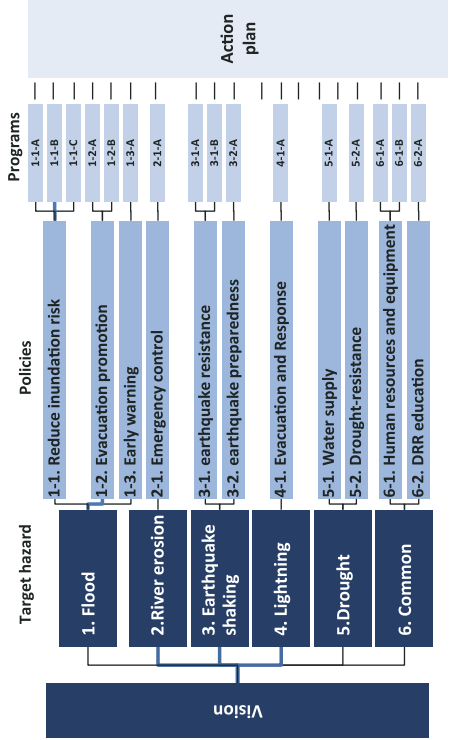


Figure 5.2. Structure of the Action Plan

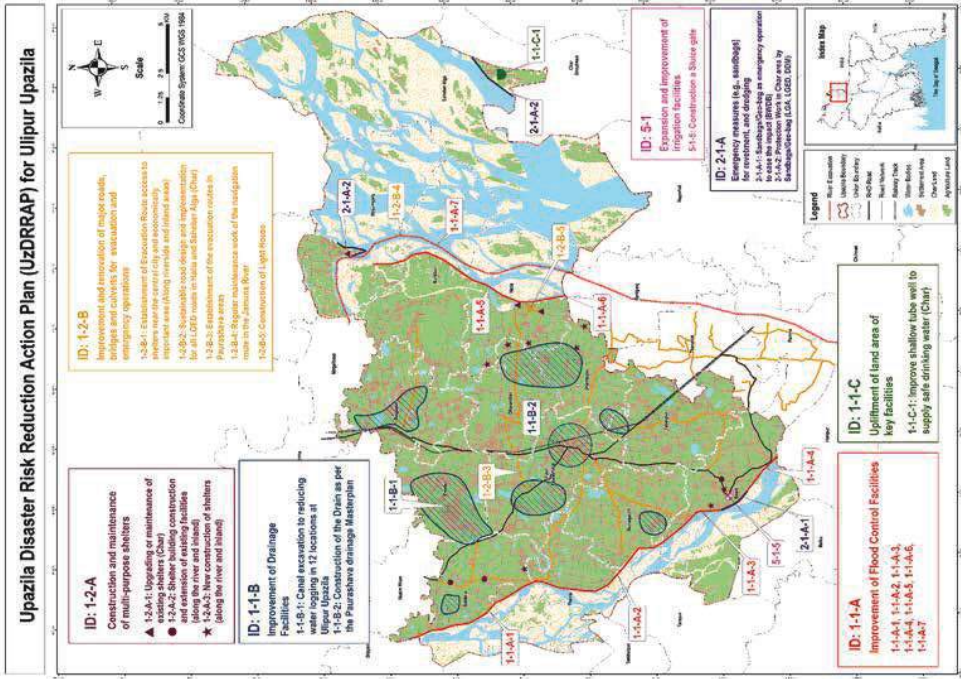


Figure 5-3. Map of the Action plan for Ulipur Upazila

1. Flood: To ensure protection of human lives and properties from flooding

The target area borders large rivers and is particularly affected by flood damage. Therefore, the challenges for flood hazards are prioritized to minimize human and property damage, as well as to mitigate flood risk and inland water-logging.

Priority targets in the target area include flood risk reduction, enhanced drainage functions, and human and property damage reduction, including the development of evacuation systems.

Specific measures to reduce flood risks and enhance drainage include the following.

- Implementation of measures for riverbank erosion in the Teesta and Jamuna rivers to reduce flood risks of flood control facilities and in central city areas
- Improvement of flood control facilities along rivers and in inland areas
- Improvement of drainage facilities in some priority areas
- Raising of land area of key facilities

In addition, the following efforts will be prioritized to mitigate human and property damage

- Construction and maintenance of multi-purpose shelters
- Improvement and renovation of major roads, bridges, and culverts for evacuation and emergency operations
- Development and operation of early warning networks

1-1 Reduce at least inundation risks of DRR-related facilities and central city areas

ID	1-1-A	Improvement of flood control facilities in some priority areas					Target area
Program	Inland areas, areas along rivers						
Action and Implementation plan	Action		Responsible agency	Ongoing activity/Current status	Actions to be taken	Timeframe for achieving the Action	
				Implementation plan			
	1) Riverbank protection works on the left bank of the Teesta River [First priority] Revestment work both in Ulipur and Chilmari (15.450 km)	BWDB	Official project ID: T_LB-09, 10, and 11) not approved yet	DPP has been submitted, but	Securing the fund (5,500 million TK)	3 years	
	2) Flood Control Embankment (left Bank of the Teesta River) [First priority] Embankment from Bajra to Teesta bridge toll plaza (30km)	BWDB	DPP has not been submitted	Official project ID: N/A yet			
3) Riverbank protection works on the left bank of the Teesta River [Second priority] Revestment work (13.550 km)	BWDB	DPP has not been submitted.	Official project ID: T_LB-10, 11, and 12	Securing the fund (4,000 million TK)	6 years		
4) Flood Control Embankment on the left bank of the Teesta River [Second priority] Embankment from Bajra to Teesta bridge toll plaza (16 km)	BWDB	DPP has not been submitted.	Official project ID: N/A yet		6 years		
5) Riverbank protection works on the right bank of the Jamuna River [First priority] Revestment work from Begumganj to Anantapur (7.6 km) (Only Ulipur)	BWDB	DPP has not been submitted.	Official project ID: N/A yet	Securing the fund	3 Years		

Action		Responsible agency	Ongoing activity/Current status	Actions to be taken	Timeframe for achieving the Action
6)	Riverbank protection works on the right bank of the Jamuna River [First priority] Revetment work from Ranigajj to Ramana (16.2km) (Both in Chilmari and Ulipur)	BWDB	On-going project. Some portions have been completed	Continue the project	Completion in 2025
7)	Designing the river on a regular basis to maintain the national and international navigation route (along the Dharla River, the Jamuna River and the Brahmaputra River) (*This work is not along the river but inside the river)	BIWTA	Regular maintenance work	Securing regular fund	Continuous work

ID	Program	Target area
1-1-B	Improvement of drainage facilities in some priority areas	Inland areas
Implementation plan		
Action		Responsible agency
1)	Canal excavation to reduce waterlogging in urban and rural areas (Ulipur 12 locations) Pourashava, Naodanga Bill, Word -2, Ulipur Union. Hindu Para, Ward No. 1 of Daldalia Union. Kurar par, Ward 5 of Dhamstreni Union. Ward No.7 of Dharanibari Union. 2 Canal in Wards No. 4 & 6 of Durgapur Union. Gunaiagachh Union Ruyar Bil, Ward No. 6 of Tabakpur Union	BW/DB
2)	Construction of the Drain as per the existing drainage master plan also needs to be updated. Saheb's Kuti in West Naodanga in Ward no 1 In Zakariya Para in ward no 1 In front of Swadhn's house to the Robi Tower in ward no 6 Degree College area in ward no 6 Tetultola Bazaar to Lelua Muchi's house in ward no 7	Paurashava
Action and Implementation plan		All the proposed areas are located on private lands
Ongoing activity/Current status		UzSC and UDMC need to take the necessary action for land acquisition
Actions to be taken		10 years
Timeframe for achieving the Action		6 years

ID	Program	Target area	Implementation plan			
			Action	Responsible agency	Ongoing activity/Current status	Actions to be taken
1-2-B	Improvement and renovation of major roads, bridges, and culverts for evacuation and emergency operations	Inland areas, areas along rivers, Char areas	1) Establishment of the evacuation routes in the Upazila, including the access route to the shelters near the central city areas and economically important areas (Along riverside and inland areas) • Highway linking U09 to U06 which is connected with Hattā Ghat (local riverport) • Highway linking U03 to U02 • Highway linking U05 to U07 which is connected to Thetral Union Ghat • Highway linking U10 to U11 [Second priority roads] • Road linking Fokarehat Ghat to U08 (*economically important as well) • Other economically important roads connected to the waterlogging area • Roads in the inundated settlement area which are connected to first and second priority roads 2) Sustainable road design and implementation for all LGED roads in Hattā and Saheber Alga Union (Char)	LGED	The condition of roads as follows. Good condition: 149943001 and 149943021 Need to be rehabilitated with protection work : 149943017, 149943002, 149943005, 149943019, 149943003, and 149942006 DPP 149943016 is an ongoing tendered 149943009 has been	DRR consideration in both design and construction, following the "Build Back Better" strategy to be sustainable. ❖ Slope protection or strengthening ❖ Increasing road height ❖ Sufficient water passing structures, like bridges, culverts, U-Drains, etc. ❖ Sand Filling or piling for road strengthening ❖ RCC Pavement ❖ Roadside Drain ❖ Approach road slope protection
			Timeframe for achieving the Action		DRR consideration in both design and construction, following the "Build Back Better" strategy to be sustainable. 10 years	DRR consideration in both design and construction, following the "Build Back Better" strategy to be sustainable. 10 years

ID	Program	Target area	Implementation plan			
			Action	Responsible agency	Ongoing activity/Current status	Actions to be taken
1-2-A-1	Program ID 1-2-A-1 can reflect the union proposal for the Char area, in the implementation period of this multipurpose Shelter house, DDM will consider the Char design. Multi-purpose shelter selection Criteria of priority action are as follows: - Avoid private land - Avoid areas that can be impacted by riverbank erosion - Near the central city area - Existing good infrastructure - Multi-purpose shelter construction purpose necessary coordination: - DDM/PIO needs to communicate with ECD which manages colleges and high schools - LGED needs to communicate with ECD which manages primary schools. LGED and DDM will decide to implement the Multipurpose Shelter project, based on the necessity and demand for accommodation of the affected population.		4) Activate and strengthen the capacity of shelter (school) management committee supported by NGOs	DDM supported by NGOs	At this moment, there is no activity.	Provide practical training on shelter maintenance to the committee members with the support of NGOs
			Timeframe for achieving the Action		At this moment, there are existing primary schools.	Enlisting DPP
						10 years
						Long term

1-3 Ensure early evacuation through warning

[illegible]

Upazila Disaster Risk Reduction Action Plan of Ulipur

Action		Responsible agency	Ongoing activity/Current status	Implementation plan		Timeframe for achieving the
3)	Establishment of the evacuation routes in the Upazila, including the access route to the shelters near the central city areas and economically important areas (Paurashava areas)	Paurashava	No bypass road, causing traffic jams during floods	Land acquisition (1km) is an obstacle.	Enlightening DPP	UzDMC and Paurashava DMC
					Urgent	Urgent
4)	Regular maintenance work of the navigation route in the Jamuna River	BIWTA	No excavation work	Existing roads are in bad condition due to flooding	Securing O&M budget	Continuous work
					Enlightening DPP	3 years
5)	Construction of light House for the navigation route in the Jamuna River	BIWTA	No existing light House	Enlightening DPP	3 years	
Remarks	-	LGED ID: 149942002, 149942006, 149943005, 149943002, 149943002, 149943019, 149943021, 149943017, 149943016, 149943017, 149942008, 149943009, 149943003, and all secondary roads, local roads, village roads, road structures (Bridge, Culvert, Road Protection work, U-drain/X-Drain) that are reflected in the Union's proposal ID and listed in the countermeasure list and map, which were identified by LGED and BDM officials and proposed for emergency operation.				
	-	BIWTA currently faces a lack of space for excavation in the Jamuna River around Chilmati and Ulipur due to the heavy siltation and continuous change of river flow. Although BIWTA has projects on the Dharla River, specifically at the north of Kurigram Sadar, there is no excavation project around Chilmati and Ulipur, except for the maintenance of the national and international navigation route.				
	-	Proposals from Unions with IDs BA-F5-9, BE-F7-8, BU-F3-9, BU-F6-6, GU-F1-22, HA-F2-8, and TA-F7-10 are for infrastructure improvements of the medical facilities, and the implementation of these proposals by HDE is important for post and during disaster. For the Char area, HDE can provide floating hospitals.				
	-	Program -Z-2-B-5 was proposed by UzDMC members to enable smoother evacuation during dense fog, heavy rain and also night navigation.				

2. River Erosion: To mitigate direct damage to residence and properties against river erosion

This area is located upstream of the confluence of the Teesta River and the Jamuna River and has been severely affected by large-scale river channel transitions and riverbank erosion. As risk reduction measures, emergency measures against riverbank erosion and dredging to control the erosion progression in the affected areas and the central city areas are important challenges.

In addition,, revetment and channel rehabilitation to reduce the risk of erosion along the river are also important efforts in the area.

Specific measures include the introduction of emergency measures for revetment and dredging. Through these measures, flood damage will be reduced.

2-1 Urgently control the progress of riverbank erosion by emergency measures

ID	Program	Target area	Implementation plan						Action and Implementation plan	Remarks	
2-1-A	Introduction of emergency measures (e.g., sandbags) for revegetation, and dredging	Areas with recent significant erosion damage along rivers	Implementation plan								
			Action	Responsible agency	Ongoing activity/Current status	Actions to be taken	Timeframe for achieving the Action	Continuous work	Continuous work	2) Protection Work for river erosion in the Char area by Sandbags/Geo-bags impact of riverbank erosion, emergency operation to ease the	2) Protection Work for river erosion in Local Government Agency, LGED and DDM the Char area by Sandbags/Geo-bags
					Ongoing Activity by O&M budget in Kurigram district, but no activity in Ulipur Upazila	Securing budget	Continuous work	Continuous work	Continuous work		
					No regular activities	Securing budget	Continuous work	Continuous work	Continuous work		

3. Earthquake Shaking: To establish a resilient Upazila to withstand earthquakes

The risk of earthquake shaking disasters is a common issue in all areas. It is important to strengthen the earthquake resistance of buildings and infrastructure against earthquakes, as well as to raise awareness and understanding of earthquake risk and preparedness in local communities.

Specific measures to strengthen earthquake resistance include promoting compliance with building standards and seismic diagnostics.

In addition, to promote earthquake preparedness in local communities, priority is given to implementing projects aimed at raising awareness of earthquake risk and earthquake preparedness among households, schools, and local communities.

4. Lightning: To reduce direct damage to people and livestock caused by lightning strikes

The risk of lightning disasters is common throughout the target area. Mitigating the impact on human lives and livestock is an important issue, requiring the installation of lightning arresters and the implementation of awareness raising activities.

As countermeasures against lightning disasters, priority is given to the protection of human lives and livestock through the installation and maintenance of lightning arresters and shelters within the union, as well as the implementation of educational programs on how to evacuate in case of lightning damage within the union and what to do in the event of a lightning strike.

5. Drought: To mitigate the impact of drought on people and livestock

The risk of drought disasters is a common challenge throughout the area. A stable water supply for fields and livestock is a key issue.

Priority measures include expanding and improving irrigation and water storage facilities, shifting to drought-resistant crops, and promoting changes in agricultural practices.

Specific initiatives include the development of irrigation capacity in the Char areas and inland areas to mitigate economic losses due to drought, the development of deep wells and supply networks in rural and urban areas of Upazila to ensure a safe drinking water supply, and conversion projects to drought-resistant crops and agricultural methods

6. Common: To build communities capable of quick and appropriate disaster response

In common with risks from all disaster types, human resource development, disaster risk reduction education, and public awareness raising are important issues for disaster risk reduction.

To enable rapid disaster response, it is necessary to develop specialized human resources through the provision of materials and equipment, and disaster risk reduction training.

In addition, to ensure that citizens of all ages and genders have an appropriate understanding of disaster risks and prepare to take evacuation actions and respond to disasters appropriately, priority should be given to disaster risk reduction education and the implementation of training programs aimed at raising public awareness.

3.	Earthquake Shaking: To establish a resilient Upazila to withstand earthquakes	3-1	Enhance earthquake resistance
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ID	3-1-A	Program A. Promotion of compliance with the building standard (BNBC 2020)	Target area All areas	Implementation plan				Timeframe for achieving the Action	
Action and Implementation plan	Action	Responsible agency	Ongoing activity/Current status	Actions to be taken	To develop a	No project for promotion against earthquake by the line agencies and communities so far	P/W/D	Promotion of compliance with the building standard (BNBC 2020) - Training program - Evaluation & Monitoring	Remarks
	No proposal from the Union Parishads								

ID	3-1-B	B. Implementation of the seismic diagnosis				Target area	
Program		All areas					
		Implementation plan				Timeframe for achieving the Action	10 years
		Ongoing activity/Current status	Actions to be taken	To develop a diagnosis plan by PWD, including a training program, diagnosis and retrofiting, implementation plan			
Action and Implementation plan		Action	Responsible agency	No project for seismic diagnosis by the line ministries and communities	10 years		
Remarks		No proposal from the Union Parishads Identification and retrofitting of existing important facilities based on seismic diagnosis are required for schools, hospitals, and infrastructure such as bridges, roads, roads, embankments/dykes for saving lives and evacuation during and after the earthquakes.					

ID	4-1-A	Program	Installation and maintenance of lightning arresters / evacuation shelters for people and livestock			Target area	All areas			
Implementation plan										
Action and Implementation plan	Action	Responsible agency	Ongoing activity/Current status	Actions to be taken	Timeframe for achieving the Action	Implementation plan				
						1) Install lightning arrester in all Unions	DDM	No arresters	Install in the existing shelters, Based on the capacity, install them in all unions	10 years
						2) Construction of lightning-safe shelters for farmers	DDM	No Shelter	Prepare a typical economic design and drawings considering agricultural land, which can be implemented by NGOs/CBOs/Local Agencies with Government technical assistance from DDM.	3 years
Remarks	Proposal by DDM in respect of the union proposals - Based on the capacity parameters of the lightning arrester device, there is a need to fix the installation location in each area. - Categorical tree plantation with the consideration of all potential hazards by the Ministry of Environment, NGO, LGIs.									

4. Lightning: To reduce direct damage to people and livestock caused by lightning strikes

4-1 Promote appropriate response and evacuation for lightning strike

ID	3-2-A	Program	A. Awareness raising of earthquake risks and preparedness at home, schools, and communities					Target area	All areas
Action and Implementation plan	Action	Responsible agency	Ongoing activity/Current status	Actions to be taken	Timeframe for achieving the Action	Long term project, 10 years	Awareness-raising activity program and contents must be prepared	No proposal from the Union Parishads, proposed by DDM	Remarks
Implementation plan									

3-2 Promote earthquake preparedness at home and in the community

ID	6-1-B	Preparedness of the materials and equipment for disaster response					Target area	Remarks
		All areas						
Action and Implementation plan	Action	Responsible agency	Ongoing activity/Current status	Actions to be taken	Timeframe for achieving the Action	Implementation plan		
	Formulation of procurement program		DDM	NGOs have some materials	Need to consider formulating some programs	10 years, continuously	Public and community sanitation promotion	No proposal from Unions
	DPHE		Projects by DPHE are going on.	Install drinking water facilities at primary schools	Secure budget	10 years, continuously		

6-2. Encourage people to prepare for the evacuation and disaster response

6-2-A	A. Provide DRR education and public awareness raising activities					Target area		Remarks
								Implementation plan
	Action	Responsible agency	Ongoing activity/Current status	Actions to be taken	Timeframe for achieving the Action	All areas		
Implementation plan								
	Formulation of DRR education program		DDM	NGOs have some activity	Identify and discuss with the NGOs that provide DRR education and public awareness training activities to formulate a program	No proposal from Unions		
						No proposal from Unions		

5.3 Monitoring and Updating of the Plan

For appropriate implementation of the projects by project implementing agencies, this plan is to be monitored and updated by UzDMC and DDMC, with the support of DDM and the Focal Point Operational Coordination Group (FPOCG; a group to advise coordination of DMC activities and provide recommendations for future actions at the central level, defined in SoD), in the following steps.

Step 1: Monthly Monitoring by UzDMC

The UzDMC reviews the status of each Action in Chapter 5.2 in the monthly Upazila Development Coordination Meeting, specifically “Ongoing activity/Current status”, with reference to the typical steps of the project implementation below, and report it to DDMC. Findings are recorded and shared with DDMC.

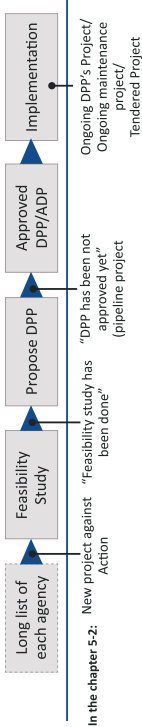


Figure 5-4. Typical Steps for reviewing the Current Implementation Status⁸

Notes:

The figure above illustrates typical steps for structural countermeasures like roads and embankments. However, the exact project flow varies significantly depending on the specific project's requirements. Consequently, this general flow won't always be directly applicable to every situation.

Step 2: Consolidation by DDMC

DDMC compiles reports from UzDMCs, summarizes progress and key issues through a Monthly Development Coordination Meeting of the District, and prepares and submits a brief to DDM. DDM then compiles the reports, summarizes the progress and gaps in project implementation, and organizes information for discussion in FPOCG.

Step 3: Quarterly FPOCG Review and Coordination

FPOCG reviews and discusses the DDMC's inputs presented by DDM.

This discussion includes:

- Highlighting projects facing delays in DPP processing
- Identifying coordination needs (e.g., between road improvement and drainage system design)
- Notifying relevant stakeholders about missing feasibility studies or land acquisition issues as well as their budgets

⁸ **Ongoing DPP's Project/Tendered Project:** Those projects/Schemes are listed in DPP. Project funds come from ADP/Annual Budget/development partners. This type of project requires F/S and DPP approval. "Ongoing" in this context refers to projects that are currently in the implementation stage or have completed the tendering process.

Ongoing Maintenance Project: These projects or schemes are included in a specific maintenance list and receive annual approval as part of the Annual Development Plan (ADP). Unlike DPP projects, these do not require a Feasibility Study.

Step 4: Information Sharing and Dialogue

FPOCG shares the discussion results with MoDMR, implementing agencies, specifically their respective planning unit, for taking necessary actions for implementation by them. Feedback is also provided to DDMCs, who are encouraged to follow up with UzDMCs and local line agencies.

Step 5: Recommendation to Review the Plan

If significant issues or changes are identified, DDM recommends DDMC to suggest reviewing the plan, based on the discussion in FPOCG. DDMC informs UzDMC for further action.

Step 6: Plan Updating and Documentation

UzDMC updates this UzDRRAP if needed, with DDMC validation. Updates are shared with DDM and EPOCG for record and continued monitoring.

The conceptual model for monitoring and updating this plan is shown below.

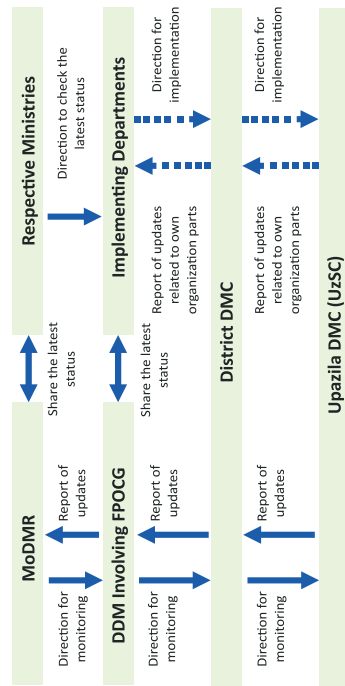


Figure 5-5. Conceptual diagram for monitoring and updating the plan

Attachment 1: Proposed Countermeasures List [Linked with (Chapter 5.2) Action Plan]

[illegible]

Attachment 1-3

[illegible]

Attachment 1-5

Uzblta	Implementing Agency	Official ID	Official Name	Type of hazard	Category of Countermeasures	Union	Purpose	Point/Area of the countermeasures	Remarks
Unpur	DMA		Construction of multipurpose Shelter at the Daballa Ideal High School.	Flood	Shelter	New construction	Improving accommodation facilities during the disaster	Daballa at the playground of Daballa Ideal High School	
LEED projects: Shelter									
Unpur	LEED	KURP-120	Construction of multipurpose Shelter at East Naqura Government Primary School	Flood	Shelter	New construction	Improving accommodation facilities during the disaster	East Naqura Government Primary School	
Unpur	LEED	KURP-121	Construction of multipurpose Shelter at West Naqura Government Primary School	Flood	Shelter	New construction	Improving accommodation facilities during the disaster	West Naqura Government Primary School	
Unpur	LEED	KURP-122	Construction of multipurpose Shelter at Ward no.8, Madarati Purpura Government Primary School	Flood	Shelter	New construction	Improving accommodation facilities during the disaster	Ward no.8, Madarati Purpura Government Primary School	
Unpur	LEED	KURP-123	Construction of multipurpose Shelter at Bagra Govt Primary School	Flood	Shelter	New construction	Improving accommodation facilities during the disaster	Bagra Govt Primary School	
Unpur	LEED	KURP-124	Construction of multipurpose Shelter at Mahin Amnampur Govt Primary School	Flood	Shelter	New construction	Improving accommodation facilities during the disaster	Nahin Amnampur Govt Primary School	All proposals are reflecting the 1-2-3 and 4 of Action Plan.
Unpur	LEED	KURP-125	Construction of multipurpose Shelter at Badchar Bannampur Govt Primary School	Flood	Shelter	New construction	Improving accommodation facilities during the disaster	Badchar Bannampur Govt Primary School	
ID-1-2-B Program; Improvement and renovation of major roads, bridges, and culvert for evacuation and emergency operations									
Unpur	LEED	146942002	Unpur-e-fatehkhani Road.	Flood	Maintenance		Evacuation and emergency operations		
Unpur	LEED	146943001	Jamuna Chowmukhimat-Durbar U.P. office.	Flood	Road	Maintenance	Evacuation and emergency operations		
Unpur	LEED	146943021	Unpur Nazimkhan road -Dobola UP Office.	Flood	Road	Maintenance	Evacuation and emergency operations		
Unpur	LEED	146943017	Burpur UP (Panchar Bara) -Chowmukhi hat .	Flood	Road	Rehabilitation	Evacuation and emergency operations		This proposal is reflected as an evacuation route in the map, including the access route to the village, crossing rivers and along rivers and areas economically important (flood zones and wetlands near the central shelters near the central area).
Unpur	LEED	146943005	Takapur UP-Aadara bazar, Samhati (BWDB h.b.)	Flood	Road	Rehabilitation	Evacuation and emergency operations		reflecting the 1-2-B-1 and 2 of Action Plan.
Unpur	LEED	146943019	Unpur GC-Thetar UP Office.	Flood	Road	Rehabilitation	Evacuation and emergency operations		
Unpur	LEED	146943003	Nazimkhan GC-Thetar NP via Daballa P.P.	Flood	Road	Rehabilitation	Evacuation and emergency operations		
Unpur	LEED	146943022	Gumachal UP Office-Nagarjuna hat .Road	Flood	Road	Rehabilitation	Evacuation and emergency operations		
Unpur	LEED	146943006	Bogra GC-Thamarhat GC	Flood	Road	Rehabilitation	Evacuation and emergency operations		
Unpur	LEED	146943016	Dharanipur UP Office -Annapurnhat.	Flood	Road	Rehabilitation	Evacuation and emergency operations		
Unpur	LEED	146943009	KC Road at Matthan Bazar -Dharanipur UP Office(Maheshwar Road)	Flood	Road	Rehabilitation	Evacuation and emergency operations		
Unpur	LEED	146943045	Khamar Bazar above the East Bazar Ashar move via Khamar Road	Flood	Road	Rehabilitation by the formation level raising	Prevention of inundation and reducing economic losses during flood	From Daballa Khmar Bazar	

Attachment 1-4

Uzblta	Implementing agency	Official ID	Official Name	Type of hazard	Category of Countermeasures	Union	Purpose	Point/areas of concern/countermeasures	Remarks
Unpur	DPHE	DPHE	Rehabilitation of tube-well platform at near the Puratoli kal Temple	Flood	Elevating tube-well platform	Burairi	Provision of safe drinking water during flood	Near Shahpur's house	
Unpur	DPHE	DPHE	Rehabilitation of tube-well platform at near Shahpur's house	Flood	Elevating tube-well platform	Burairi	Provision of safe drinking water during flood	Near Shahpur's house	
Unpur	DPHE	DPHE	Rehabilitation of tube-well platform at near the Banchhary Manu's house is located	Flood	Elevating tube-well platform	Tabapur	Provision of safe drinking water during flood	From Ghazipur Ghat Bridge to where Banchhary Manu's house is located	
Unpur	DPHE	DPHE	Rehabilitation of tube-well platform at near the Mohammod Anur's house	Flood	Elevating tube-well platform	Tabapur	Provision of safe drinking water during flood	Near Mohammod Anur's house	
Unpur	DPHE	DPHE	Rehabilitation of tube-well platform at near the Puratoli kal Temple	Flood	Elevating tube-well platform	Tabapur	Provision of safe drinking water during flood	Near the Puratoli kal Temple	
Unpur	DPHE	DPHE	Installation of Deep-tube-well at 1 no ward, at Chatiali Para	Flood	Deep-tube-well	Bahalia	Provision of safe drinking water during disasters	1 no ward, at Sander Para	All Unions
Unpur	DPHE	DPHE	Installation of Deep-tube-well at 6 no ward, at Kander Para	Flood	Deep-tube-well	Bahalia	Provision of safe drinking water during disasters	6 no ward, at Kander Para	All Unions
Unpur	DPHE	DPHE	Installation of Deep-tube-well at 7 no ward, at Chatiali Para	Flood	Deep-tube-well	Bahalia	Provision of safe drinking water during disasters	7 no ward, at Chatiali Para	All Unions
Unpur	DPHE	DPHE	Installation of Deep-tube-well at 8 no ward, adjacent to Slicka date	Flood	Deep-tube-well	Bahalia	Provision of safe drinking water during disasters	8 no ward, adjacent to Slicka date	
Unpur	DPHE	DPHE	Installation of Deep-tube-well at 9 no ward, adjacent to Mohar's house	Flood	Deep-tube-well	Bahalia	Provision of safe drinking water during disasters	9 no ward, adjacent to Mohar's house	
Unpur	DPHE	DPHE	Installation of Deep-tube-well at Ward no.8, Mahadatar Area	Flood	Deep-tube-well	Dharanbari	Provision of safe drinking water during disasters	Ward no.8, Mahadatar Area	
Unpur	DPHE	DPHE	Installation of Deep-tube-well at Tabapur Shorad Para	Flood	Deep-tube-well	Tabapur	Provision of safe drinking water during disasters	Tabapur Shorad Para	
Unpur	DPHE	DPHE	Installation of Deep-tube-well at near the Chingpur's house in South Balamandir Para	Flood	Deep-tube-well	Tabapur	Provision of safe drinking water during disasters	Near Chingpur's house in South Balamandir Para	
Unpur	DPHE	DPHE	Installation of Deep-tube-well at near the house of Nurulakat	Flood	Deep-tube-well	Tabapur	Provision of safe drinking water during disasters	near the house of Nurulakat	
Unpur	DPHE	DPHE	Installation of Deep-tube-well at near Samsaid house	Flood	Deep-tube-well	Tabapur	Provision of safe drinking water during disasters	near Samsaid in Tefahara	
Unpur	DPHE	DPHE	Installation of Deep-tube-well at Beside South	Flood	Deep-tube-well	Tabapur	Provision of safe drinking water during disasters	Beside South Salsalah Mouque	
Unpur	DPHE	DPHE	Installation of Deep-tube-well at Badar's house	Flood	Deep-tube-well	Tabapur	Provision of safe drinking water during disasters	at Badar's house	
Unpur	DPHE	DPHE	Construction of toilets in all star areas for refugees sanitation facilities.	Flood	Toilet	Bahalia	Providing sanitation facilities during disaster	At Chir Para	All proposals are reflecting the 1-1 of Action Plan.
Unpur	DPHE	DPHE	Construction of toilet in at Al-Mosammet's house	Waterlogging	Toilet	New construction	Providing sanitation facilities during disaster	At Mosammet's house	All proposals are reflecting the 1-1 of Action Plan.
Unpur	DPHE	DPHE	Construction of multipurpose shelter at Bajra College	Flood	Shelter	New construction	Improving accommodation facilities during the disaster	At Bajra College	All proposals are reflecting the 1-2-A-1 and 2 of Action Plan.
Unpur	DPHE	DPHE	Construction of multipurpose shelter at the Shemura Women's shelter	Flood	Shelter	New construction	Improving accommodation facilities during the disaster	At the field of the Women's shelter	
Unpur	DPHE	DPHE	Construction of multipurpose shelter at the Shemura Women's shelter	Flood	Shelter	New construction	Improving accommodation facilities during the disaster	At the field of the Women's shelter	
DPHE project : Raising the fifth level of tube wells									
Unpur	DPHE	DPHE	Rehabilitation of tube-well platform at near the Shahpur's house	Flood	Elevating tube-well platform	Burairi	Provision of safe drinking water during flood	Near Shahpur's house	
Unpur	DPHE	DPHE	Rehabilitation of tube-well platform at near the Kanger mor	Flood	Elevating tube-well platform	Burairi	Provision of safe drinking water during flood	Near Kanger mor	
Unpur	DPHE	DPHE	Rehabilitation of tube-well platform at near the Banchhary Manu's house is located	Flood	Elevating tube-well platform	Tabapur	Provision of safe drinking water during flood	From Ghazipur Ghat Bridge to where Banchhary Manu's house is located	
Unpur	DPHE	DPHE	Rehabilitation of tube-well platform at near the Mohammod Anur's house	Flood	Elevating tube-well platform	Tabapur	Provision of safe drinking water during flood	Near Mohammod Anur's house	
Unpur	DPHE	DPHE	Rehabilitation of tube-well platform at near the Puratoli kal Temple	Flood	Elevating tube-well platform	Tabapur	Provision of safe drinking water during flood	Near the Puratoli kal Temple	
Unpur	DPHE	DPHE	Installation of Deep-tube-well at 1 no ward, at Chatiali Para	Flood	Deep-tube-well	Bahalia	Provision of safe drinking water during disasters	1 no ward, at Sander Para	All Unions
Unpur	DPHE	DPHE	Installation of Deep-tube-well at 6 no ward, at Kander Para	Flood	Deep-tube-well	Bahalia	Provision of safe drinking water during disasters	6 no ward, at Kander Para	All Unions
Unpur	DPHE	DPHE	Installation of Deep-tube-well at 7 no ward, at Chatiali Para	Flood	Deep-tube-well	Bahalia	Provision of safe drinking water during disasters	7 no ward, at Chatiali Para	All Unions
Unpur	DPHE	DPHE	Installation of Deep-tube-well at 8 no ward, adjacent to Slicka date	Flood	Deep-tube-well	Bahalia	Provision of safe drinking water during disasters	8 no ward, adjacent to Slicka date	
Unpur	DPHE	DPHE	Installation of Deep-tube-well at 9 no ward, adjacent to Mohar's house	Flood	Deep-tube-well	Bahalia	Provision of safe drinking water during disasters	9 no ward, adjacent to Mohar's house	
Unpur	DPHE	DPHE	Installation of Deep-tube-well at Ward no.8, Mahadatar Area	Flood	Deep-tube-well	Dharanbari	Provision of safe drinking water during disasters	Ward no.8, Mahadatar Area	
Unpur	DPHE	DPHE	Installation of Deep-tube-well at Tabapur Shorad Para	Flood	Deep-tube-well	Tabapur	Provision of safe drinking water during disasters	Tabapur Shorad Para	
Unpur	DPHE	DPHE	Installation of Deep-tube-well at near the Chingpur's house in South Balamandir Para	Flood	Deep-tube-well	Tabapur	Provision of safe drinking water during disasters	Near Chingpur's house in South Balamandir Para	
Unpur	DPHE	DPHE	Installation of Deep-tube-well at near the house of Nurulakat	Flood	Deep-tube-well	Tabapur	Provision of safe drinking water during disasters	near the house of Nurulakat	
Unpur	DPHE	DPHE	Installation of Deep-tube-well at near Samsaid house	Flood	Deep-tube-well	Tabapur	Provision of safe drinking water during disasters	near Samsaid in Tefahara	
Unpur	DPHE	DPHE	Installation of Deep-tube-well at Beside South	Flood	Deep-tube-well	Tabapur	Provision of safe drinking water during disasters	Beside South Salsalah Mouque	
Unpur	DPHE	DPHE	Installation of Deep-tube-well at Badar's house	Flood	Deep-tube-well	Tabapur	Provision of safe drinking water during disasters	at Badar's house	</

Attachment 1-6

Upazila	Implementing agency	Official ID	Official Name	Type of hazard	Category of Countermeasures	Union	Purpose	Remarks
Upur	LECD	149945094	Barza College more-Tejpara Fulbari member Shop Road	Flood	New construction	Bajra	Maintaining the road network for evacuation and reducing economic losses during floods	From Udaypur Mohr to Baraz's shop and then to Baraz's house
Upur	LECD	14994141	Khamar Bazar53Noor-148T More via H/O 148of Ch.	Flood	New construction	Bajra	Maintaining the road network for evacuation and reducing economic losses during floods	From Sayed Khamar's house to the girl's school
Upur	LECD	149945108	Chadni Bazar GPS - Bazar Maharaja Attach GPS Road	Flood	New construction	Bajra	Maintaining the road network for evacuation and reducing economic losses during floods	From Chadni Bazar to Degree Madrasa
Upur	LECD	14994077	Islampur Shahab ul house-Chhabin side of Buraburi ghat	Flood	New construction	Begungonj	Maintaining the road network for evacuation and reducing economic losses during floods	From Bogal Munshir Bari in the south, passing through Munir's house, extending southwards towards Sader Ali's ground up to Chada Bhabh Para Jame Moqueb Elgah
Upur	LECD	14994500149945001	Islampur Shahab ul house-Chhabin side of Buraburi ghat Islampur UP office - Bokshigonj	Flood	New construction	Begungonj	Maintaining the road network for evacuation and reducing economic losses during floods	From Sader's house to Kader's house and up to Nur Mahir Primary School
Upur	LECD	149940310	Buraburi Hat Begungonj	Flood	Improvement of Road	Begungonj	Maintaining the road network for evacuation and reducing economic losses during floods	From Muzin's house to Nurur's house and extending to Chudir Buti market
Upur	LECD	14994075	Molaihat-Parachicki UP Smanara	Flood	New construction	Begungonj	Maintaining the road network for evacuation and reducing economic losses during floods	From Molai's hat Bazar to Lachman Begar's house at the northern boundary of Parganah
Upur	LECD	14994079	Sobhanur house-Molai hat via Bongshi para.	Flood	New construction	Begungonj	Maintaining the road network for evacuation and reducing economic losses during floods	From Molai's house in the west to Begun's house in the east
Upur	LECD	14994009	Buraburi Embk.-durgapur Mondol Hat	Flood	Improvement of Road	Buraburi	Maintaining the road network for evacuation and reducing economic losses during floods	From Muzin's house to Sader's house
Upur	LECD	14994134	Jonoter hat-Buraburi hat	Flood	Improvement of Road	Buraburi	Maintaining the road network for evacuation and reducing economic losses during floods	From Rajpur's house to Muzin's house
Upur	LECD	149940312	Buraburi hat Begungonj U.P. office via Islampur WAPDA bazar.	Flood	New construction	Buraburi	Maintaining the road network for evacuation and reducing economic losses during floods	From Buraburi Bazar to the end of the Chhabin River ghat
Upur	LECD	14994023	Buraburi hat-Buraburi Prry School	Flood	Improvement of Road	Buraburi	Maintaining the road network for evacuation and reducing economic losses during floods	From Abdul Gani's house to From Khamar Bazar
Upur	LECD	14994116	Mondol hat-Bachhangr ghat	Flood	New construction	Buraburi	Maintaining the road network for evacuation and reducing economic losses during floods	From Khamar Bazar through Shamsi Master's house, to the riverbank

Attachment 1-7

Upazila	Implementing agency	Official ID	14994125	Mondol hat-Bachhangr Road	Flood	Road	New construction	Buraburi	Maintaining the road network for evacuation losses during floods.	From Bobkhangr hat to Hagar Vira	Remarks
Upazila	LECD	149940310	Durgapur UP-Buraburi hat	Flood	Road	Improvement of Road	Buraburi	Maintaining the road network for evacuation losses during floods.	From Bobkhangr hat to Hagar Vira	From Bobkhangr hat to Hagar Vira	
Upazila	LECD	14994017	Durgapur UP-Buraburi hat	Flood	Road	Improvement of Road	Buraburi	Maintaining the road network for evacuation losses during floods.	From Bobkhangr hat to Hagar Vira	From Bobkhangr hat to Hagar Vira	
Upazila	LECD	14994125	Mondol hat-Bachhangr Road	Flood	Road	New construction	Buraburi	Maintaining the road network for evacuation losses during floods.	From Bobkhangr hat to Hagar Vira	From Bobkhangr hat to Hagar Vira	
Upazila	LECD	14994134	Jonoter hat-Buraburi hat	Flood	Road	Improvement of Road	Buraburi	Maintaining the road network for evacuation losses during floods.	From Bobkhangr hat to Hagar Vira	From Bobkhangr hat to Hagar Vira	
Upazila	LECD	14994016	Mondol hat-Bachhangr Road	Flood	Road	Improvement of Road	Buraburi	Maintaining the road network for evacuation losses during floods.	From Bobkhangr hat to Hagar Vira	From Bobkhangr hat to Hagar Vira	
Upazila	LECD	14994016	Mondol hat-Bachhangr Road	Flood	Road	Improvement of Road	Buraburi	Maintaining the road network for evacuation losses during floods.	From Bobkhangr hat to Hagar Vira	From Bobkhangr hat to Hagar Vira	
Upazila	LECD	14994016	Mondol hat-Bachhangr Road	Flood	Road	New construction	Buraburi	Maintaining the road network for evacuation losses during floods.	From Bobkhangr hat to Hagar Vira	From Bobkhangr hat to Hagar Vira	
Upazila	LECD	14994093	Shuar Moster House-Bakrai school DC 50 Packer Rd via Thudkerp chnk.	Flood	Road	New construction	Buraburi	Maintaining the road network for evacuation losses during floods.	From Bobkhangr hat to Hagar Vira	From Bobkhangr hat to Hagar Vira	
Upazila	LECD	14994097	DC-50 UPR (at Akanda para Moqueb)- DC-50 Packer Rd via Bakarai bridge.	Flood	Road	Improvement of Road	Buraburi	Maintaining the road network for evacuation losses during floods.	From Bobkhangr hat to Hagar Vira	From Bobkhangr hat to Hagar Vira	
Upazila	LECD	14994019	Ulipur Chhimari GCCR-Puran Ananapur	Flood	Road	Improvement of Road	Buraburi	Maintaining the road network for evacuation losses during floods.	From Bobkhangr hat to Hagar Vira	From Bobkhangr hat to Hagar Vira	
Upazila	LECD	14994049	Nabin Kura Bridge-Pundul UP office	Flood	Road	Improvement of Road	Buraburi	Maintaining the road network for evacuation losses during floods.	From Bobkhangr hat to Hagar Vira	From Bobkhangr hat to Hagar Vira	
Upazila	LECD	14994106	Kadamata hat-Mohabeb Embk.	Flood	Road	New construction	Balaila	Maintaining the road network for evacuation losses during floods.	From Bobkhangr hat to Hagar Vira	From Bobkhangr hat to Hagar Vira	
Upazila	LECD	14994105	Kadamata hat-Mohabeb Embk.	Flood	Road	New construction	Balaila	Maintaining the road network for evacuation losses during floods.	From Bobkhangr hat to Hagar Vira	From Bobkhangr hat to Hagar Vira	
Upazila	LECD	14994102	Ulipur Nazimkhani(Kazipara)-Dadalia Packer Rd near Kira para.	Flood	Road	New construction	Balaila	Maintaining the road network for evacuation losses during floods.	From Bobkhangr hat to Hagar Vira	From Bobkhangr hat to Hagar Vira	
Upazila	LECD	14994113	Dhmerent UP-Tabakpur Rkhi road/near at rail crossing).	Flood	Road	New construction	Dhanerent	Maintaining the road network for evacuation losses during floods.	From Bobkhangr hat to Hagar Vira	From Bobkhangr hat to Hagar Vira	
Upazila	LECD	14994111	Dhmerent UP-Tabakpur Rkhi road/near at rail crossing).	Flood	Road	New construction	Dhanerent	Maintaining the road network for evacuation losses during floods.	From Bobkhangr hat to Hagar Vira	From Bobkhangr hat to Hagar Vira	

Attachment 1-9

Upazila	Implementing agency	Official ID	Official Name	Type of hazard	Category of Countermeasures	Union	Purpose	Point/Area of the Countermeasures	Remarks
Ulipur	LEED	14994061499	KC Rd at Amada bazar-Gorayat, Durgapur	Flood	New construction	Durgapur	Maintaining the road network for evacuation and reducing economic losses during floods	From Koral Bari Jali to Hazpara Jame Mosque	
Ulipur	LEED	14994064	Gopabandhu Bridge-Jumana Chowmohoni bazar	Flood	New construction	Durgapur	Maintaining the road network for evacuation and reducing economic losses during floods	From Habib's house to Habib's house	
Ulipur	LEED	14994005	Ulipur Jummahat-Nagarkura Emb	Flood	Improvement of Road	Gumagathi	Maintaining the road network for evacuation and reducing economic losses during floods	From Durgapur to Fuli's house up to Babul's pump in Nagarkura lake Para	
Ulipur	LEED	14994020	Ulipur Bazar(Simanta bazar)-Shadadamer hat	Flood	New construction	Gumagathi	Maintaining the road network for evacuation and reducing economic losses during floods	From Gabilo Bazar to Ramdhan	
Ulipur	LEED	149943066	Jummahat College-Framank Para	Flood	Improvement of Road	Gumagathi	Maintaining the road network for evacuation and reducing economic losses during floods	Damer Hat Dakshi Madrasa	
Ulipur	LEED	14994095	Agar Member house-Gabuzan River Chat	Flood	Improvement of Road	Hata	Maintaining the road network for evacuation and reducing economic losses during floods	From Azizur's shop to Bili's	
Ulipur	LEED	14994095	Agar Member house-Gabuzan River Chat	Flood	New construction	Hata	Maintaining the road network for evacuation and reducing economic losses during floods	From the mosque at Debbar's house to Maji Para	
Ulipur	LEED	14994099	Zabbar charman putar par-Noya gram Azagar Shop via Kalipat	Flood	New construction	Hata	Maintaining the road network for evacuation and reducing economic losses during floods	From Pajhi Pat to Babur Amir's house	
Ulipur	LEED	149942003	Ulipur-Anantapur GC	Flood	Improvement of Road	Hata	Maintaining the road network for evacuation and reducing economic losses during floods	near Jarai-Majid in Dobbapur Para	
Ulipur	LEED	14994122	Durgapur UP office (at Rail station)-Jochorover hat	Waterlogging	Improvement of Road	Pandul	Maintaining the road network for evacuation and reducing economic losses during floods	From Gaeetia Road to Durgapur Rail Crossing	
Ulipur	LEED	14994045	KC rd at Bacteriala-Pundul UP office	Waterlogging	New construction	Pandul	Maintaining the road network to mitigate flooding and excessive waterlogging	From Dhakayaram to Kazi Para	
Ulipur	LEED	14994045	KC rd at Bacteriala-Pundul UP office	Waterlogging	New construction	Pandul	Maintaining the road network to mitigate flooding and excessive waterlogging	From Kaji Para Boudi House Store	
Ulipur	LEED	14994041	Zurhara hat Rd-Bakover hat	Waterlogging	New construction	Pandul	Maintaining the road network to mitigate flooding and excessive waterlogging	From Voh Chora Boda to Voh Chora Para Bazar to Kachem Kazi Para	
Ulipur	LEED	14994012	Ulipur Nazimhat (at Bhagatary)-Kochubari hat	Waterlogging	New construction	Pandul	Maintaining the road network to mitigate flooding and excessive waterlogging	From Khola Kazi Bazar to Cloudgubhar Masjid, passing through Kachem Para Majid	
Ulipur	LEED	14994058	Amada bazar-Ultar Nazim hat	Flood	Improvement of Road	Shahbar Alga	Maintaining the road network for evacuation and reducing economic losses during floods	From Kazi Majid's shop to up to Khewarhat Boat Chat	

Attachment 1-8

Upazila	Implementing agency	Official ID	Official Name	Type of hazard	Category of Countermeasures	Union	Purpose	Point/Area of the Countermeasures	Remarks
Ulipur	LEED	14994086	Bakhar Khanar half house-DC-50/48 Uchi via Mosque	Flood	New construction	Dhamreni	Maintaining the road network for evacuation and reducing economic losses during floods	From Momtaz's shop to Abdul Satter's house, passing through Gopal's field and Uchi Satter's house, passing by West Kura Par, passing by Mosque to Para Mathi Par	
Ulipur	LEED	14994088	Ulipur Anantapur (Ulipur near Azad house)-DC-50 Uchi at near Ansur Ali house	Flood	New construction	Dhamreni	Maintaining the road network for evacuation and reducing economic losses during floods	From Minu Minu's house to Bakkar's house	
Ulipur	LEED	14994086	Bakhar Khanar half house-DC-50/48 Uchi via Mosque	Flood	New construction	Dhamreni	Maintaining the road network for evacuation and reducing economic losses during floods	From Samudra's house in Raha Master's house in Madina Green bazar	
Ulipur	LEED	14994083	Dhamreeni Korner house's Jonaki Amer tal-Ulipur Fakhra Uchi at Mathi par	Flood	New construction	Dhamreni	Maintaining the road network for evacuation and reducing economic losses during floods	From Raju's house to Raju's house to Paro Dabir's house	
Ulipur	LEED	14994083	Dhamreeni Korner house's Jonaki Amer tal-Ulipur Fakhra Uchi at Mathi par	Flood	New construction	Dhamreni	Maintaining the road network for evacuation and reducing economic losses during floods	From Raju's house to Raju's house to Paro Dabir's house	
Ulipur	LEED	14994015	Mathomari-Kazpara	Flood	New construction	Dhamreni	Maintaining the road network for evacuation and reducing economic losses during floods	From Mathi's shop to Chandilya Mor	
Ulipur	LEED	14994072	KC Rd -Majbeel Bazar	Flood	New construction	Dhamreni	Maintaining the road network for evacuation and reducing economic losses during floods	From Kazi Ayub's house, passing Sultan Sangpak's house to Shibir Bazar GC	
Ulipur	LEED	14994032	Mazbil bazar Monna Bageri house-Madipur Guri's school Road	Flood	Improvement of Road	Dhamreni	Maintaining the road network for evacuation and reducing economic losses during floods	From Sagor Bari Mor to the front of Habibur Rahman's house	
Ulipur	LEED	14994070	Telpara more-DC-50 Rd via Banner hat	Flood	New construction	Dhamreni	Maintaining the road network for evacuation and reducing economic losses during floods	From Ketur Par Madrasa corner to Chacha's house	
Ulipur	LEED	14994039	Ulipur Anantapur Rd-Bamir hat	Flood	New construction	Dhamreni	Maintaining the road network for evacuation and reducing economic losses during floods	From the bottom of Sitar tal up to Sachin Dada's house	
Ulipur	LEED	14994065	Durgapur-Mondolhat Uchi(Ka Kalipat)-Chor par	Flood	New construction	Durgapur	Maintaining the road network for evacuation and reducing economic losses during floods	From Rahim's shop to the paved road Mathi's house	
Ulipur	LEED	149943010	Durgapur Uchi-Burupuri hat	Flood	New construction	Durgapur	Maintaining the road network for evacuation and reducing economic losses during floods	From Polihar Mor to Hazpara Jame Mosque	
Ulipur	LEED	14994062	Durgapur-Mondolhat Uchi(Ka Kalipat)-Chor par	Flood	New construction	Durgapur	Maintaining the road network for evacuation and reducing economic losses during floods	From Nazim's house in Mathi's house to Kazi's house	
Ulipur	LEED	14994062	Durgapur-Mondolhat Uchi(Ka Kalipat)-Chor par	Flood	New construction	Durgapur	Maintaining the road network for evacuation and reducing economic losses during floods	From Nazim's house in Mathi's house to Kazi's house	
Ulipur	LEED	14994062	Durgapur-Mondolhat Uchi(Ka Kalipat)-Chor par	Flood	New construction	Durgapur	Maintaining the road network for evacuation and reducing economic losses during floods	From Nazim's house in Mathi's house to Kazi's house	